

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

)
CENTER FOR BIOLOGICAL DIVERSITY) Case No. _____
and CENTER FOR FOOD SAFETY,)
)
Petitioners,)
)
v.) **PETITION FOR REVIEW**
)
UNITED STATES ENVIRONMENTAL)
PROTECTION AGENCY and LEE)
ZELDIN, in his official capacity as)
Administrator,)
)
Respondents.)
)

PETITION FOR REVIEW

Pursuant to section 16(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. § 136n(b), and Rule 15(a) of the Federal Rules of Appellate Procedure, Petitioners Center for Biological Diversity and Center for Food Safety petition this Court to review and set aside the final order of the United States Environmental Protection Agency (EPA) approving the registration of isocycloseram as a new active ingredient as well as the attendant registrations of one technical and nine end-use products containing isocycloseram. *See* Exhibit A (final registration decision); Exhibits B–K (ten product labels).

EPA's challenged order is memorialized in a document signed on November 18, 2025, titled "Memorandum Supporting Final Decision to Approve Registration for the New Active Ingredient of Isocycloseram." *See* Exhibit A. This order was entered into EPA docket EPA-HQ-OPP-2021-0641, after public notice and comment.

Petitioners respectfully petition this Court to set aside EPA's registration of isocycloseram in whole because it violates FIFRA, *see 7 U.S.C. §§ 136 et seq.*, and the Endangered Species Act, *see 16 U.S.C. §§ 1531 et seq.* Petitioners further request that this Court grant any other relief as may be necessary and appropriate.

Respectfully submitted this 15th day of January, 2026.

s/Stephanie M. Parent

Stephanie M. Parent
CENTER FOR BIOLOGICAL
DIVERSITY
P.O. Box 11374
Portland, OR 97221
T: (971) 717-6404
sparent@biologicaldiversity.org

Benjamin Rankin
CENTER FOR BIOLOGICAL
DIVERSITY
1411 K St. NW, Ste. 1300
Washington, D.C. 20005
T: (202) 849-8402
brankin@biologicaldiversity.org

s/Sharmeen Morrison

Sharmeen Morrison
Gregory C. Loarie
EARTHJUSTICE
180 Steuart St. #194330
San Francisco, CA 94111
T: (415) 217-2000
smorrison@earthjustice.org
gloarie@earthjustice.org

George A. Kimbrell

CENTER FOR FOOD SAFETY
2009 NE Alberta St., Suite 207
Portland, OR 97211
T: (971) 271-7372
gkimbrell@centerforfoodsafety.org

Attorneys for Petitioners

CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1, petitioners Center for Biological Diversity and Center for Food Safety certify that they have no parent corporation and that no publicly held corporation owns more than 10 percent of the petitioners.

Respectfully submitted this 15th day of January, 2026.

Stephanie M. Parent
Center for Biological Diversity
P.O. Box 11374
Portland, OR 97221
T: (971) 717-6404
sparent@biologicaldiversity.org

George A. Kimbrell
Center for Food Safety
2009 NE Alberta St., Suite 207
Portland, OR 97211
T: (971) 271-7372
gkimbrell@centerforfoodsafety.org

CERTIFICATE OF SERVICE

I hereby certify that on January 15, 2026, I electronically filed the foregoing Petition for Review, Exhibits A through K, Corporate Disclosure Statement, and this Certificate of Service with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the CM/ECF system. I caused to be served one true and correct copy of the foregoing via certified mail on the following persons:

Lee Zeldin, Administrator
Office of the Administrator
Mail Code 1101A
U.S. Environmental Protection
Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Pamela Bondi
U.S. Attorney General
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530

Craig H. Missakian
U.S. Attorney for the Northern
District of California
c/o Civil Process Clerk
450 Golden Gate Avenue
San Francisco, CA 94102

Correspondence Control Unit
Office of General Counsel
Mail Code 2311
U.S. Environmental Protection
Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Adam R.F. Gustafson
Principal Deputy Assistant Attorney
General
Environment and Natural
Resources Division
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530

s/Sharmeen Morrison
Sharmeen Morrison

Exhibit A



Memorandum Supporting Final Decision to Approve Registration for the New Active Ingredient of Isocycloseram

Approved by: Ed Messina Digitally signed by
EDWARD MESSINA
Date: 2025.11.18
15:11:42 -05'00'
Ed Messina, Esq., Director
Office of Pesticide Programs
US Environmental Protection Agency

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I. SUMMARY

This memorandum presents the rationale to support the final decision of the U.S. Environmental Protection Agency (EPA or the Agency) to unconditionally register under Section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), pesticide products containing the active ingredient isocycloseram.

Isocycloseram (4-[5-(3,5-dichloro-4-fluorophenyl)-5-(trifluoromethyl)-4,5-dihydro-1,2-oxazol-3-yl]-N-(2-ethyl-3-oxo-1,2-oxazolidin-4-yl)-2-methylbenzamide, containing 80–100% of the (5S,4R)-isomer) is a new broad-spectrum insecticide. It belongs to the isoxazolines chemical class, which have an insecticidal mode of action based on allosteric modulation of the gamma aminobutyric acid (GABA) receptor. As a new active ingredient, this is the first use of isocycloseram in the United States. Isocycloseram is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 insecticide, which is a novel mode of action for multiple agricultural and non-agricultural uses.

Isocycloseram is formulated as a technical product and nine end-use products, including a ready-to-use (RTU) gel bait and various liquid concentrates (*i.e.*, dispersible, suspension, and flowable), with uses on treated seeds, agricultural field crops, indoor/outdoor residential areas, residential/commercial turf, greenhouse, commercial/industrial areas, industrial structures, and agricultural structures. Applications of the end-use products can be made by aerial, airblast, groundboom, chemigation, fogger (greenhouse only), electrostatic sprayer (greenhouse only), backpack sprayer, manually pressurized handwand, mechanically pressurized handgun, wood injection, crack and crevice treatment, spot treatment, residential/commercial perimeter treatment, and seed treatment equipment.

II. REQUESTED ACTION

On June 24, 2021, EPA received an application from Syngenta Crop Protection, LLC (Syngenta) for registration of a new broad-spectrum insecticide, isocycloseram (CAS Number 2061933-85-3) for use on treated seeds, agricultural field crops, indoor/outdoor residential areas, residential/commercial turf, greenhouses, commercial/industrial areas, industrial structures, and agricultural structures. Syngenta also submitted this application to Health Canada's Pest Management Regulatory Agency (PMRA). EPA and PMRA agreed to conduct a work exchange for the review of isocycloseram. Each country's team of scientists and risk managers shared work and met periodically to discuss their respective assessments.

Under FIFRA Section 3(c)(4), EPA is required to notify the public when a request for registering a new active ingredient is made and to provide a 30-day comment period. The EPA published a notice of receipt on March 23, 2022, in the Federal Register for an application requesting the registration of isocycloseram. In addition, on March 22, 2022, the EPA published a notice of filing in the Federal Register announcing the receipt of the initial filing of the isocycloseram petition by Syngenta under section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting the establishment of tolerance regulations for residues of isocycloseram in/on almond, hulls; almond, oil; almond, roasted; apple, wet pomace; barley, grain; barley, hay; barley, straw;

buckwheat, grain; buckwheat, forage; buckwheat, hay; buckwheat, straw; corn, field, grain, forage, and stover; corn, pop, grain; corn, pop, stover; cotton, gin byproducts; cottonseed, subgroup 20C; fruit, citrus, group 10-10; fruit, pome, group 11-10; fruit, stone, group 12-12, cereal, forage, fodder and straw, group 16; nut, tree, group 14-12; oat, grain; oat, forage; oat, hay; oat, straw; onion, bulb, subgroup 3-07A; onion, green, subgroup 3-07B; orange, citrus oil; orange, dried pulp; orange, peel; orange, wet pulp; peas and bean, dried shelled, except soybean, subgroup 6C; peanut, nutmeat; pearl millet, grain; pearl millet, forage; pearl millet, hay; pearl millet, straw; peas, hay; peas, vine; plum, prunes; proso millet, grain; proso millet, forage; proso millet, hay; proso millet, straw; rapeseed, subgroup 20A; rye, grain; rye, forage; rye, hay; rye, straw; soybean, seed; soybean, hulls; teosinte, grain; teosinte, forage; teosinte, hay; teosinte, straw; tomato, dried pomace; tomato, sun-dried; tomato, wet pomace; triticale, grain; triticale, forage; triticale, straw; vegetables, *brassica*, head and stem, group 5-16; vegetables, cucurbit, group 9; vegetables, fruiting, subgroup 8-10A; vegetables, fruiting, subgroup 8-10B; vegetables, leafy, group 4-16; vegetables, tuberous and corm, subgroup 1C at; wheat, grain; wheat, forage; wheat, hay; wheat, straw; cattle, fat; cattle, kidney; cattle, liver; cattle, meat; cattle, meat byproducts; milk; milk, cream; goat, fat; goat, kidney; goat, liver; goat, meat; goat, meat byproducts; horse, fat; horse, kidney; horse, liver; horse, meat; horse, meat byproducts; sheep, fat; sheep, kidney; sheep, liver; sheep, meat; sheep, meat byproducts; poultry (muscle, fat, offal); birds' egg. The public comment period closed on April 22, 2022, with one comment received on the notice of filing and one on the notice of receipt. These comments are discussed in **Section V. Public Comments**.

III. USE PROFILE

Table 1 provides an outline of the use patterns for isocycloseram. These use patterns differ from those in the submitted data package as a result of risk mitigation measures. Ten products (one technical and nine end-use formulations) containing isocycloseram are being registered. One end-use product is a cockroach gel bait applied as a crack and crevice, spot, or void treatment in commercial, industrial, agricultural and residential areas. Another product is for pest infestations of ants, termites, cockroaches, and bed bugs (indoor only) applied as a crack and crevice, spot, void, or perimeter treatment in and around commercial, industrial, agricultural and residential structures. Two products are seed treatments applied as a coating to seeds. The remaining five end use products for isocycloseram are suspension or dispersible concentrates that are applied to soil at planting (corn only) or foliarly applied to listed crops via aerial, airblast, groundboom, chemigation, fogger (greenhouse only), electrostatic sprayer (greenhouse only), backpack sprayer, manually pressurized handwand or mechanically pressurized handgun. The labels stipulate that applicators and other handlers must wear long-sleeved shirts and long pants, socks, shoes, and chemical-resistant gloves for some applications. The labels also stipulate a restricted entry interval (REI) of 12 hours, a crop-dependent preharvest interval (PHI) of 1- 30 days, and minimum re-treatment intervals of 7 days. Refer to Section VI.H. for additional use directions and limitations.

Table 1. Summary of Use Directions for Isocycloseram.

Application Timing, Type, and Equipment	Formulation	Maximum Application Rate ¹	Max No. Applications per Year	Max Yearly Application Rate	Use Directions and Limitations ²
Berry and Small Fruit Crop Group: Crop Group 13; Berry and Small Fruit Crop Group: Crop Group 13-07					
Broadcast Groundboom, Airblast, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.134 lb ai/A (indoor) 0.065 lb ai/A (outdoor)	4 at highest labeled rate, 6 at lowest labeled rate (outdoor) 2 at highest labeled rate, 6 at lowest labeled rate (indoor)	0.32 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air For retail sale to consumers only
Brassica Head and Stem Vegetables, Crop Group 5-16; Brassica Leafy Greens, Crop Subgroup 4-16B (Except Watercress); Leafy Greens, Crop Subgroup 4-16A					
Broadcast Groundboom	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air
Broadcast Groundboom	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air

Broadcast Groundboom, Airlast, Chemigation, Mechanically Pressurized Handgun, Backpack. Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.052 lb ai/A	3	0.16 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 1 day PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air DO NOT use vegetable plants treated with Atexzo for commercial vegetable production or sell those plants for use by commercial vegetable producers. Only for retail sale to consumers.
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Bulb Vegetable Group, Crop Group 3-07

Broadcast Groundboom, Chemigation	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.107 lb ai/A	2	0.214 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 7 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom, Chemigation	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.107 lb ai/A	2	0.214 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 7 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom, Chemigation	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.107 lb ai/A	2	0.214 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 7 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air

Broadcast Groundboom, Airblast, Chemigation, Mechanically Pressurized Handgun, Backpack. Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.104 lb ai/A (indoor) 0.065 lb ai/A (outdoor)	4 at highest labeled rate, 6 at lowest labeled rate (outdoor) 3 at highest labeled rate, 6 at lowest labeled rate (indoor)	0.32 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 7 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air DO NOT use vegetable plants treated with Atexzo for commercial vegetable production or sell those plants for use by commercial vegetable producers. Only for retail sale to consumers.
Cereals¹¹, Small Grain (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)					
Seed Treatment Commercial seed treatment equipment	A22241 ST (Alternate Brand Name: Equento™ 100FS) 9.35% ai (0.83 lb ai/gal)	0.0075 lb ai/100 lb seed	1	0.019 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Do not use for at-plant applications (e.g., hopper box, planter box, etc.) Do not exceed 0.019 lb ai/acre/year (22 g ai/ha/year) of isocycloseram when planting treated seeds. Store treated seed away from food and feedstuffs. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Seed Treatment Commercial seed treatment equipment	A22725 ST (Alternate Brand Name: Equento™ 400FS) 34.8% ai (3.34 lb ai/gal)	0.0075 lb ai/100 lb seed	1	0.019 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Do not use for at-plant applications (e.g., hopper box, planter box, etc.) Do not exceed 0.019 lb ai/acre/year (22 g ai/ha/year) of isocycloseram when planting treated seeds. Store treated seed away from food and feedstuffs PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Citrus Fruit, Crop Group 10-10					
Broadcast Groundboom, Airblast	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.0665 lb ai/A	No more than 2 applications at 12.3 fl oz/A per year; no more than four applications in total per year.	0.188 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: Use rate of 4.2 fl oz/A: 7 days; Use rate of >4.2 fl oz/A: 21 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air
Broadcast Groundboom, Airblast	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.0665 lb ai/A	No more than 2 applications at 6.1 fl oz/A per year; no more than four applications in total per year.	0.188 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: Use rate of 2.1 fl oz/A: 7 days; Use rate of >2.1 fl oz/A: 21 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air

Broadcast Groundboom, Airblast	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.0665 lb ai/A	No more than 2 applications at 3.0 fl oz/A per year; no more than four applications in total per year.	0.188 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: a. Use rate of 1.1 fl oz/A: 7 days b. Use rate of >1.1 fl oz/A: 21 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom, Airblast, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.065 lb ai/A (outdoor) 0.078 lb ai/A (indoor)	3 at the highest labeled rate, 4 at the lowest labeled rate (outdoor) 2 at the highest labeled rate, 4 at the lowest labeled rate (indoor)	0.21 lb ai/A/year Plants Grown Outdoors; Plants Grown Indoors and Outdoor Containerized Production	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 1 day PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air For retail sale to consumers only
Corn (field, pop, and seed)					
Broadcast Groundboom, Air	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.0266 lb ai/A	2	0.0532 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: Forage: 7 days; Stover and Grain: 21 days Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. Aerial application to Corn is only permitted in the following states: Colorado, Kansas, Nebraska, Oklahoma and Texas.
At planting Soil directed In-furrow, 2x2 application, T-banded Groundboom	A22466 CP 25.7% ai (2.5 lb ai/gal)	0.133 lb ai/A	1	0.133 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours PHI: Forage: 14 days; Stover and Grain: 30 days Do not apply this product through any type of irrigation system. Do not apply this product as a T-band treatment unless the product can be incorporated into the top one inch of soil. If a cultivation/lay-by timing application of A22466 CP is made, do not apply any foliar applications of isocycloram-containing products, Not registered for use by California PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves, protective eyewear.
Cotton, Crop Subgroup 20C					

Broadcast Groundboom, Air	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.
Broadcast Groundboom, Air	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.
Broadcast Groundboom, Air	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Cucurbit Vegetables, Crop Group 9					
Broadcast Groundboom	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 3 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.0532 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 3 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air

Broadcast Groundboom	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 3 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom, Airlast, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.052 lb ai/A	3	0.16 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 3 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air DO NOT use vegetable plants treated with Atexzo for commercial vegetable production or sell those plants for use by commercial vegetable producers. Only for retail sale to consumers.
Pulses, Dried Shelled Bean (Except Soybean) Crop Subgroup 6-22E and Pulses, Dried Shelled Pea Crop Subgroup 6-22F¹²					
Seed Treatment Commercial seed treatment equipment	A22241 ST (Alternate Brand Name: Equento™ 100FS) 9.35% ai (0.83 lb ai/gal)	0.01 lb ai/100 lb seed	1	0.03 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Do not use for at-plant applications (e.g., hopper box, planter box, etc.) Do not exceed 0.03 lb ai/acre/year (33.6 g ai/ha/year) of isocycloseram when planting treated seeds. Store treated seed away from food and feedstuffs. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Seed Treatment Commercial seed treatment equipment	A22725 ST (Alternate Brand Name: Equento™ 400FS) 34.8% ai (3.34 lb ai/gal)	0.01 lb ai/100 lb seed	1	0.03 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Do not use for at-plant applications (e.g., hopper box, planter box, etc.) Do not exceed 0.03 lb ai/acre/year (33.6 g ai/ha/year) of isocycloseram when planting treated seeds. Store treated seed away from food and feedstuffs. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Fruiting Vegetables, Crop Group 8-10					

Post-emergence/transplant Broadcast Groundboom	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.0665 lb ai/A	2	0.133 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Post-emergence/transplant Broadcast Groundboom	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.0665 lb ai/A	2	0.133 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Post-emergence/transplant Broadcast Groundboom	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.0665 lb ai/A	2	0.133 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 1 day Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air
Broadcast Groundboom, Airblast, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.065 lb ai/A (outdoor) 0.104 lb ai/A (indoor)	4 at highest labeled rate, 6 at lowest labeled rate (outdoor) 3 at highest labeled rate, 6 at lowest labeled rate (indoor)	0.32 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 1 day PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air DO NOT use vegetable plants treated with Atexzo for commercial vegetable production or sell those plants for use by commercial vegetable producers. Only for retail sale to consumers.
Ornamentals⁸					

Broadcast Groundboom, Airlift, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.065 lb ai/A (outdoor) 0.134 lb ai/A (indoor)	4 at the highest labeled rate, 6 at the lowest labeled rate (outdoor) 2 at the highest labeled rate, 6 at the lowest labeled rate (indoor)	0.32 lb ai /A/year (Outdoor and indoor)	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air
Peanut					
Broadcast Groundboom, Chemigation	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Overhead chemigation is permitted only for suppression of corn rootworm larvae. Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
Broadcast Groundboom, Chemigation	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Overhead chemigation is permitted only for suppression of corn rootworm larvae. Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. DO NOT apply by air

Broadcast Groundboom, Chemigation	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Overhead chemigation is permitted only for suppression of corn rootworm larvae. Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. DO NOT apply by air
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Pome Fruit, Crop Group 11-10; Stone Fruit, Crop Group 12-12; Tree Nuts

Broadcast Groundboom, Airblast	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.0665 lb ai/A	No more than 3 applications per year for pome fruit and tree nuts; no more than 2 for stone fruit	0.200 lb ai/A/year for pome fruit and tree nuts; 0.133 lb ai/A/year for stone fruit	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days DO NOT apply by air Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Broadcast Groundboom, Airblast	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.0665 lb ai/A	No more than 3 applications per year for pome fruit and tree nuts; no more than 2 for stone fruit	0.200 lb ai/A/year for pome fruit and tree nuts; 0.133 lb ai/A/year for stone fruit	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days DO NOT apply by air Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.
Broadcast Groundboom, Airblast	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.0665 lb ai/A	No more than 3 applications per year for pome fruit and tree nuts; no more than 2 for stone fruit	0.200 lb ai/A/year for pome fruit and tree nuts; 0.133 lb ai/A/year for stone fruit	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days DO NOT apply by air Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.

Broadcast					
Groundboom, Airblast, Chemigation, Mechanically Pressurized Handgun, Backpack. Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.065 lb ai/A (outdoor) 0.078 lb ai/A (indoor)	3 at highest labeled rate, 4 at lowest labeled rate	0.24 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI = 14 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air Only for retail sale to consumers.
Rapeseed (Canola Varieties Only)					
Seed Treatment Commercial seed treatment equipment	A22725 ST (Alternate Brand Name: Equento™ 400FS) 34.8% ai (3.34 lb ai/gal)	0.2 lb ai/100 lb seed	1	0.016 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Do not use for at-plant applications (e.g., hopper box, planter box, etc.) Do not exceed 0.016 lb ai/acre/year 17.9 g ai/ha/year) of isocycloseram when planting treated seeds. Store treated seed away from food and feedstuffs. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Soybean					
Broadcast Groundboom, Air	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. Aerial application to Soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas.
Broadcast Groundboom, Air	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks. Aerial application to Soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas.

Broadcast Groundboom, Air	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.053 lb ai/A	2	0.107 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves. Aerial application to Soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas.
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Tropical and Subtropical Fruit, Edible Peel Group: Crop Group 23; Tropical and Subtropical Fruit, Inedible Peel Group: Crop Group 24					
Broadcast Groundboom, Airlift, Chemigation, Mechanically Pressurized Handgun, Backpack. Hand Pressurized Hand Wand, Automatic Cold Fogger equipment (greenhouse only), Electrostatic equipment (greenhouse only)	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.134 lb ai/A (indoor) 0.065 lb ai/A (outdoor)	4 at highest labeled rate, 6 at lowest labeled rate (outdoor) 2 at highest labeled rate, 6 at lowest labeled rate (indoor)	0.32 lb ai/A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days Aerial application is prohibited. PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air Only for retail sale to consumers.

Tuberous and Corm Vegetables, Crop Subgroup 1C					
Broadcast Groundboom, Air (only for Potato), Overhead Chemigation	A21377 CP (Alternate Name: Incipio®) 18.3% ai (1.67 lb ai/gal)	0.053 lb ai/A	3	0.160 lb ai/A/year	<ul style="list-style-type: none"> Aerial application is prohibited for all crops in Tuberous and Corm Vegetables, Crop Subgroup 1C except Potato REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.

Broadcast Groundboom, Air (only for Potato)	A21708 CP 9.27% ai (0.83 lb ai/gal)	0.053 lb ai/A	3	0.160 lb ai/A/year	<ul style="list-style-type: none"> Aerial application is prohibited for all crops in Tuberous and Corm Vegetables, Crop Subgroup 1C except Potato REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks, chemical resistant gloves.
Broadcast Groundboom, Air (only for Potato), Overhead Chemigation	A21550 CP (Alternate Name: Vertento®) 34.8% ai (3.33 lb ai/gal)	0.053 lb ai/A	3	0.160 lb ai/A/year	<ul style="list-style-type: none"> Aerial application is prohibited for all crops in Tuberous and Corm Vegetables, Crop Subgroup 1C except Potato REI = 12 hours Minimum Application Interval: 7 days PHI: 14 days Do not use in nurseries, plant propagation houses, or greenhouses on plants being grown for transplanting. Do not use in residential areas or residential landscapes. Ultra-low volume (ULV) applications, spray volumes <2 gallons per acre, are prohibited. PPE = Long-sleeved shirt, long pants, shoes and socks.
Turf⁹					
Broadcast Groundboom, Chemigation, Mechanically Pressurized Handgun, Backpack, Hand Pressurized Hand Wand	Atexzo® INSECTICIDE 18.3% ai (1.67 lb ai/gal)	0.107 lb ai/A	Do not exceed 3 at the highest labeled rate, 14 at the lowest labeled rate	0.32 lb ai /A/year	<ul style="list-style-type: none"> REI = 12 hours Minimum Application Interval: 7 days PPE = long-sleeved shirt, long pants, shoes plus socks DO NOT apply by air
Food/Feed-Handling areas and Non-Food Areas of Commercial, Industrial, Institutional, Agricultural, and Residential areas; Livestock/Poultry/Companion Animal Housing.					
Indoor Crack-and-crevice, spot, void Backpack, handheld applicators, ULV equipment, foam generating equipment	A21550 400SC INSECTICIDE (Alternate Name: Vanecto® 400SC) 34.8% ai (3.33 lb ai/gal)	0.134 lb ai/A	--	--	<ul style="list-style-type: none"> For normal pest situations or maintenance applications, a treatment interval of 30 days is usually sufficient to maintain control. To gain control of heavy infestations, make two applications at 7-day intervals, then revert to maintenance application intervals. For indoor use, apply no more than 1 gallon per 1,000 sq ft. Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. For applications to exterior and/or interior areas of agricultural/commercial structures used to house livestock and poultry, crack-and-crevice, spot application, or surface spray application may be used. PPE = long-sleeved shirt, long pants, shoes plus socks

Outdoor Crack-and-crevice, spot, void, general surface, perimeter banded Backpack, handheld applicators, ULV equipment, high- volume sprayers	A21550 400SC INSECTICIDE (Alternate Name: Vanecto® 400SC) 34.8% ai (3.33 lb ai/gal)	0.134 lb ai/A	Do not exceed 15 applications per structure per year at the high rate of 0.2% dilution.	0.32 lb ai/A/year (outdoor applications)	<ul style="list-style-type: none"> Outdoor application is prohibited for drywood termites For normal pest situations or maintenance applications, a treatment interval of 30 days is usually sufficient to maintain control. To gain control of heavy infestations, make two applications at 7-day intervals, then revert to maintenance application intervals. For outdoor use with backpack or other hand sprayers, 1-4 gallons per 1,000 sq ft is recommended. Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. For applications to exterior and/or interior areas of agricultural/commercial structures used to house livestock and poultry, crack-and-crevice, spot application, or surface spray application may be used. PPE = long-sleeved shirt, long pants, shoes plus socks
Wood injection for drywood termite control	A21550 400SC INSECTICIDE (Alternate Name: Vanecto® 400SC) 34.8% ai (3.33 lb ai/gal)	0.0042 lb ai/gal	--	0.32 lb ai/A/year (outdoor applications)	<ul style="list-style-type: none"> For normal pest situations or maintenance applications, a treatment interval of 30 days is usually sufficient to maintain control. To gain control of heavy infestations, make two applications at 7-day intervals, then revert to maintenance application intervals. For indoor use, apply no more than 1 gallon per 1,000 sq ft. For outdoor use with backpack or other hand sprayers, 1-4 gallons per 1,000 sq ft is recommended. Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. For applications to exterior and/or interior areas of agricultural/commercial structures used to house livestock and poultry, crack-and-crevice, spot application, or surface spray application may be used. PPE = long-sleeved shirt, long pants, shoes plus socks
Backpack, handheld applicators	A21550 400SC INSECTICIDE (Alternate Name: Vanecto® 400SC) 34.8% ai (3.33 lb ai/gal)	0.0167 lb ai/gal (0.134 lb ai/A)	--	0.32 lb ai/A/year (outdoor application)	<ul style="list-style-type: none"> For normal pest situations or maintenance applications, a treatment interval of 30 days is usually sufficient to maintain control. To gain control of heavy infestations, make two applications at 7-day intervals, then revert to maintenance application intervals. For indoor use, apply no more than 1 gallon per 1,000 sq ft. For outdoor use with backpack or other hand sprayers, 1-4 gallons per 1,000 sq ft is recommended. Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. For applications to exterior and/or interior areas of agricultural/commercial structures used to house livestock and poultry, crack-and-crevice, spot application, or surface spray application may be used. PPE = long-sleeved shirt, long pants, shoes plus socks

Indoor/Outdoor Crack-and-crevice, spot, void	A22128 Cockroach Gel Bait (Alternate Name: Vanecto® Cockroach Gel Bait) 1% ai (0.01 lb ai/lb)	40 spots ¹⁰ per 100 sq ft of treated area = 0.00044 lb ai/100 ft ²	Do not make more than 12 applications per individual 100 sq ft area per year	--	<ul style="list-style-type: none"> Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. Light to moderate infestations: 10-30 spots per 100 sq ft; Heavy infestations or for larger cockroach species: 30-40 spots per 100 sq ft. Do not treat areas that are easily accessible to children and pets. Do not apply to food preparation surfaces. Do not allow open foods to contact the bait. PPE = long-sleeved shirt, long pants, shoes plus socks
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¹ Application Rate (lb ai/gal) = [fl oz/A x (1 gal/128 fl oz) x (lb ai/gal)] / (gal solution/A).

² REI = restricted-entry interval, PHI = pre-harvest interval; PPE = personal protective equipment

³ Label directs using a minimum of 100 gallons carrier volume per acre.

⁴ Label directs using a minimum of 10 gallons carrier volume per acre.

⁵ Label directs using a minimum of 30 gallons carrier volume per acre.

⁶ Label directs using a minimum of 2 gallons carrier volume per acre.

⁷ Label directs using a minimum of 5 gallons carrier volume per acre.

⁸ Includes field and container-grown plants produced in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries, forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

⁹ Includes golf courses; institutional, commercial, and residential lawns and landscapes; sod farms; sports fields; parks; municipal grounds; and cemeteries.

¹⁰ According to the label, each bait spot is approximately $\frac{1}{4}$ inch in diameter and approximately equal to 0.5 grams of product.

¹¹ Cereal grains include: Labels A22725 and A22241: barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat.

¹² Peas and Beans include: Chickpea, Lentil field peas, field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean, adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, fava bean, Guar, hyacinth bean Pigeon pea.

IV. EVALUATION

In evaluating a pesticide registration application, EPA assesses a wide variety of exposure information (*i.e.*, where and how the pesticide is used) as well as environmental fate (*i.e.*, how the chemical will move in the environment) and toxicity studies (*i.e.*, effects on humans and other non-target organisms) based on chemical-specific data to determine the likelihood of adverse effects (*i.e.*, risk) from exposures associated with the use of the product. Risk assessments are developed to evaluate the environmental fate of the compound as well as how it might affect a wide range of non-target organisms including humans, terrestrial and aquatic wildlife (plants and animals). The potential for persistence, bioaccumulation and toxicity are considered in these assessments. In addition, a benefits assessment may be conducted. EPA then weighs findings from these assessments and determines if the overall risk for use of the pesticide is deemed “unreasonable.” Based on these assessments, EPA evaluates and approves language for each pesticide label to ensure the directions for use and safety measures are appropriate to mitigate potential risks that outweigh benefits. In this way, the pesticide label communicates essential limitations and mitigations that are necessary for public safety. It is a FIFRA violation to use a pesticide in a manner inconsistent with its labeling. Consistent with Endangered Species Act (ESA) Section 7(a)(2), EPA also assesses the potential effects of the use of isocycloseram on federally listed threatened or endangered (hereafter referred to as “listed”) species and their designated critical habitats (CHs).

A. Assessment of Risks to Human Health

The EPA requires a wide range of studies in order to assess a pesticide use scenario. For the uses of isocycloseram, listed in Table 1, the database of studies required to support the assessment of risk to human health is adequate for dose-response assessment, exposure assessment and risk characterization and Food Quality Protection Act (FQPA) Safety Factor (SF) consideration for registration in the U.S.

This section summarizes EPA's Human Health Risk Assessment for New Active Ingredient Isocycloseram. The complete assessment can be found in docket ID number EPA-HQ-OPP-2021-0641 at www.regulations.gov.

1. Toxicology Profile

Isocycloseram is a new broad-spectrum insecticide belonging to the chemical group of isoxazolines. It binds to a site on the gamma-aminobutyric acid (GABA) receptor, resulting in a blockage of inhibitory neurotransmission and leading to hyperexcitation and death of target insects. The pesticidal mode of action is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 insecticide (GABA-gated chloride channel allosteric modulator). Isocycloseram contains two stereocenters and is manufactured as a mixture of four stereoisomers (in order of percentage of the test material: SYN548088 [89.2%], SYN548090 [4.7%], SYN548089 [2.7%], and SYN548091 [0.3%]). In a 28-day, rat isomer toxicity study, reduced body weight was noted in males with the major isomer (SYN548088) but no adverse effects were noted with SYN548089, SYN548090, or a mixture of the three more prominent isomers (SYN548088 + SYN548089 + SYN548090). Although there was some variability in isomer composition used for the toxicity studies, SYN548088 is the major component of the isomer mixture (89.2-98.9%), and the available studies provide protective points of departure (PODs).

Isocycloseram has low acute mammalian toxicity (Toxicity Category IV) via inhalation, dermal, and oral routes. It is a minimal eye irritant and not irritating to the skin (Toxicity Category IV) but is a dermal sensitizer.

Rats are the most sensitive mammalian species in the database, and male rats are more sensitive than female rats. The testes, epididymides, and liver were the target organs of isocycloseram in oral toxicity studies in rats. Tubular degeneration of testes, and cellular debris and reduced sperm in the epididymides were observed in subchronic, chronic/carcinogenicity, and one-generation reproduction studies in rats. Additionally, hepatocyte vacuolation and/or inflammatory cell infiltrate were noted in the chronic/carcinogenicity and one-generation reproduction studies in rats. Toxicity in the rat was observed at lower dose levels with increased duration of exposure. In the 28-day dermal toxicity study in rats, no adverse effects were observed up to the limit dose. No adverse effects were observed in mice following subchronic and chronic exposure. Decreased body weight and poor clinical conditions (vomiting and slight body tremors) were observed in dogs after subchronic exposure.

There was no evidence of qualitative or quantitative life-stage susceptibility in the rat and rabbit developmental toxicity studies tested up to 15 mg/kg/day, and in one- and two-generation rat reproduction studies tested up to 15 and 12 mg/kg/day respectively. In the two-generation rat reproduction study, there were no systemic parental, reproductive, or offspring adverse effects up to the highest dose tested (12 mg/kg/day). In the one-generation reproduction study, systemic parental and reproductive effects were observed at 45 mg/kg/day with a parental, reproductive and offspring no-observed adverse-effect level (NOAELs) of 15 mg/kg/day which is comparable to the NOAEL in the two-generation reproduction study.

Although the rat and rabbit definitive developmental studies did not test up to the limit dose and there is a potential for susceptibility at higher doses, the concern for susceptibility is low based on the following considerations: the highest dose tested in the definitive developmental toxicity studies in both rats and rabbits (15 mg/kg/day) did not elicit an adverse effect in either the maternal or fetal compartments. Minimal effects were seen in the range-finding studies for both species. In the rat range finding study, decreases in body-weight gain and absolute body weight (decreases of 20% and 7%, respectively) were noted at 15 mg/kg/day (highest dose tested) with no effects in the fetal compartment. In the rabbit range finding study, a 3% weight loss accompanied by a 61% decrease in food consumption was seen at 30 mg/kg/day (highest dose tested). These studies demonstrate that the animals were sufficiently challenged. In both species, marginal non-adverse maternal effects were seen in the absence of developmental toxicity, suggesting that the potential for lifestage sensitivity is low. In addition, data from a one-generation toxicity study in rats revealed no lifestage sensitivity even after a longer period of exposure (NOAEL for all lifestages = 15 mg/kg/day).

In the two-generation rat reproduction study, no adverse effects were observed up to the highest dose tested (12 mg/kg/day). The minimal effects (degeneration/atrophy of the epithelium in the seminiferous tubules with minimal to slight severity) noted in the F0 and F1 males are also an indication that the animals were adequately dosed during early life and there is no indication of lifestage sensitivity. Hence, the weight-of-evidence (WOE) indicates an overall low level of concern for lifestage sensitivity, and the selected PODs are protective of any potential effects that would be observed at a higher dose.

There was no evidence of neurotoxicity in the acute and subchronic neurotoxicity studies up to the highest dose tested (1000 mg/kg for acute and 33 mg/kg/day for subchronic).

Isocycloseram is classified as “Not Likely to be Carcinogenic to Humans.” No treatment-related increase in tumors was observed in the carcinogenicity studies in rats and/or mice at doses that were considered adequate to assess carcinogenicity. Additionally, there was no evidence of mutagenicity *in vivo* or *in vitro*.

The Food Quality Protection Act safety factor (FQPA SF) of 10x was reduced to 1X for all exposure scenarios. Although there was potential evidence of neurotoxicity in the 28-day dog study (slight body tremors), the selected endpoints are protective of the observed effects, and clear NOAEL and LOAEL values have been identified in this study. There was no evidence of qualitative or quantitative fetal or postnatal susceptibility.

A summary of the PODs selected for human health risk assessments can be found in **Tables 2** and **3**. This section, Assessment of Risks to Human Health, is a summary of the standard assessment that the agency conducts; the full Human Health Risk Assessment can be found in docket ID number EPA-HQ-OPP-2021-0641 at www.regulations.gov.

Table 2. Summary of Toxicological Doses and Endpoints for Isocycloseram for Use in Dietary and Non-Occupational Human Health Risk Assessments.				
Exposure Scenario	POD	Uncertainty/FQPA Safety Factors	RfD, PAD, LOC for Risk Assessment	Study and Toxicological Effects
Acute Dietary (All Populations)	No hazard or appropriate acute endpoint attributable to a single exposure was identified from the available oral toxicity database at the doses tested.			
Chronic Dietary (All Populations)	NOAEL = 2 mg/kg/day	UF _A = 10X UF _H = 10X FQPA SF = 1X	cRfD = 0.02 mg/kg/day cPAD = 0.02 mg/kg/day	<u>Combined chronic toxicity/carcinogenicity in rat (MRID 51252102)</u> LOAEL = 7 mg/kg/day based on reduced testes size, increased incidence and severity of tubular degeneration in the testes, reduced sperm and cellular debris in the epididymis, and increased incidence and severity of liver vacuolation in males.
Incidental Oral/Adult Oral Short-Term (1-30 days) and Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day	UF _A = 10X UF _H = 10X FQPA SF = 1X	Residential LOC for MOE = 100	<u>Subchronic toxicity in rat (MRID 51252110)</u> LOAEL = 22 mg/kg/day based on decreased body weight in males, tubular degeneration of testes, and cellular debris and reduced sperm in the epididymis.
Dermal Short-Term (1-30 days)	No hazard identified in the 28-day dermal toxicity study up to the limit dose. The effect on the target organ (testes) was not observed in the dermal toxicity study or orally at short-term exposures; based on a weight-of-evidence approach there is low concern for susceptibility.			
Dermal Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day DAF = 7% DED = 157 mg/kg/day	UF _A = 10X UF _H = 10X FQPA SF = 1X	Residential LOC for MOE = 100	<u>Subchronic toxicity in rat (MRID 51252110)</u> LOAEL = 22 mg/kg/day based on decreased body weight in males, tubular degeneration of testes, and cellular debris and reduced sperm in the epididymis.

Table 2. Summary of Toxicological Doses and Endpoints for Isocycloseram for Use in Dietary and Non-Occupational Human Health Risk Assessments.

Exposure Scenario	POD	Uncertainty/FQPA Safety Factors	RfD, PAD, LOC for Risk Assessment	Study and Toxicological Effects
Inhalation Short-Term (1-30 days) and Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day Assumption: inhalation-absorption equivalent to oral absorption	UF _A = 10X UF _H = 10X FQPA SF = 1X	Residential LOC for MOE = 100	Subchronic toxicity in rat (MRID 51252110) LOAEL = 22 mg/kg/day based on decreased body weight in males, tubular degeneration of testes, and cellular debris and reduced sperm in the epididymis.
Cancer (oral, dermal, inhalation)	Classification: "Not Likely to be Carcinogenic to Humans"; therefore, a cancer risk assessment is not required.			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). FQPA SF = Food Quality Protection Act Safety Factor. PAD = population-adjusted dose (c = chronic). RfD = reference dose. LOC = level of concern. DAF = dermal absorption factor. DED = dermal-equivalent dose. MOE = margin of exposure.

Table 3. Summary of Toxicological Doses and Endpoints for Isocycloseram for Use in Occupational Human Health Risk Assessments.

Exposure Scenario	POD	UFs	LOC for Risk Assessment	Study and Toxicological Effects
Dermal Short-Term (1-30 days)	No hazard identified in the 28-day dermal toxicity study up to the limit dose. The effect on the target organ (testes) was not observed at short-term exposure and based on a weight-of-evidence approach, there is low concern for susceptibility.			
Dermal Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day DAF = 7% DED = 157 mg/kg/day	UF _A = 10X UF _H = 10X	Occupational LOC for MOE = 100	Subchronic toxicity in rat (MRID 51252110) LOAEL = 22 mg/kg/day based on decreased body weight in males, tubular degeneration of testes, and cellular debris and reduced sperm in the epididymis.
Inhalation Short-Term (1-30 days) and Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day Assumption: inhalation-absorption equivalent to oral absorption	UF _A = 10X UF _H = 10X	Occupational LOC for MOE = 100	Subchronic toxicity in rat (MRID 51252110) LOAEL = 22 mg/kg/day based on decreased body weight in males, tubular degeneration of testes, and cellular debris and reduced sperm in the epididymis.
Cancer (oral, dermal, inhalation)	Classification: "Not Likely to be Carcinogenic to Humans"			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). LOC = level of concern. DAF = dermal absorption factor. DED = dermal equivalent dose. MOE = margin of exposure.

2. Dietary (Food + Water) Risks

In estimating dietary exposure to isocycloseram, EPA considered exposure to food and drinking water.

An acute dietary exposure assessment was not conducted for isocycloseram as no appropriate acute endpoints were identified for any population subgroup (*i.e.*, no toxic effect attributable to a single dose identified). Isocycloseram is classified as “Not Likely to be Carcinogenic to Humans”; therefore, a cancer dietary risk assessment is not required.

The chronic aggregate dietary (food and drinking water) exposure and risk assessment was conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID) Version 4.02. This software uses 2005-2010 food consumption data from USDA’s National Health and Nutrition Examination Survey What We Eat in America (NHANES/WWEIA). The unrefined chronic dietary assessment was conducted using tolerance-level residues (primary crops), calculated residues (livestock), and 100 percent crop treated (PCT) assumptions. Calculated residues for livestock were derived from feeding studies and accounted for isocycloseram as well as the following residues of concern for risk assessment: SYN549431 and SYN551475 for fat; SYN549543, SYN549544, SYN548569, and SYN551583 for meat byproducts; and SYN549431, SYN551479, and SYN549436 for eggs. As a result, residues for risk assessment were incorporated at levels higher than the livestock tolerances. The model-derived estimated drinking water concentrations (EDWCs) (0.0099 mg ai/L; parts per million [ppm]) for all direct and indirect water sources were used for the chronic assessment. This assessment incorporated tolerances derived from field trials conducted at application rates higher than, and thus protective of the rates on the labels modified in response to potential ecological concerns.

There are no chronic dietary (food and drinking water) risk estimates of concern for the general U.S. population and all population subgroups. The most highly exposed population subgroup is children (1-2 years old) at 67% of the chronic population-adjusted dose (cPAD).

3. Occupational Handlers Risks

Based on the uses, short- and intermediate-term exposures are expected. However, no short-term dermal hazard was identified up to the limit dose; therefore, only intermediate term dermal and short-/intermediate-term inhalation exposures were assessed.

Short- and intermediate-term occupational handler inhalation and intermediate-term dermal combined risk estimates are not of concern (*i.e.*, margins of exposure (MOEs) greater than or equal to (\geq) the level of concern (LOC) of 100) at baseline attire. Aerial applications were assessed using engineering controls (*e.g.*, closed cockpits and gloves), and no risk estimates of concern were identified (*i.e.*, MOEs \geq the LOC of 100).

Intermediate-term commercial/on-farm seed treatment inhalation and dermal combined risk estimates are not of concern (*i.e.*, MOEs \geq the LOC of 100) at baseline attire with required personal protective equipment (PPE) consisting of chemical-resistant gloves for all uses.

Intermediate-term dermal occupational post-application risk estimates are not of concern (MOEs \geq LOC of 100) on the day of application using chemical-specific turf transferable residue (TTR) and dislodgeable foliar residue (DFR) data.

Isocycloseram is classified as Toxicity Category IV via the dermal route, Toxicity Category IV for skin irritation potential, and Toxicity Category IV for eye irritation potential. It is a skin sensitizer. Short- and intermediate-term post-application risk estimates are not a concern on day 0 (12 hours following application) for all post-application activities. Under 40 C.F.R. § 156.208(c)(2), active ingredients (AIs) classified as Acute III or IV for acute dermal, eye irritation and primary skin irritation are assigned a 12-hour REI. Therefore, the 40 C.F.R. Part 156, subpart K Worker Protection Statement interim REI of 12 hours is adequate to protect agricultural workers from post-application exposures to isocycloseram. All the labels list an REI of at least 12 hours and are considered protective of potential post-application exposures.

Based on the Agency's current practices, a quantitative non-cancer occupational post-application inhalation exposure assessment was not performed for isocycloseram at this time. If new policies or procedures are put into place, then the Agency may revisit the need for a quantitative occupational post-application inhalation exposure assessment for isocycloseram.

4. Residential Handler Risk and Post Application Risks

A residential short-term post-application exposure assessment for dermal exposure was not quantified as there is no short-term dermal hazard identified up to the limit dose and intermediate-term residential post-application exposures are unlikely to occur.

The end-use products are not intended for use by residential handlers; therefore, a quantitative residential handler assessment has not been conducted. Residential indoor uses are to be applied using a ready-to-use (RTU) gel bait or low-pressure spray as a crack and crevice, spot, or void treatment that results in no residential post-application inhalation potential.

A quantitative residential post-application inhalation exposure assessment was not performed, as inhalation exposure is expected to be negligible from these types of applications. However, an inhalation exposure assessment was performed for occupational handlers (*i.e.*, treaters, handlers, *etc.*), and this exposure scenario should be considered protective of any potential low-level post-application inhalation exposure to bystanders that could result from these types of applications.

5. Residential Risk

Residential post-application short-term incidental oral exposures resulting from indoor and lawn/turf applications were assessed for children 1 to < 2 years old. Default residue assumptions were used for assessment of indoor uses as no chemical-specific indoor data are available at this time. Chemical-specific turf transferable residue (TTR) data were used for assessment of

lawn/turf applications. No incidental oral risk estimates of concern were identified (*i.e.*, all MOEs are greater than the LOC of 100).

6. Aggregate Risk

In accordance with the FQPA, Health Effects Division (HED) must consider and aggregate (add) pesticide exposures and risks from three major sources: food, drinking water, and residential exposures. In an aggregate assessment, exposures from relevant sources are added together and compared to quantitative estimates of hazard (*e.g.*, a NOAEL or PAD), or the risks themselves can be aggregated. When aggregating exposures and risks from various sources, HED considers both the route and duration of exposure.

No acute residential scenarios have been identified for the uses of isocycloseram. Additionally, an acute dietary exposure assessment was not performed for isocycloseram as a toxicological endpoint attributable to a single dose was not identified in the database. Therefore, an acute aggregate risk assessment was not conducted for isocycloseram.

A short-term aggregate risk assessment was conducted for isocycloseram which incorporates the residential scenarios identified in the Human Health Risk Assessment for children 1 to < 2 years old. The residential scenarios have been combined with the dietary (food plus drinking water) exposures identified in the Human Health Risk Assessment. The short-term aggregate MOEs for children (1 to < 2 years old, MOE = 300) are above the LOC (100) and are not of concern.

Based on the uses for isocycloseram, a chronic residential assessment was not conducted; therefore, the chronic aggregate risk assessment consists of only the chronic dietary exposures (food plus drinking water); there are no chronic aggregate risk estimates of concern.

7. Cumulative Risk

Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to isocycloseram and any other substances. For the purposes of this action, therefore, EPA has not assumed that isocycloseram has a common mechanism of toxicity with other substances. As a result, a cumulative risk assessment has not been conducted at this time.

8. Non-Occupational Spray Drift Exposure and Risk

HED conducts human health spray drift assessments to determine potential risk from indirect exposure to pesticides that may drift during or immediately after an application. Pesticide applications made in the form of a spray and applied aerially or via airblast or groundboom may result in pesticide drift and deposition in non-target areas adjacent to the application site.

Isocycloseram will be used on turf, thus EPA considered whether the risk assessment for the turf uses may be considered protective of any type of exposure expected to result from spray drift. If the maximum application rate on crops adjusted by the amount of drift expected is less than or equal to existing turf application rates, the existing turf assessment is considered protective of

spray drift exposure. Note that this assumes similar formulations are being applied to the agricultural crops and the residential turf (*i.e.*, if a granular product is registered for use on residential turf, the scenarios assessed for that use may not be protective of liquid applications made to agricultural crops). The maximum single application rate of isocycloseram for several crops is 0.134 lb ai/A. The highest degree of spray drift noted for any application method immediately adjacent to a treated field (Tier 1 output from the aerial application using fine to medium spray quality) results in a deposition fraction of 0.26 of the application rate. A quantitative spray drift assessment for isocycloseram is not required because the maximum application rate to a crop/target site multiplied by the adjustment factor for drift of 0.26 is less than the maximum direct spray residential turf application rate (0.134 lb ai/A). As a result, the turf post-application MOEs (see Section 5 above) can be considered protective of any potential non-occupational spray drift exposures.

9. Non-Occupational Bystander Post-Application Inhalation Exposure and Risk Estimates

Volatilization of pesticides may be a source of post-application inhalation exposure to individuals nearby pesticide applications. A quantitative residential post-application inhalation exposure assessment was not performed, as inhalation exposure is expected to be negligible from these types of applications. However, EPA performed an inhalation exposure assessment for occupational handlers (*i.e.*, treaters, handlers, *etc.*), and EPA considers this exposure scenario protective of any potential low-level post-application inhalation exposure to bystanders that could result from these types of applications.

B. Endocrine Disruptor Screening Program

The FFDCA Section 408(p) requires EPA to develop a screening program to determine whether certain substances (including pesticide active and other ingredients) may have an effect in humans similar to an effect produced by a “naturally occurring estrogen, or other such endocrine effects as the Administrator may designate.” (21 U.S.C. § 346a(p)). In carrying out the Endocrine Disruptor Screening Program (EDSP), FFDCA Section 408(p)(3) requires that EPA “provide for the testing of all pesticide chemicals,” which includes “any substance that is a pesticide within the meaning of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), including all active and pesticide inert ingredients of such pesticide.” (21 U.S.C. 231(q)(1) and 346a(p)(3)). However, FFDCA Section 408(p)(4) authorizes EPA to, by order, exempt a substance from the EDSP if the EPA “determines that the substance is anticipated not to produce any effect in humans similar to an effect produced by a naturally occurring estrogen.” (21 U.S.C. § 346a(p)(4)).

As described in Appendix H of the human health risk assessment, no additional data are needed at this time to support EPA’s assessment of the potential for adverse estrogen, androgen, or thyroid hormone effects in humans.

The current PODs for human health risk assessment for isocycloseram are based on potential adverse androgen effects. Since the human health risk assessment did not identify any risks of concern, EPA has completed its FFDCA Section 408(p)(6)-related commitments and obligations

“to ensure the protection of public health” at this time. For additional details of the EDSP, please visit <https://www.epa.gov/endocrine-disruption>.

C. Assessment of Environmental and Ecological Risks

The ecological risk assessment (ERA) examines the potential for adverse effects to non-listed non-target organisms associated with uses of isocycloseram. The EPA also conducted a Biological Evaluation (BE) that assesses the effects on federally listed threatened/endangered species and includes EPA’s predictions of the potential likelihood of future jeopardy (J) for listed species and adverse modification (AM; collectively referred to as J/AM) of designated critical habitats (CHs), as well as the EPA’s assessment of how mitigations are identified to avoid such findings. However, while EPA is predicting the potential likelihood of future J/AM, the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (collectively referred to as the Services) are responsible for making the actual J/AM findings for these species and have the sole authority to do so.

The taxa evaluated in the ERA include mammals, birds (which serve as surrogates for reptiles and terrestrial-phase amphibians), bees, fish (where freshwater fish serve as surrogates for aquatic-phase amphibians), aquatic invertebrates, and aquatic and terrestrial plants. Ecological risk characterization integrates environmental exposure and ecotoxicity data to evaluate the likelihood of adverse ecological effects using a risk quotient (RQ) method. For this method, RQs are calculated by dividing point estimates of exposure (*i.e.*, estimated environmental concentrations [EECs]) by point estimates of toxicity (RQ = EEC/toxicity endpoint), for both acute and chronic effects. The RQs are then compared to EPA’s acute and chronic risk levels of concern (LOCs) for each taxon. The LOCs are well-established levels used by EPA to indicate potential risk to non-target organisms and are meant to be protective of community-level effects. The LOC indicates whether a pesticide, when used as directed, has the potential to cause adverse effects to non-target organisms. RQs below a LOC indicate there are no risks of concern for that taxon. If the RQ exceeds the LOC, then the EPA further characterizes and describes the associated risk of concern.

These findings can also play a role in the EPA’s assessment of effects to listed species and their designated CH, as required by the Endangered Species Act (ESA). Where RQs have been calculated, if the RQs are below the listed species LOC (indicating potential exposures are below threshold doses) for a particular taxon, then the EPA does not expect direct effects to listed species in that taxon. However, further refinement or analysis may be necessary to complete an effects determination for listed species within that taxon because there may also be indirect effects to a listed species from potential direct effects to another taxon on which the listed species depends for pollination, prey, habitat, and/or dispersion (PPHD). In making its effects determinations, EPA evaluates both potential direct and indirect effects to listed species and designated critical habitats.

EPA has determined that based on the use patterns all relevant data requirements specified in Title 40, Part 158 of the Code of Federal Regulations (40 C.F.R. Part 158) have been satisfied. This section summarizes the EPA’s ERA and BE for isocycloseram. The complete assessment can be found in docket ID number EPA-HQ-OPP-2021-0641 at www.regulations.gov.

10. Environmental Fate Profile

Isocycloseram is moderately soluble in water and is not likely to volatilize from water and dry surfaces. Isocycloseram is moderately persistent to persistent in aerobic soil systems,¹ with aerobic soil time to 50% decline in mass/concentration (DT₅₀) values ranging from 56.3 days (d) to 293 d. Unextracted residues accounted for >10% applied radioactivity (AR) in all soil studies; however, EPA considers these residues as bound to the soil and do not represent a potential source of exposure. Isocycloseram degraded faster in water than in soil, with DT₅₀ values ranging from 9.94 to 37.1 d and 2.29 d to 5.94 d in aerobic and anaerobic aquatic metabolism studies, respectively. Isocycloseram is not systemic in plants and is not expected to be translocated to pollen or nectar via plant uptake and distribution. Based on a log octanol-water partition coefficient (log K_{ow}) of 4.9 the compound has the potential to bioaccumulate in aquatic organisms; however, the parent compound has measured whole fish bioconcentration factors (BCF) ranging from 823 to 982 L/kg-wet weight fish and achieved >95% depuration after 14 days, indicating a low potential for bioaccumulation or bioconcentration. Radioactive residues in fish were primarily (84-89%) parent and additional data provided by Syngenta show that all residues besides parent accounted for <3% of the applied radioactivity (AR). Additionally, modeling conducted with the K_{ow}-based aquatic bioaccumulation model (KABAM; v. 1.0) did not indicate risks of concern due to bioconcentration/bioaccumulation.

Isocycloseram breaks down into multiple degradation products, with 24 major (>10% AR) and 4 minor (<10% AR) degradates identified. The parent compound is slightly to hardly mobile in soil (FAO, 2000), and thus is expected to sorb to sediment. This is largely consistent with what is observed in the terrestrial field dissipation (TFD) studies. Mobility data for SYN549107 and SYN550738, two major degradates in aerobic soil metabolism studies, indicate that degradate SYN549107 is more mobile than parent (slightly mobile) and degradate SYN550738 is less mobile (immobile). As empirical batch equilibrium data were only submitted for these two degradates, EPA used the Estimation Program Interface suite (EPI SuiteTM; version 4.1) to estimate the organic carbon-normalized distribution coefficient (K_{oc}) values for all other degradates, with estimated mobilities both higher and lower than that of the parent. Based on submitted toxicity data, percent formation data, and structure-activity relationship analysis, the Residues of Concern (ROC) for ecological risk include the parent compound and degradates SYN549431, SYN549107, SYN550738, SYN551203, SYN550737, and SYN55103.

For the exposure assessment, the EPA calculated EECs for parent and parent plus residues of concern using the Total Residue (TR) method (referred to collectively as TR throughout the document). To account for degradate persistence and low mobility of parent, the EPA calculated EECs using TR model input half-lives and the parent K_{oc} values. In the selection of EECs, EPA conducted a Formation-Decline modeling analysis which demonstrated that the EECs are driven by parent mobility rather than that of the most mobile ROC. The EECs based on the TR half-

¹ Goring, C. A. I., Laskowski, D. A., Hamaker, J. H., & Meikle, R. W. 1975. Principles of pesticide degradation in soil. In R. Haque & V. H. Freed (Eds.), Environmental dynamics of pesticides. NY: Plenum Press. Available at https://link.springer.com/chapter/10.1007%2F978-1-4684-2862-9_9.

lives using parent mobility are comparable to the results from higher-tier Formation-Decline modeling.

The TFD studies have parent DT₅₀ values ranging from 4.22 d to 382 d in soil that are similar to but outside of the range of aerobic soil metabolism half-lives (range: 56 – 293 days). Residues recovered on-field are consistent with those identified in the aerobic soil metabolism studies. Detected degradates generally do not exceed a depth of 30 cm and reach either similar or lesser depths compared to parent.

11. Ecological Effects and Risk

The EPA took a comprehensive approach in evaluating potential risk concerns for all taxa (including freshwater and estuarine/marine fish and invertebrates, aquatic vascular and nonvascular plants, birds, mammals, terrestrial invertebrates, and terrestrial plants) using registrant-submitted ecotoxicity data on the effects of isocycloseram. Ecological effects and risks to taxa evaluated in this assessment are described below, followed by a summary of RQ values considered (**Table 5**). Application of isocycloseram in accordance with the labels poses risks of concern for non-target aquatic and terrestrial invertebrates from all uses evaluated except for the cockroach gel bait, and for terrestrial vertebrates from the seed treatment uses.

Aquatic Vertebrates

Isocycloseram is categorized as highly toxic to fish (and aquatic-phase amphibians for which freshwater fish serve as surrogates) on an acute exposure basis. Chronic exposure of aquatic vertebrates resulted in reductions in post-hatch survival, mean length and wet weight. RQs based on isocycloseram TR with the parent K_{oc}, and parent alone are below the acute and chronic risk LOCs.

Aquatic Invertebrates

Isocycloseram is categorized as very highly toxic to aquatic invertebrates on an acute exposure basis. One group of invertebrates (*i.e.*, mollusks which include aquatic and terrestrial snails, oysters and clams) is less sensitive to isocycloseram by several orders of magnitude. Chronic exposure of aquatic non-mollusk invertebrates to isocycloseram resulted in reductions in growth and survival. Risk estimates for aquatic (freshwater and estuarine/marine) invertebrates in the water column exceed both the acute and chronic risk levels of concerns (LOCs) (acute LOC=0.5; chronic LOC=1.0). For TR with parent K_{oc}, acute RQ values range from 0.14 to 86.4 and chronic RQ values range from 0.68 to 413. For benthic invertebrates (freshwater and estuarine/marine), most uses exceed the acute and chronic risk LOC whether based on TR with parent K_{oc} or parent alone (TR with parent K_{oc} acute RQ range: 0.01-8.50; TR with parent K_{oc} chronic RQ range: 0.05-86.2; based on benthic porewater EECs). EPA notes that the aquatic modeling for seed treatment products includes some conservative assumptions such that 100% of the material on the treated seed is available for runoff. The label mitigations include measures to reduce effects of runoff on aquatic invertebrates. By implementing these mitigations on the label (section VI), the potential risk to aquatic invertebrates decreases by approximately one order of magnitude.

Terrestrial Invertebrates

For terrestrial invertebrates, the available data indicate that technical grade isocycloseram is highly toxic both on an acute (single dose) oral and contact exposure basis to honey bee (*Apis mellifera*) adults and larvae, which serve as surrogates for both *Apis* and non-*Apis* bees.

Isocycloseram degradate SYN549431 is more toxic to honey bee adults than the parent, on acute oral and contact exposure basis. However, in a semi-field residue study focused on this degradate (SYN549431), residues were below the limit of quantification (10 µg/kg) in both pollen and nectar. Chronic (repeat oral [dietary] dose) exposure of adult honey bees to technical grade isocycloseram resulted in a NOAEL of 0.0028 µg ai/bee/day based on a 15% increase in mortality at the LOAEL of 0.0042 µg ai/bee/day. For honey bee larvae, chronic exposure resulted in a NOAEL of 0.0040 µg ai/larva/day based on a 21% increase in larval mortality, a 61% increase in pupal mortality and a 79% reduction in adult emergence at the LOAEL of 0.011 µg ai/larva/day. Studies evaluating the toxicity of isocycloseram residues to adult honey bees from applications of formulated end-use products to foliage resulted in residual times to 25% mortality (*i.e.*, RT₂₅) of less than 3 hours. Risk estimates for oral exposure to larvae and adult bees exceed the acute risk LOC of 0.4 (RQ range: 4.6-53.8). Chronic risk estimates for larval and adult honey bees exceed the chronic risk LOC of 1.0 as well (RQ range: 91.8-1,537).

The weight-of-evidence across the multiple semi-field honey bee studies indicates that the colonies did not exhibit any prolonged adverse effect over the duration of the studies which extended across multiple brood (*i.e.*, developing eggs, larvae and pupae) cycles. While there were transient effects on individual bee mortality, the absence of consistent or prolonged adverse effects to colonies in the semi-field studies may in part be due to measured residues in nectar that are several orders of magnitude lower than model-estimated exposure values, the relatively short dissipation half-life (average DT₅₀<3 days), and the short time (<3 hr) where residues on leaves would be toxic to adult bees upon contact. When based on measured residues, the maximum acute oral RQ for adult bees is 0.54 while the maximum acute oral RQ for larval bees is 0.79. Although these RQ values still exceed the acute risk LOC, they are an order to two orders of magnitude lower than RQs based on model-estimated exposure values. Again, based on measured residues, the maximum chronic RQ for adult bees is 56 and the maximum chronic RQ for larval bees is 16. While these RQ values still exceed the chronic risk LOC of 1.0, they are two orders of magnitude below those based on model-estimated exposure values. Also, as noted earlier, isocycloseram is not systemic in plants and is not expected to be translocated to pollen or nectar via plant uptake and distribution therefore reducing the extent to which residues can enter pollen/nectar.

The Agency is implementing FIFRA mitigations (Section VI) to address potential effects on insect pollinators including measures to reduce spray drift and restricting applications during bloom. The spray drift measures will reduce the likelihood of offsite exposure by approximately two orders of magnitude.

Terrestrial Vertebrates

Isocycloseram is categorized as slightly toxic to birds (and reptiles and terrestrial-phase amphibians for which birds serve as surrogates) on both an acute oral and sub-acute dietary exposure basis. Chronic exposure of birds resulted in reduced growth. Risk estimates exceed the chronic risk LOC (LOC=1) for birds which serve as surrogates for reptiles and terrestrial-phase

amphibians from the seed treatment uses on rapeseed (RQ: 0.74-19.8). There are no acute risk LOC exceedances for birds, reptiles, or terrestrial-phase amphibians from the foliar applications of isocycloseram.

Isocycloseram is classified as practically non-toxic to mammals on an acute oral exposure basis. Chronic exposure of mammals based on a two-generation rat reproduction study resulted in no isocycloseram-related adverse apical effects on reproduction, growth or survival at the multiple exposure levels tested. Chronic exposure of dogs, however, resulted in a 13% reduction in male body weight when exposed to higher doses. Risk estimates exceed the chronic risk LOC (LOC=1) for mammals from the seed treatment of rapeseed only (RQ: 0.27-16.1). There are no acute risk LOC exceedances for mammals from the uses of isocycloseram.

With a log K_{ow} of 4.9, isocycloseram has the potential to bioconcentrate and bioaccumulate as it moves through different trophic levels of an aquatic community. Although the measured whole fish bioconcentration factor in freshwater fish ranges up to 982 L/kg (wet weight) and does not suggest the extent of bioconcentration that might be expected from such a lipophilic compound, there is uncertainty regarding the extent to which other species/taxa may bioconcentrate the compound. Chronic risk quotients were estimated using KABAM (K_{ow} -based Aquatic Bioaccumulation Model) for several bird and mammal species that consume aquatic organisms. The chronic RQs do not exceed the Agency's LOC of 1.0 across any of the feeding strategies evaluated. Thus, based on the available data, the likelihood of adverse effects in terrestrial vertebrate species that consume aquatic organisms containing residues of isocycloseram is expected to be low from the uses.

Aquatic and Terrestrial Plants

There is a low likelihood of adverse effects to plants for all uses; RQs based on isocycloseram total residues (TR) and parent alone are below the LOC for risk to non-listed plants.

Table 5. Summary of Risk Quotient (RQ) Values for Non-listed Taxonomic Groups from Uses of Isocycloseram.

Taxa	Exposure Duration	Risk Quotient Range	RQ Exceeds LOC?	Additional Information/ Lines of Evidence
Freshwater Fish	Acute	≤ 0.01	No	RQs based on isocycloseram total residues and parent alone are below the acute and chronic risk LOCs.
	Chronic	<0.01		
Estuarine/ Marine Fish	Acute	<0.01	Yes	RQs exceed the acute risk LOC using EECs for TR and parent alone across most of the uses.
	Chronic	$<0.01-0.02$		
Freshwater Invertebrates (Water-Column Exposure)	Acute	ROC: 0.17-86.4 Parent: 0.12-81.4	Yes	RQs exceed the acute risk LOC using EECs for TR and parent alone across most of the uses.
	Chronic	ROC: 0.68-312 Parent: 0.45-284	Yes	RQs, based on a NOAEC above which there was a 21% reduction in percent emergence, 39% reduction in weight, and a 15-18% reduction in development rate at the LOAEC of 0.0045 $\mu\text{g ai/L}$; exceed the chronic LOC for most of the uses and for both TR and parent EECs.
Estuarine/ Marine Invertebrates	Acute	ROC: 0.14-67.6 Parent: 0.09-63.7	Yes	RQs exceed the acute risk LOC for most of the uses and for both TR and parent EECs.

Taxa	Exposure Duration	Risk Quotient Range	RQ Exceeds LOC?	Additional Information/ Lines of Evidence
(water-Column Exposure)	Chronic	ROC: 0.90-413 Parent: 0.60-378	Yes	RQs, based on a NOAEC= 0.00098 µg ai/L) above which there was a 15% reduction in parental survival at the LOAEC of 0.0022 µg ai/L, exceed the chronic risk LOC for all uses, except residential uses, and for both TR and parent EECs.
Mollusks	Acute	<0.01 – 0.02	No	---
	Chronic	<0.01 – 0.10	No	---
Freshwater Invertebrates (Sediment Exposure)	Acute	ROC: 0.01-8.50 Parent: 0.01-7.21	Yes	RQs exceed the acute risk LOC for most of the uses based on both TR and parent EECs for pore water.
	Chronic	ROC: 0.14-86.2 Parent: 0.09-71.4	Yes	RQs exceed the chronic risk LOC for most of the uses and for both TR and parent EECs for pore water. The RQ is based on a NOAEC above which there is a 21% reduction in percent emergence, 39% reduction in weight, and a 15-18% reduction in development rate at the LOAEC of 0.0045 µg ai/L.
Estuarine/ Marine Invertebrates (Sediment Exposure)	Acute	ROC: 0.01-6.65 Parent: 0.01-5.64	Yes	RQs exceed the acute risk LOCs for most of the uses for both parent and TR EECs for pore water.
	Chronic	ROC: 0.05-30.3 Parent: 0.03-25.1	Yes	RQs exceed the chronic risk LOC for most of the uses and for both TR and parent EECs for pore water. The RQ is based on a NOAEC above which there is a significant reduction in survival and dry weight of 41 and 17%, respectively at the LOAEC of 0.0096 µg ai/L.
Mammals	Acute Dose Based (Foliar Uses)	<0.01	No	---
	Acute Dose Based (Seed Uses)	<0.01-0.08	No	---
	Acute LD ₅₀ /ft ²	<0.01	No	---
	Chronic Dose Based (Foliar Uses)	<0.01-0.29	No	RQs are based on the NOAEL from the dog study (<i>i.e.</i> , 50 mg ai/kg bw) above which there was a statistically significant 13% reduction in body weight of male dogs at the LOAEL of 80 mg ai/kg bw. When based on the NOAEL of 50 mg ai/kg bw, both dose- and dietary-based RQ values drop well below the chronic risk LOC.
	Chronic Dietary (Foliar Uses)	0.02 – 0.27	No	---
	Chronic (Seed Uses)	0.27-16.1	Yes	RQ values based on NOAEL from a dog study (<i>i.e.</i> , 50 mg ai/kg bw) with a definitive LOAEL exceed the chronic risk LOC for rapeseed treatment only. There are no LOC exceedances for other seed treatment uses (<i>i.e.</i> , dried shelled pea and bean & small grain cereals). If the RQs were based on the LOAEL from the dog study (<i>i.e.</i> , 80 mg ai/kg bw),

Taxa	Exposure Duration	Risk Quotient Range	RQ Exceeds LOC?	Additional Information/ Lines of Evidence
				RQ values exceed the chronic risk LOC for all-sized mammals (RQ range: 1.1-2.4).
Birds	Acute Dose Based (Foliar Uses)	--	No	RQs are not calculated because the endpoint was non-definitive ($LD_{50} > 1,500$ mg ai/kg-bw), with no mortality recorded. There was no mortality recorded in any other bird species tested (LD_{50} values are $> 2,000$ mg/kg bw). Therefore, acute risk to birds is expected to be low for all foliar uses. If a conservative LD_{50} value of 1,500 mg ai/kg bw was used to calculate RQ, the values will be < 0.01 -0.04.
	Acute Dietary – Based (Foliar Uses)	<0.01-0.03	No	---
	Acute Dose Based (Seed Uses)	--	No	RQs were not calculated because the endpoint was non-definitive ($LD_{50} > 1,500$ mg ai/kg-bw), with no mortality recorded. There was no mortality recorded in any other bird species tested (LD_{50} values are $> 2,000$ mg/kg bw). Therefore, acute risk to birds is expected to be low for all seed uses.
	Acute LD_{50}/ft^2	<0.01-0.01	No	There are no exceedances for any seed use (i.e., rapeseed, dried shelled pea and bean, and small grain cereals).
	Chronic Dietary (Foliar Uses)	0.03-0.64	No	---
	Chronic (Seed Uses)	0.74-19.8	Yes	RQ values based on a NOAEL of 101 mg ai/kg bw and above which there was a 10% reduction in 14-day survivor weight, exceed the chronic risk LOC only for rapeseed treatment use alone. There are no LOC exceedances for other seed treatment uses (i.e., dried shelled pea and bean & small grain cereals).
Bees	Acute Adult (Contact)	1.01-5.03	Yes	RQs exceed the acute risk LOC for all uses for isocycloseram parent ($RQ = 0.28$ -1.39). However, the degradate SYN5494331 is 4x more toxic to honey bees (<i>Apis mellifera</i>) than the parent.
	Acute Adult Dietary	10.8-53.8	Yes	RQs for the isocycloseram parent and degradate SYN5494331 exceed the acute risk LOC for all foliar uses when based on model-estimated exposure. When based on measured residues, acute oral RQ values range up to 0.54.
	Chronic Adult	310-1,537	Yes	RQs, based on a NOAEL of 0.0028 μ g ai/bee/day above which there was a 15% increase in mortality at the LOAEL (0.0042 μ g ai/bee/day), exceed the chronic risk LOC across all uses when based on model-estimated exposure. When based on measured residues, adult chronic RQs range up to 56.
	Acute Larval	4.59-22.8	Yes	RQs for the isocycloseram parent exceed the acute risk LOC for all foliar uses when based on model-estimated exposure. When based on measured residues, acute RQs for larvae range up to 0.79.

Taxa	Exposure Duration	Risk Quotient Range	RQ Exceeds LOC?	Additional Information/ Lines of Evidence
	Chronic Larval	91.8-455	Yes	RQs, based on NOAEL of 0.0040 µg ai/larva/d above which there was a 21% increase in larval mortality, a 61% increase in pupal morality and a 79% reduction in adult emergence, exceed the chronic risk LOC for larvae when based on model-estimated exposure. When based on measured residues, chronic RQs for larvae range up to 16.
Aquatic Plants	Vascular	<0.01	No	---
	Non-Vascular	<0.01		---
Terrestrial Plants	Seedling Emergence	0.02-0.86	No	RQ values are below the LOC for risk to plants when considering TR.
	Vegetative Vigor	≤0.1	No	For the vegetative vigor study (MRID 51229457) the most sensitive monocot and dicot species could not be determined due to lack of plant response; none of the variables evaluated (dry weights, height, or survival) achieved 25% inhibition within the isocycloseram treatment levels (EC ₂₅ > 0.67 lb ai/A; NOAEC = 0.67 lb ai/A; LOAEC > 0.67 lb ai/A).
<p>Level of Concern (LOC) for risk to non-listed species Definitions:</p> <ul style="list-style-type: none"> • Terrestrial Vertebrates: Non-listed (Acute=0.5, Chronic=1.0) • Terrestrial Invertebrates: Acute=0.4; Chronic=1.0 • Aquatic Animals: Non listed (Acute=0.5, Chronic=1.0) • Plants: Non-listed = 1.0 <p>ROC: Residue of Concern</p> <p>NOAEC/L: No Observable Adverse Effect Concentration/Level</p> <p>LOAEC/L = Lowest Observable Adverse Effect Concentration</p> <p>EEC = estimated environmental concentration</p> <p>EC_X= x% effect concentration</p> <p>LD_X = x% (or Median) Lethal Dose</p> <p>TR = Isocycloseram total residues with parent organic carbon-normalized soil partition coefficient (Koc)</p>				

12. Effects Determinations under the Endangered Species Act

Consistent with ESA Section 7(a)(2), the EPA assessed the potential effects of isocycloseram on listed species and designated CHs. The federal action area is the overall geographic extent or footprint of the federal action plus any additional areas where effects are reasonably expected to occur based on the agricultural uses. The EPA conducted an overlap analysis to determine which listed species and designated CHs occur within this action area. In making the ESA effects determination and predictions of the likelihood of potential J/AM, the EPA considered direct effects and effects to a listed species' PPHD using the best available scientific information. The term "direct effects" refers to decreases in the survival, growth, or reproduction of individuals of a listed species due to exposure to isocycloseram. When making effects determinations and predictions on the potential likelihood of adverse modification for designated CHs, the EPA considered whether there may be potential effects to listed species within the CH or effects to the Physical or Biological Features (PBFs) of the CH.

The EPA used the risk to listed species LOCs in the FIFRA ecological risk assessment as an initial screen to inform the ESA assessment. The RQs for isocycloseram exceed the lower, more conservative listed species LOC for aquatic and terrestrial invertebrates, and terrestrial vertebrates. Based on the listed species LOC exceedances, EPA evaluated the effect of the action on the 1,735 species which the Services had listed as threatened or endangered or proposed and 951 CHs designated as final or proposed as of October 2024. Effects determinations for listed species and CHs are summarized in **Table 6**. For those federally listed species and CHs with may affect (MA) determinations, EPA distinguished whether isocycloseram is likely to adversely affect (LAA) an individual when considering the species-specific habitat, life history, and other considerations of exposure and toxicity. EPA made LAA determinations for 1,082 listed species and 236 CHs. For the 236 CHs with LAA determinations, adverse effects on essential physical and biological features (PBFs; or inferred PBFs) related to invertebrates, habitat quality for the listed species and water quality were the primary factors leading to the determinations. The numbers of determinations/predictions summarized in **Table 6** may differ from those in the preliminary decision document and reflect mitigations identified subsequent to the public comment phase.

Although the Services are responsible for making the final J/AM determinations for species and CHs with LAA determinations, the EPA made predictions of the potential likelihood of J/AM as part of this assessment to better inform mitigation discussions prior to completion of a final Biological Evaluation (BE) and consultation with the Services. After incorporation of mitigations on the product labels (Section VI), the EPA predicted potential likelihood of future jeopardy for 7 species (0.5% of listed species as of October 2024) and, thus, EPA identified pesticide use limitation areas (PULA) for those species and mitigations in those PULAs (thereby avoiding jeopardy). The EPA predicted potential likelihood of future adverse modification for 0 designated CHs after incorporation of mitigations. By incorporating the label mitigations and the PULAs, EPA predicts no likelihood of J/AM.

Because the EPA has made LAA determinations for species under the authority of both Services, the EPA will initiate formal consultation with both Services on these registration actions. Section VI.B. discusses the mitigations addressing the EPA's predictions of potential likelihood of future J/AM.

Table 6. Number of Federally Listed Threatened/Endangered/Proposed Species Effects Determinations and Predictions of Potential Likelihood of Future Jeopardy or Adverse Modification by Taxon.

Taxon	Number of Species / CH ¹	NE	NLAA	LAA, Predicted Not Likely J/AM	LAA, Predicted Likelihood of J/AM Before Taxa Level Mitigations	Predicted Likelihood of J/AM After Taxa Level Mitigations	PULAs Needed	Predicted Likelihood of J/AM After Listed Species Mitigations
Amphibians ²	47	0	1	45	1	0		0
Aquatic Invertebrates	202	0	162	35	5	5	5 ^{4a}	0
Birds	96	7	12	76	1	0		0
Fish	172	0	10	147	15	0		0
Mammals	96	30	20	44	2	0		0

Taxon	Number of Species / CH ¹	NE	NLAA	LAA, Predicted Not Likely J/AM	LAA, Predicted Likelihood of J/AM Before Taxa Level Mitigations	Predicted Likelihood of J/AM After Taxa Level Mitigations	PULAs Needed	Predicted Likelihood of J/AM After Listed Species Mitigations
Plants	942	306	41	480	115	0		0
Reptiles ²	59	24	5	30	0	0		0
Terrestrial Invertebrates ³	121	18	17	74	12	2	2 ^{4b}	0
Total Listed Species	1,735	385	268	931	151	7	7	0
Designated Critical Habitat	951	423	292	211	25	0	0	0

CH = designated critical habitat; NE = no effect; NLAA = not likely to adversely affect; LAA = likely to adversely affect; J = jeopardy; AM = adverse modification; PULA = pesticide use limitation area.

¹ Reflects the species federally listed as endangered or threatened or proposed and critical habitats designated as final or proposed as of October, 2024.

² "Amphibians" and "Reptiles" include those species that have both a terrestrial and aquatic phase.

³ "Terrestrial Invertebrates" includes species which have both a terrestrial and aquatic phase.

^{4a} Five aquatic invertebrate require additional runoff mitigations (2-4 points, depending on use) in PULAs.

^{4b} One terrestrial invertebrate, the Hine's Emerald Dragonfly (*Somatochlora hineana*), which has an aquatic phase, requires additional runoff mitigations (2-4 points, depending on use) in a PULA; one wholly terrestrial invertebrate (i.e., Rusty Patched Bumble Bee; *Bombus affinis*), requires a PULA prohibiting use on cucurbits in bloom from two hours after sunrise until two hours before sunset.

D. Benefits Assessment

For all the foliar agricultural and non-agricultural uses and some seed treatment uses, the registration of isocycloseram would be the first Insecticide Resistance Action Committee (IRAC) Group 30 insecticide. A novel mode of action (MOA) is important to the user because when used in rotation with other effective and different modes of action, the integration of a novel chemistry can prevent or slow insecticide resistance development within an insect population. Some of the target insect species on the labels of isocycloseram are inherently prone to insecticide resistance development, such as diamondback moth in *Brassica* vegetables and Colorado potato beetle in potatoes. Other pests on the labels, such as tarnished plant bug (a cotton pest), requires a robust season long pest management program (i.e., multiple insecticide applications). Too few modes of action in the rotation of chemistries for tarnished plant bug, diamondback moth, and Colorado potato beetle may mean that the same MOA is used too frequently and could accelerate resistance in a population to one or more registered active ingredients. The Agency considers a new MOA as highly beneficial for the user in their insecticide resistance management programs. Collectively across most of the foliar uses of isocycloseram, the likely alternative active ingredients or those to likely to use in rotation with isocycloseram include carbamates (e.g., methomyl), organophosphates (e.g., acephate), pyrethroids (e.g., bifenthrin), neonicotinoids (e.g., clothianidin), sulfoxaflor, and diamides (e.g., chlorantraniliprole). For a more detailed discussion of the Agency evaluation of isocycloseram, please see the Benefits Assessment, which can be found in the Docket.

Based on the submitted information, isocycloseram provides comparable, and in some cases, better performance against target pests compared to likely alternative active ingredients in the foliar agricultural and non-agricultural uses and seed treatment uses. These alternative chemistries are known to be effective and are recommended against the target pests in the uses of isocycloseram. In particular, when considering a combination of a new MOA, the potential of labeled target pests to rapidly develop resistance, and similar performance of isocycloseram compared to registered alternatives in insecticide trials submitted by the registrant and published independently, the Agency found that the registration of isocycloseram would have a high benefit to the user on all *Brassica* vegetables, citrus, cotton, leafy vegetables, and tuberous and corm vegetables (and potato in particular) from the standpoint of a novel MOA for resistance management. BEAD previously identified isocycloseram as a new MOA in corn as a soil directed application. However, broflanilide, which is also an IRAC group 30 insecticide, is registered for the soil-directed use in corn and targets some of the same pests. Regardless, there is still a benefit of isocycloseram to the user in corn because it can be applied at planting or at lay-by (i.e., within 60 days of seedling emergence). Also, across different products, isocycloseram can be applied to the soil, if used at planting, and foliage of corn. Broflanilide has less application flexibility with only a soil-directed use pattern at corn planting only. Generally, there is a benefit of a new MOA for the other foliar agricultural uses to mitigate resistance development in insect populations.

The option to apply insecticides aerially or by ground application equipment offers the user flexibility. The applicator can choose the option best suited for their crop and pest situation. However, for corn, cotton, soybean, and potato, the benefit to the user of an aerial application method may be high. In these uses, crop height, intense rain events that result in long periods with wet soil, and/or agronomic practices to irrigate crops and conserve water on the field would likely preclude the ground application of any insecticide, including isocycloseram, for timely insect pest management. Aerial application is considered an important use pattern for the users in corn, cotton, soybean, and potato. The ability to use isocycloseram aerially would be important because it is a new effective insecticide with a novel MOA that can be used in rotation aerially with other active ingredients to mitigate insect resistance development in their fields.

The product performance review of isocycloseram for the cockroach gel bait supported the claim of 7-day control against German cockroaches and other cockroach species. While several active ingredients are available to provide ‘acceptable’ control, a recent evaluation of commercial baits indicated that German cockroach populations in California have reduced susceptibility to several active ingredients. Therefore, if isocycloseram is registered for use as a cockroach gel bait, then it is likely to afford resistance management benefits for the management of German cockroach populations that have developed resistance to other chemical modes of action commonly used in bait products.

In some instances, isocycloseram may replace tank mixing to manage a broader spectrum of pests in uses where multiple pests co-occur, which offers the user some convenience compared to mixing together multiple active ingredients to achieve the same spectrum of control. Isocycloseram may offer the user benefits compared to likely alternatives of increased flexibility with respect to bloom application timing for cucurbit vegetables and against a wider range of “motile” spider mite life stages in corn and tree nuts. For seed treatments of small cereal grains,

dry peas, beans (except soybeans), and rapeseed (canola varieties only), isocycloseram would offer effective control against target pests. For seed treatment of bulb onion, isocycloseram also would offer effective control of target pests, but this use is no longer being pursued for registration at this time. For turf and ornamental uses, isocycloseram would provide benefits in terms of application flexibility, effective control against target pests, and by having a new MOA for resistance management of insects.

E. Greater than Additive Effects

The applicant (Syngenta Crop Protection) completed an evaluation (MRID 51811503)² of U.S. patents to identify any incidence of greater-than-additive (GTA; synergy) claims for isocycloseram with other agricultural chemicals. Syngenta based their analysis on the EPA interim guidance document entitled *“Process for Receiving and Evaluating Data Supporting Assertions of Greater Than Additive (GTA) Effects in Mixtures of Pesticide Active Ingredients and Associated Guidance for Registrants”* (USEPA 2019).

Seven patents were identified and evaluated for relevancy based on the five OPP criteria identified in the 2019 *Process for Receiving and Evaluating Data Supporting Assertions of Greater Than Additive (GTA) Effects*; however, none of the patents met all the criteria (DP Barcode 645757).³ Therefore, based on the information provided by Syngenta, EFED concludes that none of the identified patents contain greater-than-additive effects information relevant to an isocycloseram ecological risk assessment as conducted by EFED.

V. PUBLIC COMMENTS

On March 22, 2022, and March 23, 2022, the EPA published the Notice of Filing (NOF) for a petition to establish tolerances for residues of isocycloseram and Notice of Receipt (NOR) requesting the registration of isocycloseram, respectively, in the Federal Register. EPA announced 30-day public comment periods for the NOF and NOR. One substantive comment from the United States Department of Agriculture (USDA) was submitted to the docket EPA-HQ-OPP-2021-0641 in response to the Notice of Receipt, pointing to several prospective benefits of isocycloseram, namely its wide range of applications, its overall lack of systemicity in plants, and its potential to aid in pest resistance management. This comment and all other substantive comments submitted to the docket (see below) are addressed in the Response to Public Comments (RTC) document published to the docket alongside this Final Decision Memo. An additional comment was received in response to the Notice of Filing; however, EPA did not consider the comment to be substantive.

On May 9, 2025, the EPA published the Proposed Decision Memo (PD) for the registration of isocycloseram in the Federal Register and announced a 30-day public comment period, which

² Cueva, J. (2022) Patent Search Results for Active Ingredient Combinations with Isocycloseram Supplemental. Project Number: TK0666207. Unpublished study prepared by Syngenta Crop Protection. 6p.

³ USEPA 2022. Review of Submitted Data Relating to Claims of Greater-than-Additive (GTA) Mixture Toxicity Associated with the Proposed New Active Ingredient, Isocycloseram (PC Code 129220). Memorandum dated November 29, 2022.

closed on 6/20/2025. The agency received 275 comments. The agency has responded to those comments in the RTC. Please consult the RTC for details on the comments and the agency's responses.

VI. FINAL REGULATORY DECISION

In accordance with FIFRA, the EPA only registers a pesticide when it determines that it will not cause unreasonable adverse effects on humans or the environment, while taking into account the economic, social, and environmental costs and benefits of the use of the pesticide. Under FIFRA, the EPA is charged with balancing risks posed by the use of a pesticide against its benefits. The EPA must determine if the benefits in light of its use outweigh the risks in order for the EPA to register a pesticide. FIFRA section 3(c)(5) requires the EPA to approve a registration if the Agency determines that:

- (a) its composition is such as to warrant the claims for it;
- (b) its labeling and other material required to be submitted comply with the requirements of this subchapter;
- (c) it will perform its intended function without unreasonable adverse effects on the environment; and,
- (d) when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.

The EPA has determined that the database is complete for assessment of risks to human health and the environment, and that there are no data gaps regarding the uses. Furthermore, the EPA has determined that registering these products containing isocycloseram for all uses will not cause unreasonable adverse effects on human health or the environment, taking into account the risks and benefits of isocycloseram. Therefore, considering the assessed risk to human health and the environment, the EPA concludes that isocycloseram meets the regulatory standard under FIFRA section 3(c)(5).

F. Rationale and Risk Mitigation

The EPA is issuing unconditional registrations under FIFRA section 3(c)(5) for the end-use products A21377 CP (100-1712), A21708 (100-1713), A21550 CP (100-1711), A22466 CP (100-1710), A22725 ST (100-1708), A22241 ST (100-1705), A21550 400SC (100-1707), Atexzo (100-1703), and A22128 CRGB (100-1706), as well as the technical product Isocycloseram Technical (100-1702) for several uses (See Table 1). Considering the assessed risks to human health and the environment, and the evaluated prospective benefits, the Agency concludes that isocycloseram meets the regulatory standard under FIFRA.

The EPA reviewed the compositions of all products and determined that the claims made are warranted as the data and product label support the approval of the registrations. The labeling, which has been revised to include additional mitigation measures to address potential ecological risks, contains all the necessary requirements and restrictions and complies with the requirements of FIFRA. To determine whether the products will cause unreasonable adverse effects under

FIFRA, the EPA is charged with considering the economic, social, and environmental costs and benefits of the use of the pesticide. To determine the risks and benefits, the EPA reviewed a large body of information to determine how these products will be used according to the labeling. The EPA determines whether a product will generally cause unreasonable adverse effects by considering whether the benefits of the product outweigh any potential risks of concern or adverse impacts from its use.

When considering the assessed risk to human health, the EPA identified commercial seed treatment risks of concern for exposures related to treating seed and cleaning of seed treatment equipment (canola, sesame, mustard). These commercial seed treatment risks of concern were addressed through the reduced application rates agreed upon by Syngenta, baseline attire and chemical resistant gloves. Although human health risks of concern were address for all crops under subgroup 20A, in an effort to address risk to listed species the registration is limited to varieties of canola.

To address risks to listed species specific to seed treatment products, Syngenta agreed to reduce the annual rates for subgroup 20A and subgroups 6-22E/6-22F and removed from the labels all individual crops under subgroup 20A except for canola varieties. The reduced yearly rate, combined with the 2 inherent run-off relief points in counties in which canola varieties, crops under subgroups 6-22E/6-22F and cereal grains may be planted in California, New Mexico and Oregon, was sufficient to predict no likelihood of J/AM and thus to support seed treatments to all these uses.

To mitigate the potential risks to terrestrial vertebrates outlined in section IV.C.2, the EPA is requiring label language instructing growers how to effectively cover or collect spilled treated seeds or treated seeds that have become exposed on the soil surface. Label language is also being required for the management of excess treated seeds (*e.g.*, spilled, unused, or expired treated seeds).

To mitigate the potential risks to non-target terrestrial and aquatic invertebrates, the single application rates, number of applications, and annual rates were reduced for some uses.

To mitigate the potential risks to aquatic invertebrates via run-off, erosion and spray drift outlined in section IV.C.2, the EPA is requiring label statements restricting application during rain and when soils are saturated or above capacity. The EPA is also requiring certain labels to include a link to the EPA mitigation menu with runoff mitigation options growers can choose from. Applicators must choose at least 2 points worth of mitigations from the mitigation menu. To mitigate potential risk to listed species, two runoff points are required for all outdoor uses except for seed treatments, corn soil applications, and golf courses (when only applied to tees, greens, and fairways). Although this mitigation is based on risks estimated for listed species as part of the ESA work, it is in the general label and intended to protect listed and non-listed species.

To mitigate the potential risks to non-target terrestrial and aquatic invertebrates via spray drift outlined in section IV.C.2, the EPA is prohibiting aerial application for all uses except corn, cotton, soybean, and potato. The Agency is permitting these aerial uses in select states and

regions due to their significant benefits outlined in Section IV.D. The EPA is also requiring labels to include updated spray drift management language and spray drift buffer zone requirements for aerial, ground, and airblast applications, as well as prohibiting the use of end-gun chemigation and requiring certain labels include a list of chemigation drift mitigation options.

To mitigate the potential risks to pollinators inside the field outlined in section IV.C.2, the EPA is requiring the inclusion of label language restricting application during bloom for most uses. EPA is requiring the prohibition of applications 3-days before and during bloom of orchard crops; for indeterminate blooming crops, EPA is prohibiting applications during hours of the day when insect pollinators are most active. The EPA is not requiring bloom restrictions for plants harvested before bloom unless these are grown for seed production. Because isocycloseram is not systemic in plants and is not expected to be translocated to pollen or nectar via plant uptake, restrictions to applications during bloom are not being required for isocycloseram-treated seeds. However, EPA is requiring advisories to protect pollinators from dust potentially generated from abrasion of isocycloseram-treated seed coatings during planting, and that certain labels include precautions, advisories, and best practices related to pollinators from the FIFRA Interim Ecological Mitigation (IEM).

As discussed in section IV.D, the EPA finds a clear benefit in the use of isocycloseram as it offers a significant, valuable option that is needed in pesticide resistance management for growers. Moreover, for some uses, isocycloseram is an alternative to pesticides that may pose higher risks to human health and/or the environment. The EPA has concluded that the benefits of the registration outweigh the risks to non-listed species. While there remain potential risks to terrestrial and aquatic invertebrates due to spray drift and run-off/erosion, the EPA concludes that the new use will not cause unreasonable adverse effects on the environment and meets the criteria for registration under FIFRA Section 3(c)(5).

The EPA is not requiring any additional data to assess risk to human health or the environment. The EPA has concluded that the benefits of the registration outweigh the potential risks. Therefore, the EPA concludes that the use of isocycloseram in the capacities outlined in this document will not cause unreasonable adverse effects on the environment and meets the criteria for unconditional registration under FIFRA Section 3(c)(5).

G. Endangered Species Assessment and Mitigation for Listed Species

ESA Section 7(a)(2) provides that “[e]ach Federal agency shall, in consultation with the Secretary (*i.e.*, the Secretary of the Interior or the Secretary of Commerce) insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. . . .”

The EPA completed the effects determinations for federally listed threatened and endangered species (listed species) for the uses of isocycloseram in the areas where it may be applied. The EPA evaluated whether the registration of the products containing this active ingredient pose any reasonable expectation of effects to listed species and designated CH within the action area in the

listed species effects determination. The effects determination makes use of the best available scientific and commercially available information and considers both direct and indirect effects. The term “direct effects” refers to decreases in the survival, growth, or reproduction of individuals of a listed species due to exposure to isocycloseram. The term “indirect effects” refers to impacts on individuals of a listed species that may be the result of the effects of isocycloseram on organisms which the listed species depends upon for prey, pollination, habitat, and/or dispersal.

In the effects determination, the EPA preliminarily concluded that the use of the isocycloseram products MA, and is LAA, multiple listed species and designated CHs. When considering an action (e.g., the registration of a pesticide product), the ESA directs federal agencies to avoid jeopardizing listed species or adversely modifying their designated critical habitats. An LAA determination is not equivalent to a jeopardy determination; however, the EPA can assess the potential likelihood for future J/AM to help inform the formal consultation with the Services and resulting Biological Opinions developed by the Services. See 50 C.F.R. § 402.40(b)(1). The purpose of the EPA’s prediction of the potential likelihood of future J/AM is to inform mitigations to avoid and minimize exposures to listed species earlier in the consultation process. Therefore, for those species and critical habitats with preliminary LAA determinations, the EPA further assessed the potential likelihood that the isocycloseram products would lead to future J/AM. The Services though will make the final determination as to any jeopardy to listed species and any adverse modification to designated CH.

The EPA concluded that the FIFRA mitigations outlined in section VI.F address the initial predictions of potential likelihood of future J/AM for over 95% of listed species. The EPA continues to predict that potential likelihood of future J/AM for all 7 remaining listed species and designated CH is addressed by using Pesticide Use Limitation Areas (PULAs) developed to support Bulletins that EPA will publish on the Bulletins Live! Two system.⁴ The Bulletin in these PULAs includes the need to achieve a total of four to six points of runoff/erosion mitigation (from the mitigation menu referenced in section VI.A) to avoid the potential likelihood for future J/AM to 6 listed species from runoff and erosion. The number of points depends on the use, see Table 8. In addition, one terrestrial invertebrate (i.e., Rusty Patched Bumble Bee), requires a PULA prohibiting use on cucurbits in bloom from two hours after sunrise until two hours before sunset. The EPA recently released a process for developing PULAs and may be used to develop the PULAs needed for the species identified in this registration (<https://www.epa.gov/endangered-species/process-epa-uses-develop-core-maps-pesticide-use-limitation-areas>).

The EPA developed the PULAs in concert with a broad range of stakeholders. Syngenta and the Center of Biological Diversity voluntarily developed the core maps that were reviewed by the EPA and the U.S. Fish and Wildlife Service and subsequently used for development of PULAs for isocycloseram.

⁴ Endangered Species Protection Bulletins are a part of EPA's Endangered Species Protection Program. Bulletins set forth geographically specific pesticide use limitations for the protection of threatened and endangered (listed) species and their designated critical habitat.

Table 7. List of counties affected by Pesticide Use Limitation Areas (PULAs)

Entity ID ¹	Species common name (scientific name)	State	County
490	Conservancy Fairy Shrimp (<i>Branchinecta conservatio</i>)	California	Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Mariposa, Mendocino, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, Yuba.
491	Longhorn Fairy Shrimp (<i>Branchinecta longiantenna</i>)	California	Alameda, Contra Costa, Kern, San Joaquin, San Luis Obispo.
493	Vernal Pool Fairy Shrimp (<i>Branchinecta lynchii</i>)	California	Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Los Angeles, Madera, Mariposa, Merced, Monterey, Napa, Nevada, Placer, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Shasta, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, Yuba.
		Oregon	Jackson.
494	Vernal Pool Tadpole Shrimp (<i>Lepidurus packardi</i>)	California	Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Joaquin, San Mateo, Santa Clara, Shasta, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, Yuba.
		Oregon	Jackson, Josephine, Klamath.
10757	Slenderclaw crayfish (<i>Cambarus cracens</i>)	Alabama	Dekalb, Marshall.
445	Hine's Emerald Dragonfly (<i>Somatochlora hineana</i>)	Illinois	Cook, DuPage, Kane, Lake, McHenry, Will, Winnebago.
		Michigan	Alcona, Alpena, Charlevoix, Mackinac, Menominee, Presque Isle.
		Missouri	Crawford, Dent, Iron, Morgan, Phelps, Reynolds, Ripley, Shannon, St. Francois, Washington, Wayne.
		Wisconsin	Brown, Dane, Door, Grant, Iowa, Kewaunee, Ozaukee, Richland, Rock, Sauk, Vernon.
10383	Rusty patched bumble bee (<i>Bombus affinis</i>)	Illinois	Boone, Bureau, Carroll, Champaign, Cook, Dekalb, De Witt, DuPage, Henry, Jo Daviess, Kane, Kendall, Lake, LaSalle, Lee, Macon, McHenry, McLean, Ogle, Peoria, Putnam, Rock Island, Stephenson, Tazewell, Will, Winnebago, Woodford.
		Indiana	Fountain, Hamilton, Lake, Marion, Montgomery, Parke.

Entity ID ¹	Species common name (scientific name)	State	County
		Iowa	Allamakee, Benton, Black Hawk, Boone, Buchanan, Cedar, Cerro Gordo, Chickasaw, Clayton, Clinton, Delaware, Dubuque, Fayette, Floyd, Hamilton, Hancock, Howard, Iowa, Jackson, Jasper, Johnson, Jones, Linn, Mitchell, Polk, Scott, Story, Webster, Winnebago, Winneshiek, Worth.
		Maine	Waldo.
		Maryland	Allegany, Garrett.
		Minnesota	Aitkin, Anoka, Benton, Blue Earth, Carver, Chisago, Dakota, Dodge, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Jackson, Le Sueur, McLeod, Mower, Nicollet, Olmsted, Ramsey, Rice, Scott, Sherburne, Stearns, Wabasha, Waseca, Washington, Winona, Wright.
		Ohio	Lucas
		Virginia	Alleghany, Augusta, Bath, Clarke, Fauquier, Highland, Loudoun, Nelson, Rockingham.
		West Virginia	Grant, Greenbrier, Mineral, Nicholas, Pendleton, Pocahontas, Preston, Randolph, Tucker, Webster.
		Wisconsin	Bayfield, Brown, Buffalo, Calumet, Chippewa, Columbia, Crawford, Dane, Dodge, Door, Dunn, Eau Claire, Fond du Lac, Grant, Green, Green Lake, Iowa, Jackson, Jefferson, Juneau, Kenosha, Kewaunee, La Crosse, Lafayette, Manitowoc, Marinette, Marquette, Milwaukee, Monroe, Outagamie, Ozaukee, Pepin, Pierce, Polk, Portage, Racine, Richland, Rock, Sauk, Shawano, Sheboygan, St. Croix, Trempealeau, Vernon, Walworth, Washington, Waukesha, Waushara, Winnebago, Wood.

¹ A unique identifier assigned to a specific species or population of a species by the U.S. Fish and Wildlife Service used to track and manage information about that species, including its listing status under ESA.

Table 8. Runoff Mitigation Points Needed After Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Mitigations by Use Pattern

Use ¹	App Rate (App Number x Amount Applied in lb a.i./A)	Runoff Mitigation Points Needed in PULAs After FIFRA Mitigations	Total Runoff Mitigation Points required
Brassica	2 x 0.053	4	6
Peanut	2 x 0.053	4	6
Bulb Vegetables	2 x 0.107	4	6
Citrus	4 x 0.067	4	6
Corn (foliar) ²	2 x 0.027	2	4
Cotton	2 x 0.053	4	6
Cucurbits	2 x 0.053	4	6
Fruiting Vegetables	2 x 0.08	4	6
Leafy Vegetables	2 x 0.053	4	6
Pome Fruit	3 x 0.067	4	6
Soybean	2 x 0.053	2	4
Stone Fruit	2 x 0.067	2	4
Tree Nuts	3 x 0.067	4	6
Tuber and Corm Vegetables	3 x 0.053	4	6

Use ¹	App Rate (App Number x Amount Applied in lb a.i./A)	Runoff Mitigation Points Needed in PULAs After FIFRA Mitigations	Total Runoff Mitigation Points required
Turf (sod farms) ^{3, 4}	$2 \times 0.107 + 0.105$	4	6
Nursery (outdoor/field) ^{3, 5}	$4 \times 0.067 + 0.052$	4	6
Christmas Trees ⁶	$4 \times 0.067 + 0.052$	4	6
Corn (in-furrow) ²	1×0.133	4	4

App = application; a.i. = active ingredient; PPHD = prey, pollination, habitat, and/or dispersal

¹ Uses not listed (*i.e.*, residential, cockroach gel bait) do not need runoff mitigation points.

² If using both corn (foliar) and corn (in-furrow) applications at same use site, 4 total points are still needed.

³ Both turf and nursery modeled as 2 applications of 0.134 lb a.i./A plus one application at 0.052 lb a.i./A. Registrant has since lowered the maximum annual rate to 0.107 lb a.i./A for turf and 0.067 lb a.i./A for nursery, and so these updated rates were used to determine needed mitigations.

⁴ All other turf uses do not need runoff mitigation points in PULAs.

⁵ This includes all outdoor nurseries, including shade houses, lath houses, and other outdoor growing structures, as well as deciduous tree and forest nurseries. All other nursery/commercial/residential uses (residential and commercial landscapes, parks, interior plantscapes, and greenhouses) do not need runoff mitigation points in PULAs.

⁶ This includes evergreen (including conifer) and Christmas tree farms

⁷ Some retail sale crops have higher rates than crops grown in agricultural fields, but the Nursery rate listed in this table is the maximum. Please consult the product labels for specific application rates.

H. Label Requirements

The following mitigation language is captured on the isocycloseram labels. The Agency worked with the applicant to develop the label language below. Mitigation language for 100-1702 is intentionally omitted as the Agency has determined that no label mitigations are needed for this technical product.

End-Use Products: 100-1712 (A21377 CP), 100-1713 (A21708 CP), and 100-1711 (A21550 CP)

Aerial application prohibitions

- “Aerial application is prohibited for all uses except corn, cotton, potato, and soybean.”
- “DO NOT apply by air” for all other uses.

Aerial application geographical restrictions and permissions

- “Aerial application to corn is only permitted in the following states: Colorado, Kansas, Nebraska, Oklahoma and Texas.”
- “Aerial application to soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee and Texas.”
- “Aerial application is prohibited for all crops in Tuberous and Corm Vegetables Subgroup 1C except Potato.”
- Aerial application to cotton is permitted.

Pollinator IEM Advisory Language

“The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Develop and maintain clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48-hrs in advance of the application, and confirm hive locations before spraying.
- Use Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Use integrated pest management to prevent or mitigate potential negative effects to pollinators and consider multiple management options before resorting to a pesticide application.
- Mow understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leave large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mow at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit

[https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators.”](https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators)

Pollinator mitigation for determinate (bloom period ≤4 wks) crops

- “DO NOT apply 3 days prior to flowering until the end of the flowering period” for Pome Fruit, Crop Group 11-10; Stone Fruit, Crop Group 12-12; and Tree Nuts.
- “DO NOT apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, County Agricultural Commissioners, or other state/tribal lead agencies.” for Citrus.
- “Foliar application of this product is prohibited during pollen shed unless: (i) the application is made before 10am or after 3 pm: OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.” for Corn.

Pollinator mitigation for indeterminate crops (bloom either continuously or intermittently for multiple weeks and/or for most of the crop’s growing season that bloom for longer than four consecutive weeks).⁵

- “Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10am or after 3 pm: OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.” for Soybean and Cotton.
- “For Potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is made before 10am or after 3 pm: OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. Do not apply more than two times during bloom.”

- “For all crops in Tuberous and corm vegetables subgroup 1C except Potato, Foliar application of this product is prohibited from onset of flowering until flowering is complete unless; (i) the application is being made between 2-hrs prior to sunset and 2-hrs after to the following sunrise: OR, (ii) the application is being made at a time when the temperature at the application site is 50°F or less.”
- “Foliar application of this product is prohibited from onset of flowering until flowering is complete unless; (i) the application is being made between 2-hrs prior to sunset and 2-hrs after to the following sunrise: OR, (ii) the application is being made at a time when the temperature at the application site is 50°F or less.” for Cucurbit Vegetables, Crop Group 9; Fruiting Vegetables, Crop Group 8-10; and Peanut.

Pollinator mitigation for crops grown for seed

- “For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.”

Spray drift mitigation

“SPRAY DRIFT MANAGEMENT:

For All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and farm equipment.
- Do not apply during temperature inversions.

For Aerial Application:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer’s catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S641). When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft to minimize drift caused by wing tip or rotor blade vortices.
- When the wind speed is between 11-15 miles per hour, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the wind speed is between 11-15 miles per hour, applicators must use a minimum of $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. Otherwise, applicators must use a minimum of $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field.
- Do not release spray at a height greater than 10 feet above the crop canopy unless a greater application height is required for pilot safety.

For Ground Boom Application:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S572).
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.

For Airblast Application:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.

For ground, aerial, and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray row and any non-managed area (i.e., the protection area). Non-managed areas are defined as anything that is not part of the “managed areas” listed below.

Downwind managed areas that can represent spray drift buffers

When spray drift buffers are identified as mitigation, the following managed areas can be included as part of the buffer footage if they are downwind and are immediately adjacent/contiguous to the treated field and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated areas;
- b. Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to the treated area, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- c. On-site buildings and their perimeters, or other man-made structures with walls and/or roof;
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches that retain runoff on-site, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Conservation Reserve Program (CRP)¹ and Agricultural Conservation Easement Program (ACEP) lands;

g. On-site contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, farm ponds, and tailwater collection ponds.

¹ Applicators may need to ensure that pesticide use does not cause degradation of CRP habitat.

Spray Drift Buffers for Broadcast Applications

Wind-directional ecological spray drift buffers are required for applications as follows in **Table A:**

Table A. Wind-directional Ecological Spray Drift Buffers

Application Method	Droplet Size Distribution (DSD)	Minimum Buffer Distance from Non-Managed Areas
Aerial	Medium or coarser	300 feet
Groundboom (2 - 4-foot boom height)	Medium or coarser	25 feet
Airblast	NA	85 feet

Reduction Options for All Ecological Wind-Directional Drift Buffers:

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals).

When using more than one option during the application, the percent reduction in the buffer distances may be added together. The maximum buffer reduction that can be achieved by a combination of buffer reduction options is 100% (i.e., no drift buffer required).

The website includes the full menu of wind-directional ecological drift buffer reduction options for each application method. The following are examples, but may not be applicable for all application methods:

- Reduce single application rate [all]
- Increase in droplet size above the minimum size required [ground and aerial]
- Use targeted applications (e.g., hooded sprayers, layby application, deflectors, or drop nozzles) [ground and airblast only]
- Lower release boom height [ground only]
- Reduce the number of passes across the field [all]
- Install a downwind windbreak, hedgerow, or artificial screen [all]

- Apply when the relative humidity > 60% [ground and aerial only]

EPA may periodically update the Mitigation Menu Website, for example, by adding new drift buffer reduction options or updating an option's description.

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions)."

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. Be aware of nearby non-target sites and environmental conditions.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Consider the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Application

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Consider using the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Using the lowest spray pressure recommended for the nozzle will produce the target spray volume and droplet size.
- Spray Nozzle – Consider using a spray nozzle that is designed for the intended application, as well as using nozzles designed to reduce drift.

Controlling Droplet Size – Aerial Application

Adjust Nozzles – Applicators should follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

RELEASE HEIGHT – Ground Application

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle-to-canopy height. Excessive boom height will increase the potential for spray drift.

RELEASE HEIGHT – Aerial Application

Higher release heights increase the potential for spray drift.

HOODED (OR SHIELDED) SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded sprayers. Applicators should verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, consider using larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

MEASURING WIND SPEED AND WIND DIRECTION

Best management practices for measuring wind speed and wind direction:

- Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.
- Applicators should reassess wind speed and direction at the application site at least every hour while applications are in progress.
- Measuring wind speed and direction can be done by:
 - o Relying on equipment on the application equipment that measures wind speed (*e.g.*, aerial equipment).
 - o Using a tower anemometer with telemetry or handheld anemometer. Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop at least every hour to take a reading with a tower anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, those cases, applicators would not have to stop to take measurements.
 - o Using a windsock. Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every hour to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.

- o Using an aircraft smoke system. Laying down several puffs of smoke along different lines using an aircraft smoke system can provide an accurate view of what the wind speed and direction for the application.
- o Checking behind the spray rig at least every hour to see if the spray has changed direction from when the application started.”

Chemigation Restrictions

For Chemigation

If unmanaged areas are present less than 25 feet from the application site, the following restrictions apply for applications via overhead chemigation systems, such as center pivot or traveler systems:

- Turn off end-guns AND select two of the following options:
 - o Reduce the pressure to \leq 20 lbs per square inch (psi).
 - o Reduce the release height to \leq 5 feet from the ground or crop canopy.
 - o Maintain a downwind drift barrier (windbreak, hedgerow, or shelterbelt) from the application site based on the description of this measure on EPA’s mitigation menu website (<https://www.epa.gov/pesticides/mitigation-menu>).

Unmanaged areas are defined in comparison to managed areas--anything that is not a managed area is an unmanaged area. Refer to the “Managed Areas Definition” section of this label for information on managed areas.

For Non-End Gun Impact Sprinkler Chemigation Systems

If unmanaged areas are present less than 25 feet from the application site, the following restrictions apply when making applications with non-end gun impact sprinkler chemigation systems:

- Limit the throw distance to the edge of the field. This can be accomplished by reducing the pressure or reducing the throw angle.
- Maintain a downwind drift barrier (windbreak, hedgerow, or shelterbelt) based on the description on EPA’s mitigation menu website (<https://www.epa.gov/pesticides/mitigation-menu>).

Unmanaged areas are defined in comparison to managed areas--anything that is not a managed area is an unmanaged area. Refer to the “Managed Areas Definition” section of this label for information on managed areas.

Runoff mitigations

“MANDATORY RUNOFF MITIGATION

- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months prior to or on the day of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA). If you are located inside a PULA, follow the instructions in the “Inside a PULA”

section below and in the BLT bulletin. If the application site falls outside of a PULA, follow the instructions in the “Outside a PULA” section below.

Outside a PULA:

TWO mitigation points are required for all crops listed on this label. Follow the steps below to determine which applications need to achieve points, determine your eligibility for mitigation relief, and determine options to achieve mitigation points.

Inside PULAs:

Different runoff/erosion mitigation point(s) are required inside specific PULAs. Access Bulletins Live! Two within 6 months prior to or on the day of the application to determine if you are inside a PULA. If your application site is located within a PULA, points are required for all uses. Access the BLT to determine the total number of points required. Follow the steps below to determine which applications need to achieve the points, determine eligibility for mitigation relief, and determine options to achieve mitigation points.

Steps to Achieve Points:

Step A. To achieve the mitigation points specified above, visit EPA’s mitigation menu website (www.epa.gov/pesticides/mitigation-menu) to determine which applications need to achieve points and for a full list of mitigation and mitigation relief options.

Step B. Determine if you are eligible for mitigation relief. Runoff/erosion mitigation is NOT needed if certain field/application parameters are present at the time of application (e.g., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, etc). Refer to the mitigation menu for a complete list of field/application parameters.

Step C. If the application site does not meet the field/application parameters specified on EPA’s mitigation menu website, choose among the mitigation and/or mitigation relief options on EPA’s mitigation menu website to meet or exceed the required points noted on this label before applying this product.

Step D. To achieve mitigation points for the application, the mitigation and mitigation relief measures must be:

- Employed in accordance with the instructions and descriptions on EPA’s Mitigation Menu Website.
- In place during the application unless a different timing (such as before or after application) is specifically provided in the measure’s description on EPA’s Mitigation Menu Website.

Step E. Additional restrictions may be present in bulletins—always follow the most restrictive bulletin instructions. If you are located in an area where PULAs overlap, follow the most restrictive requirements across all bulletins. When tank mixing, the most restrictive requirements must be followed between the products’ labels and bulletins.

EPA may periodically update the Mitigation Menu Website, for example, by adding new mitigation measures or updating a mitigation measure description.

Ecological incidents

“REPORTING ECOLOGICAL INCIDENTS: For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA’s Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call (registrant phone number).”

ESA requirements

“Endangered and Threatened Species Protection Requirements

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.”

End-Use Product: 100-1703 (Atexzo)

Spray drift mitigation

“MANDATORY SPRAY DRIFT MITIGATION:

DO NOT APPLY VIA AERIAL APPLICATION EQUIPMENT

For All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and equipment.
- Do not apply during temperature inversions.

For Ground Boom Applications:

- *For all uses except golf course:* Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer’s catalogues and in accordance with

the most current American Society of Agricultural & Biological Engineers standards (ASABE S572).

- *For all uses except golf course:* Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or plant canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.
- *For golf course use only:* Select nozzle and pressure that deliver coarse or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S572).
- *For golf course use only:* Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 2 feet above ground or plant canopy. Set boom to lowest effective height over the ground or plant canopy based on equipment manufacturer's directions.

Airblast Applications:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.

For ground and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray pass and any non-managed area (i.e., the protection area). Non-managed areas are defined as anything that is not part of the “managed areas” listed below.

Downwind managed areas that can represent spray drift buffers for agricultural (e.g., sod farms) and non-agricultural use patterns (e.g., golf courses, commercial turf)⁵

When spray drift buffers are identified as mitigation, the following managed areas can be included as part of the buffer footage if they are downwind and are immediately adjacent/contiguous to the treated field and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated area. For golf courses only: this includes untreated portions of the golf course, including tees, greens, fairways, collars, intermediate roughs, and roughs.
- Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to the treated area, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- On-site buildings and their perimeters, silos, or other man-made structures with walls and/or roof;

⁵ EPA's Final Decision defines managed areas for Ag and Non-Ag into the same instructions. This aims to lessen the complexity of the instructions and does not impact the assessed risks and benefits.

- Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- Conservation Reserve Program (CRP) and Agricultural Conservation Easement Program (ACEP) lands (applicators may need to ensure that pesticide use does not cause degradation of the CRP habitat).
- On-site contained irrigation water resources that are not connected to adjacent water bodies, including on-site irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, ponds, and tailwater collection ponds.

For Spray Drift Buffers for Broadcast Applications

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. Wind-directional ecological spray drift buffers are required for applications as follows in **Table A:**

Table A. Ecological Spray Drift Buffers

Application Method	Droplet Size Distribution (DSD)	Minimum Buffer Distance for agricultural sites (e.g., Sod Farms)	Minimum Buffer Distance for non-agricultural sites (e.g., golf courses)
Groundboom for field crops (2 – 4 foot boom height)	Medium or coarser	25 feet	--
Groundboom (< 2 foot boom height)	Coarse or coarser	--	15 feet
Airblast Sprayer	NA	85 feet	--

DSD = droplet size distribution; NA = not applicable

Reduction Options for Ecological Wind-Directional Drift Buffers for Use Sites Other than Golf Courses:

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These

buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals).

When using more than one option during the application, the buffer distances may be added together. Combining multiple buffer reduction options can eliminate the need for an ecological wind-directional buffer altogether.

Ground Spray Drift Buffer Reduction Options for Golf Course Use Only:

The following mitigation options allow for reduction of the total buffer:

- A reduction in the required wind-directional buffer distance can be made if reducing the single application rate. The percent reduction in buffer directly corresponds to the application rate reduction from the maximum on the pesticide product label.
- A 10-foot reduction in the required wind-directional buffer distance can be made if the relative humidity is 60% or more at the time of application.

The incorporation of one of the following mitigation options results in no buffer (i.e., 0 feet) on golf courses:

- Over-the-top hooded sprayer.
- Restrict the number of passes to the treated site/field to 10 or less.
- If a windbreak or shelterbelt (e.g., trees or riparian hedgerows) between the application site and non-managed area is present and meets either the basic or advanced criteria listed in the ‘Windbreak-Shelterbelt Criteria’ section of this label.
- If a windbreak or shelterbelt consists of riparian/forests/shrubland/woodlots that are 60 ft wide or greater.

When tank mixing, the most restrictive of the products’ label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions). ”

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. Be aware of nearby non-target sites and environmental conditions.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Consider the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Consider using the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

- Pressure – Using the lowest spray pressure recommended for the nozzle will produce the target spray volume and droplet size.
- Spray Nozzle – Consider using a spray nozzle that is designed for the intended application, as well as using nozzles designed to reduce drift.

RELEASE HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.

HOODED (OR SHIELDED) SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded sprayers. Applicators should verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, consider using larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

MEASURING WIND SPEED AND WIND DIRECTION

Best management practices for measuring wind speed and wind direction:

- Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.
- Applicators should reassess wind speed and direction at the application site at least every hour while applications are in progress.
- Measuring wind speed and direction can be done by:
 - o Relying on equipment on the application equipment that measures wind speed.
 - o Using a tower anemometer with telemetry or handheld anemometer. Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop at least every hour to take a reading with

a tower anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, those cases, applicators would not have to stop to take measurements.

- o Using a windsock. Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every hour to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.
- o Checking behind the spray rig at least every hour to see if the spray has changed direction from when the application started.”

Chemigation restrictions

“**DO NOT** apply via end-gun chemigation.

For Chemigation

If unmanaged areas are present less than 25 feet from the application site, the following restrictions apply for applications via overhead chemigation systems, such as center pivot or traveler systems:

- Turn off end-guns AND select from two of the following:
 - o Reduce the pressure to \leq 20 lbs per square inch (psi).
 - o Reduce the release height to \leq 5 feet from the ground or top of target vegetation.
 - o Maintain a downwind drift barrier (windbreak, hedgerow, or shelterbelt) from the application site based on the description of this measure on EPA’s mitigation menu website (<https://www.epa.gov/pesticides/mitigation-menu>).

Unmanaged areas are defined in comparison to managed areas--anything that is not a managed area is an unmanaged area. Refer to the “Managed Areas Definition” section of this label for information on managed areas.

For Non-End Gun Impact Sprinkler Chemigation Systems

If unmanaged areas are present less than 25 ft from the application site, the following restrictions apply when making applications with non-end gun impact sprinkler chemigation systems:

- Limit the throw distance to the edge of the field. This can be accomplished by reducing the pressure or reducing the throw angle.
- Maintain a downwind drift barrier (windbreak, hedgerow, or shelterbelt) based on the description on EPA’s mitigation menu website (<https://www.epa.gov/pesticides/mitigation-menu>).

Unmanaged areas are defined in comparison to managed areas--anything that is not a managed area is an unmanaged area. Refer to the “Managed Areas Definition” section of this label for information on managed areas.

Runoff mitigations

“MANDATORY RUNOFF MITIGATION

- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.

- Certain turf uses (including golf courses, managed roughs, institutional and commercial turf and residential and commercial landscapes; sports fields, parks, municipal grounds, and cemeteries) and certain ornamental uses (residential and commercial landscapes, parks, and interior plantscapes) only require runoff mitigation points if the application site falls within a PULA.
- For golf course use only, no points are required if limiting applications to tees, greens, and fairways.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months prior to or on the day of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA). If you are located inside a PULA, follow the instructions in the “Inside a PULA” section below and in the BLT bulletin. If the application site falls outside of a PULA, follow the instructions in the “Outside a PULA” section below.

Outside a PULA:

TWO mitigation points are required for all crops listed on this label. Follow the steps below to determine which applications need to achieve points, determine your eligibility for mitigation relief, and determine options to achieve mitigation points.

Inside PULAs:

Different runoff/erosion mitigation point(s) are required inside specific PULAs. Access Bulletins Live! Two within 6 months prior to or on the day of the application to determine if you are inside a PULA. If your application site is located within a PULA, points are required for all uses. Access the BLT to determine the total number of points required. Follow the steps below to determine which applications need to achieve the points, determine eligibility for mitigation relief, and determine options to achieve mitigation points.

Steps to Achieve Points:

Step A. To achieve the mitigation points specified above, visit EPA’s mitigation menu website (www.epa.gov/pesticides/mitigation-menu) to determine which applications need to achieve points and for a full list of mitigation and mitigation relief options.

Step B. Determine if you are eligible for mitigation relief. Runoff/erosion mitigation is NOT needed if certain field/application parameters are present at the time of application (e.g., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, etc). Refer to the mitigation menu for a complete list of field/application parameters.

Step C. If the application site does not meet the field/application parameters specified on EPA’s mitigation menu website, choose among the mitigation and/or mitigation relief options on EPA’s mitigation menu website to meet or exceed the required points noted on this label before applying this product.

Step D. To achieve mitigation points for the application, the mitigation and mitigation relief measures must be:

- Employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website.
- In place during the application unless a different timing (such as before or after application) is specifically provided in the measure's description on EPA's Mitigation Menu Website.

Step E. Additional restrictions may be present in bulletins—always follow the most restrictive bulletin instructions. If you are located in an area where PULAs overlap, follow the most restrictive requirements across all bulletins. When tank mixing, the most restrictive requirements must be followed between the products' labels and bulletins.

EPA may periodically update the Mitigation Menu Website, for example, by adding new mitigation measures or updating a mitigation measure description.

Pollinator IEM advisory language

“The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Develop and maintain clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48-hrs in advance of the application, and confirm hive locations before spraying.
- Avoid applications during bloom.
- Avoid applications when bees are actively foraging.
- Apply pesticides in the evening or early morning hours when fewer bees are foraging.
- Use Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Use integrated pest management to prevent or mitigate potential negative effects to pollinators and consider multiple management options before resorting to a pesticide application.
- Avoid applying pesticides to plants in bloom, including flowering weeds.
- Mow understory weeds or cover crops in field nurseries can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leave large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mow at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.”

Ecological incidents

“REPORTING ECOLOGICAL INCIDENTS: For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target

insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call (registrant phone number)."

ESA requirements

"Endangered and Threatened Species Protection Requirements

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov."

Pollinator mitigations

- "For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period."
- "**DO NOT** apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, County Agricultural Commissioners, or other state/tribal lead agencies" for Citrus.
- "Foliar application of this product is prohibited from onset of flowering until flowering is complete unless; (i) the application is being made between 2-hrs prior to sunset and 2-hrs after to the following sunrise: OR, (ii) the application is being made at a time when the temperature at the application site is 50°F or less." for several uses.

End-Use Product: 100-1710 (A22466 CP)

Pollinator IEM advisory

"The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Develop and maintain clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48-hrs in advance of the application, and confirm hive locations before spraying.
- Use Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Use integrated pest management to prevent or mitigate potential negative effects to pollinators and consider multiple management options before resorting to a pesticide application.
- Mow understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leave large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mow at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.”

Runoff mitigations

- “**DO NOT** apply when soils are saturated or above field capacity.”
- “**DO NOT** apply during rain.”
- “Uses listed in this label will require a total of **FOUR** points in specific Pesticide Use Limitation Areas.”

“Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months prior to or on the day of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin.

Steps to Achieve Points:

Step A. To achieve the mitigation points specified above, visit EPA’s mitigation menu website (www.epa.gov/pesticides/mitigation-menu) to determine which applications need to achieve points and for a full list of mitigation and mitigation relief options.

Step B. Determine if you are eligible for mitigation relief. Runoff/erosion mitigation is NOT needed if certain field/application parameters are present at the time of application (e.g., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, etc). Refer to the mitigation menu for a complete list of field/application parameters.

Step C. If the application site does not meet the field/application parameters specified on EPA’s mitigation menu website, choose among the mitigation and/or mitigation relief options on EPA’s mitigation menu website to meet or exceed the required points noted on this label before applying this product.

Step D. To achieve mitigation points for the application, the mitigation and mitigation relief measures must be:

- Employed in accordance with the instructions and descriptions on EPA’s Mitigation Menu Website.
- In place during the application unless a different timing (such as before or after application) is specifically provided in the measure’s description on EPA’s Mitigation

Menu Website. EPA may periodically update the Mitigation Menu Website, for example, by adding new mitigation measures or updating a mitigation measure description.

Step E. Additional restrictions may be present in bulletins—always follow the most restrictive bulletin instructions. If you are located in an area where PULAs overlap, follow the most restrictive requirements across all bulletins. When tank mixing, the most restrictive requirements must be followed between the products' labels and bulletins.

EPA may periodically update the Mitigation Menu Website, for example, by adding new mitigation measures or updating a mitigation measure description.

Ecological incidents

“REPORTING ECOLOGICAL INCIDENTS: For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA’s Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call (registrant phone number).”

ESA requirements

“Endangered and Threatened Species Protection Requirements

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.”

End-Use Products: 100-1705 (A22241 ST) and 100-1708 (A22725 ST)

Personal Protective Equipment

Baseline attire and chemical resistant gloves.

“Users must rinse extraction probes within the pesticide container prior to removal of the probes.”

Seed treatment dye statement

“REQUIRED DYE STATEMENT

Seed treated with this product must be visually identifiable from untreated seed by the use of an approved colorant or dye to prevent accidental use of treated seed as food for humans or feed for animals. Refer to 21 CFR, Part 2.25. Any colorant or dye added to treated seed must be cleared for use in accordance with 40 CFR, Part 153.155(c).”

Seed treatment location and equipment restriction

“This product must be applied with commercial seed-treating equipment with closed transfer and application systems. Use is permitted in commercial seed treatment facilities and as an end-use seed treatment on agricultural establishments before planting. DO NOT use for at-plant applications (e.g., hopper box, planter box, *etc.*). This product is to be used in liquid or slurry treaters only.”

Instructions for treated seed products produced using on-farm seed treatment (not for distribution or sale of the seed) with a FIFRA registered pesticide

“Use of On-Farm Treated Seed (when treated seeds are not for sale or distribution)

Treated seed sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12.

- Store treated seed away from food and feedstuffs. Do not allow children, pets, or livestock to have access to treated seeds.
- Treated seeds are for planting purposes only. Do not use for food, feed, or oil purposes. Do not use treated seeds for fuel or ethanol production purposes.
- Do not plant treated seed by broadcasting to the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting. Additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seeds exposed on the soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting (such as in row ends).
- Manage excess treated seeds (*e.g.*, spilled, unused, or expired treated seeds) by one or more of the following methods:
 - Collect excess treated seeds for reuse for planting.
 - Bury excess treated seeds (only allowed if totaling 1 pound or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seeds may be returned to the supplier if permitted by the state.
- Do not contaminate bodies of water when disposing of equipment wash water.
- Pollinators can be exposed to dusts from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed flow lubricants or polymer coatings may help

decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed flow lubricants.

Required Seed Bag Labeling Instructions that Go on the FIFRA Registered Label

For pesticide products allowed for use to treat seeds in commercial facilities or on-farm where the treated seed product is intended for sale or distribution (instructions must appear on seed bag tags when treated seeds are to be sold or distributed)

“Use of Seeds Treated in Commercial Facilities Or On-Farm and Are Intended To Be Sold Or Distributed After Treatment

Bags containing treated seed shall be labeled with the statements listed in Section 7.1. Any seed treated with [PRODUCT NAME, A22725 OR A22241] that is sold or distributed without the statements listed in Section 7.1 or that is sold or distributed for a use not permitted on this label does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

Required Seed Bag Labeling Instructions that Go on the Seed Bag Tag

For pesticide products allowed for use to treat seeds in commercial facilities or on-farm where the treated seed product is intended for sale or distribution (instructions must appear on seed bag tags when treated seeds are to be sold or distributed).

“Seed Treatment in Commercial Facilities or Seed Treatment On Farm (when treated seed are to be sold or distributed) – Seed Bag Labeling Requirements

- This seed has been treated with (insert name of active ingredient of pesticide).
- Do not use for food, feed, or oil purposes.

This seed has been treated with [INSERT PRODUCT NAME(s) (EPA REG. NO(s))] containing [INSERT NAME(S) OF ACTIVE INGREDIENT(S)]. Any seed treated with [PRODUCT NAME] that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

- The contents of this bag are for planting purposes only. Do not use for food, feed, or oil purposes. Do not use for fuel or ethanol production purposes.
- Store treated seed away from food and feedstuffs.
- **Do not allow children, pets, or livestock to have access to treated seeds.**
- Do not plant treated seed by broadcasting to the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting, additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seeds exposed on the soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting, including in row ends.
- Manage excess treated seeds (e.g., spilled, unused, or expired treated seeds) by one or more of the following methods:

- o Collect excess treated seeds for reuse for planting.
- o Bury excess treated seeds (only allowed if totaling 1 pound or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
- o Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
- o Excess treated seeds may be returned to the supplier if permitted by the state.
- Do not contaminate bodies of water when disposing of equipment wash water.
- Dispose of seed packaging or containers in accordance with local requirements."
- Pollinators can be exposed to dusts from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed flow lubricants or polymer coatings may help decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed flow lubricants.

End-Use Products: 100-1707 (A21550 400 SC) and 100-1706 (A22128)

Down the Drain exposure mitigations

“

- Do not pour down drains or sewers. Call your local solid waste agency for local disposal options.
- When applying near sewers or drains, only apply using a coarse, low-pressure spray. {only for the product A21550 400SC (EPA Reg. No. 100-1707)}
- When applying near drains or sewers (that are not storm or runoff drainage systems), only apply to the external perimeters (mouth/rim of sewer) and underside of sewer lids. Do not apply inside sewers or drains.
- Do not apply to storm drains.
- Do not use on washable textiles or fabrics.”

Down the Drain restriction graphic



VII. SUPPORTING DOCUMENTS

All supporting documents can be found in docket ID number EPA-HQ-OPP-2021-0641 at regulations.gov.

Exhibit B

[Master Label]

Isocycloseram Technical

An insecticide for Manufacturing Use Only

For formulation into registered end-use products for sites listed in the **Directions for Use**

PLINAZOLIN® technology*

Active Ingredient:

Isocycloseram** 98.0%

Other Ingredients: 2.0%

Total: 100.0%

*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

KEEP OUT OF REACH OF CHILDREN

See additional precautionary statements and directions for use on label.

EPA Reg. No. 100-XXXX

EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
SYNGENTA HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

2.2 Environmental Hazards

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This product is for formulation use only.

3.0 PRODUCT INFORMATION

This technical product is intended to be used for formulation of end-use products for the following uses:

3.1 Terrestrial Food Crop Uses – Field and Greenhouse

Brassica Head and Stem Vegetables, Crop Group 5-16*

Brassica Leafy Greens, Crop Subgroup 4-16B*

Bulb Vegetable, Crop Group 3-07*

Citrus Fruit, Crop Group 10-10*

Corn (field, popcorn, seed)

Cotton, Crop Subgroup 20C

Cucurbit Vegetables, Crop Group 9*

Fruiting Vegetables, Crop Group 8-10*

Juvenile Berry, Fruits and Vines (Grown for Retail Sale):

Berry and Small Fruit Crop Group; Crop Group 13-07

Tropical and Subtropical Fruit, Edible Peel Group, Crop Group 23

Tropical and Subtropical Fruit, Inedible Peel Group; Crop Group 24

Leafy Greens, Crop Subgroup 4-16A*

Peanut

Pome Fruit, Crop Group 11-10*

Soybean

Stone Fruit, Crop Group 12-12*

Tree Nuts, Crop Group 14-12*

Tuberous and Corm Vegetables, Crop Subgroup 1C

*Includes crops grown for retail sale

3.2 Terrestrial and Greenhouse Nonfood Uses

Turfgrass:

Golf courses; institutional, commercial, and residential lawns and landscapes; sod farms; sports fields; parks; municipal grounds; cemeteries

Ornamentals:

Ornamental plants; ornamental bulb; corm, and tuber crops; conifers; Christmas trees grown in greenhouses and nurseries; field and container-grown plants grown in outdoor growing structures (shade houses, lath houses and other growing structures); conifer and deciduous tree nurseries; forest nurseries; retail nurseries; outdoor ornamental plants grown in commercial and residential landscapes; parks; interior plantscapes

3.3 Seed Treatment Uses

Cereals, Small Grain (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)

Dried Shelled Pea and Bean (except soybean), Crop Subgroup 6C

Rapeseed, Crop Subgroup 20A (except flax seed, mustard seed, and sesame seed)

3.4 Commercial and Industrial Uses (Indoor and Outdoor Nonfood)

For use in, on, and around institutional (including schools and daycare facilities), commercial, agricultural (including livestock, poultry, and companion animal housing) and industrial facilities (including warehouses, apartments, supermarkets, restaurants, motels, hotels, hospitals, food-handling/storage/processing establishments, and zoos); and transportation equipment, such as aircraft, trains, ships, boats, and buses.

3.5 Domestic Uses (Indoor and Outdoor Nonfood)

For use in and around single and multifamily residential buildings, as well as termiticide applications.

3.6 Other Uses

This product may be used to formulate into insecticides for other uses for which the U.S. EPA has accepted the required data or citations of data that the registrant or formulator has submitted in support of registration. This product may be used to formulate products for additional uses not listed on the technical label if the formulator, user group, or grower has complied with the U.S. EPA data submission requirements regarding the support of such use(s).

4.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry secure place.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site, or at an approved waste disposal facility.

Container Handling [(bags)]

Non-refillable container. Do not reuse or refill this container. Do not reuse or refill this container unless allowed by the directions for use. Completely empty bag into formulation equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(fiber drums with liners)]

Non-refillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into formulation equipment. Then offer for recycling if available or dispose of in a sanitary landfill or by incineration, or by other procedures approved by state and local authorities. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

5.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

PLINAZOLIN® is a trademark of a Syngenta Group Company.

©20XX Syngenta

For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Isocycloseram Technical XXXX NEW-C MAY2021-CL – jvb – 4/4/25
000100-0XXXX.20210616C.ISOCYCLO-TECH-NEW-0621-CL.pdf

Exhibit C

[Master Label]

RESTRICTED USE PESTICIDE
Due to Acute Eye Irritation

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS
 UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED
 BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

[Not for Sale, Sale into, Distribution and/or Use in Nassau and Suffolk Counties of New York State]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A22466 CP

[Alternate Brand Name: Opello™]

INSECTICIDE

For Use to Control Targeted Soil-Dwelling Insects on Field Corn, Popcorn, and Seed Corn

PLINAZOLIN® technology*

Active Ingredient:

Isocycloseram **	25.7%
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Other Ingredients:	74.3%
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Total:	100.0%
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*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A22466 CP is formulated as a suspension concentrate (SC) and contains 2.5 lb of isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER / PELIGRO

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
 (If you do not understand the label, find someone to explain it to you in detail.)*

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX
 EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

{Note to reviewer: the first aid box will appear on the front panel of the label}

FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes of rinsing, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
SYNGENTA HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372	

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10.1 A22466 CP Use Summary Table

1.0 FIRST AID

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes of rinsing, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
SYNGENTA HOTLINE NUMBER	
For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

DANGER / PELIGRO

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

2.2 Personal Protective Equipment (PPE)

Handlers (Mixers, loaders, applicators, etc.) must wear:

- Appropriate protective eyewear (goggles, face shield, or safety glasses)
- Long-sleeved shirt and long pants
- Socks
- Shoes
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14, or VitonTM \geq 14 mils

2.3 User Safety Requirements

Discard clothing and other absorbent materials that have been drenched or contaminated with this product. Do not reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.6 Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

2.6.1 MANDATORY RUNOFF/EROSION MITIGATION

- **DO NOT** apply isocycloseram when soils are saturated or above field capacity.
- **DO NOT** apply isocycloseram during rain.
- Uses listed in this label will require a total of **FOUR** points in specific Pesticide Use Limitation Areas.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin. If the application site is located outside a PULA, runoff/erosion mitigation are not required for this product.

Applicators must access the Mitigation Menu and follow the steps to determine if the minimum number of points must be achieved for the application. Unless the farm/field does not require the minimum points, the applicator must choose among the mitigation and/or mitigation relief measures on EPA's Mitigation Menu Website to meet or exceed the points required before applying this product. The website includes the full menu of runoff/erosion

mitigation and mitigation relief measures, such as following recommendations from a runoff/erosion specialist or participating in a qualifying conservation program (see the www.epa.gov/pesticides/mitigation-menu for minimum elements).

2.6.2 SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall or irrigation is expected.

2.6.3 POLLINATOR PRECAUTIONS

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Developing and maintaining clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48 hours in advance of the application, and confirm hive locations before spraying.
- Using Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Using integrated pest management to prevent or mitigate potential negative effects to pollinators and consider multiple management options before resorting to a pesticide application.
- Mowing understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leaving large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mowing at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit

<https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.

2.6.4 NON-TARGET ORGANISM ADVISORY

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

2.6.5 ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

2.6.6 REPORTING ECOLOGICAL INCIDENTS

For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call 1-866-796-4368.

2.7 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. A hazardous chemical reaction may occur.

DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

A22466 CP must be used only in accordance with instructions on this label, in a supplemental label, or in state-specific 24(c) labeling. Always read the entire label including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY, POOR INSECT CONTROL AND/OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Appropriate protective eyewear (goggles, face shield, or safety glasses)
- Coveralls
- Socks
- Shoes
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils, or Viton \geq 14 mils

3.0 PRODUCT INFORMATION

A22466 CP is a liquid at-planting, soil-applied insecticide for corn (field, pop, and seed corn) which provides activity against seed- and root-feeding insects and helps protect developing corn root systems.

The active ingredient in A22466 CP, isocycloseram, is active by both contact and ingestion when applied according to the directions specified in **Section 7.0**.

Isocycloseram, the active ingredient in A22466 CP, binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 Insecticide (GABA-gated chloride channel allosteric modulators).

3.1 Integrated Pest Management (IPM)

Syngenta supports the use of Integrated Pest Management (IPM) programs to manage pest populations. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Integrated Pest Management principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treatment when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

3.2 Resistance Management

Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

For resistance management, A22466 CP contains a Group 30 insecticide. Any insect population may contain individuals that are inherently resistant to A22466 CP and other Group 30 insecticides. The resistant individuals may eventually dominate the insect population if this group of insecticides is used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

To delay insecticide resistance, take the following steps:

- Rotate the use of A22466 CP or other Group 30 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact your local Syngenta representative.

3.2.1 MAINTAINING SUSCEPTIBILITY TO THIS CLASS OF CHEMISTRY

- Avoid using Group 30 insecticides exclusively for season-long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, apply A22466 CP or other Group 30 insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (soil, foliar, unless otherwise stated) of the Group 30 Insecticides. Do not exceed the maximum A22466 CP allowed per year.
- Following a treatment window of Group 30 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides.

- A treatment window rotation, along with other Integrated Pest Management (IPM) practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest's ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply A22466 CP or other Group 30 insecticides.

3.2.2 OTHER INSECT RESISTANCE MANAGEMENT (IRM) PRACTICES

- Incorporate IPM techniques into your insect control program.
- Monitor treated insect populations for loss of field efficacy.
- Use tank mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

3.2.3 OTHER SOURCES FOR INFORMATION ON INSECT RESISTANCE MANAGEMENT

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

At plant soil application of A22466 CP is permitted by either liquid in-furrow treatment, [by liquid 2x2 placement,] or by liquid T-band treatment as specified in **Section 7.0**.

Post emergence soil application of A22466 CP is permitted by lay-by application within 60 days of plant emergence as specified in **Section 7.0**.

4.2 Application Equipment

- Spray equipment configuration should be arranged to provide accurate, uniform and thorough delivery of product and minimize potential for spray drift.
- To ensure accuracy, calibrate sprayer before each use.
- For information on spray equipment and calibration, consult spray equipment manufacturers and/or state recommendations.
- All ground application equipment must be properly maintained and calibrated using appropriate carriers.

4.2.1 NOZZLES

When using flat-fan nozzles at the end of a drop tube for an in-furrow application, align nozzles with the row to direct spray into the open furrow.

4.3 Application Volume and Spray Coverage

A22466 CP should be applied in a minimum carrier volume of two gallons per acre.

4.4 Mixing Directions

4.4.1 A22466 CP ALONE

1. Fill clean spray tank $\frac{1}{2}$ - $\frac{2}{3}$ full of water or starter fertilizer. **Note:** This product has been demonstrated to be physically compatible with many liquid in-row starter and pop-up fertilizers, which may be applied simultaneously at-planting with this product. Questions about specific starter and pop-up fertilizer compatibility should be directed to Syngenta Crop Protection, LLC personnel.
2. Add A22466 CP directly to the spray tank.
3. Mix thoroughly to fully disperse A22466 CP. Once dispersed, continuous agitation is required.
4. Use mechanical or hydraulic means; do not use air agitation.

4.4.2 TANK MIX PRECAUTIONS

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations, and directions for use on all product labels involved in tank mixing. User must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Tank mixes of A22466 CP with other pesticides, or any other additives not specifically labelled for use with A22466 CP may result in tank mix incompatibility or unsatisfactory performance. In such cases, always check tank mix compatibility by conducting a jar test according to guidance in **Section 4.4.3** before actual tank mixing.

4.4.3 TANK MIX COMPATIBILITY

- Conduct a jar test using a 1 pt to 1 qt container with lid by adding water or other intended carrier such a liquid fertilizer to the jar.
- Next, add the appropriate amount of pesticide(s) or tank mix partner(s) in their relative proportions based on specified label rates. Add tank mix components separately in the order described in the tank mixing section, **Section 4.4.4**. After each addition, shake or stir gently to thoroughly mix.
- After all ingredients have been added, put the lid on the jar, tighten and invert the jar 10 times to mix.
- After mixing, let the mixture stand 15–30 minutes and then examine for signs of incompatibility such as obvious separation, large flakes, precipitates, gels or heavy oily film on the jar.
- If the mixture remains mixed or can be remixed readily, it is physically compatible and can be used.
- If the mixture is incompatible, repeat the test using a compatibility agent at the specified label rate. Or, if applicable, slurry dry formulations in water before adding to the jar. If incompatibility is still observed after following these procedures, do not use the mixture.

- After compatibility testing is complete, dispose of any pesticide wastes in accordance with the storage and disposal section, **Section 8.0** of this label.

4.4.4 A22466 CP IN TANK MIXTURES

1. Fill the tank with $\frac{1}{2}$ - $\frac{2}{3}$ volume of the mixing diluent (water or starter fertilizer).
2. Start the agitator running before adding any tank mix partners.
3. Add all products in water-soluble packaging to the tank before any other tank mix partner. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.
4. In general, add tank mix partners in this order:
 - a) products packaged in water-soluble packaging
 - b) wettable powders
 - c) wettable granules (dry flowables)
 - d) liquid flowables
 - e) liquids
 - f) emulsifiable concentrates
5. Make sure all other products are fully dispersed in the mixing diluent before adding the recommended rate of this product to the tank.
6. Add the remainder of the mixing diluent volume.
7. It is recommended that mixing and spray equipment have continuous agitation for best results.
8. Follow the precautions and limitations of the most restricted product in the tank mix.

5.0 ROTATIONAL CROP RESTRICTIONS

Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. However, the cover crop may not be grazed or harvested for food or feed.

The following crops may be planted at the specified interval following application of A22466 CP:

There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards of Citrus Fruit (Crop Group 10-10); Pome Fruit (Crop Group 11-10); Stone Fruit (Crop Group 12-12) or Tree Nuts (Crop Group 14-12).

Crop, Crop Group or Subgroup	Plant-Back Interval
Brassica Head and Stem Vegetables (Crop Group 5-16)	
Brassica Leafy Greens (Crop Subgroup 4-16B) (except watercress)	
Bulb Vegetable Group (Crop Group 3-07)	
Cereals (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)	
Corn (field, pop, seed)	
Cotton (Crop Subgroup 20C)	
Cucurbit Vegetables (Crop Group 9)	0 days
Dried Shelled Pea and Bean (except soybean), (Crop Subgroup 6C)	
Fruiting Vegetables (Crop Group 8-10)	
Leafy Greens (Crop Subgroup 4-16A)	
Peanut	
Rapeseed (Crop Subgroup 20A)	
Soybean	
Tuberous and Corm Vegetables (Crop Subgroup 1C)	
All Other Crops Intended for Food and Feed	120 days

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.
- **DO NOT** apply this product except on the sites and for the pests at the indicated rates and limitations specified in **Section 7.0** of this label.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply a total of more than 0.186 lb ai per acre per year including all application types (soil and/or foliar) of isocycloseram-containing products in corn (field, pop, and seed corn).
- **DO NOT** apply this product as a T-band treatment unless the product can be incorporated into the top one inch of soil. Follow a T-band application by an incorporation of 1 inch into the soil either by using tines, press wheels, closing wheels, or other suitable equipment which is either attached to the planter or part of the planter system.
- **[Not registered for use by California]**
- **Not for Use in Hawaii.**
- **[Not for Sale, Sale into, Distribution and/or Use in Nassau and Suffolk Counties of New York State]**

6.2 Use Precautions

6.2.1 VEGETATIVE FILTER STRIPS

- **DO NOT** cultivate within 10 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries or coastal areas to allow growth of a vegetative filter strip.
- Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (e.g., lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, commercial fish farm ponds).
- Only apply products onto fields where a maintained vegetative filter strip of at least 10 ft exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 10 ft may be reduced under the following conditions:
 - Western irrigated agriculture is exempt from this requirement. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).

7.0 CROP USE DIRECTIONS

7.1 Corn

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Field Corn	Popcorn	Seed Corn	
Application Timing	Target Pest	Rate (fl oz/1000 ft of row)	Use Directions
At Planting	Corn rootworm larvae (northern, western, southern, Mexican)	0.19 – 0.39 Use higher rates in areas of known heavy infestation.	<p>In-Furrow Applications: Apply into the seed furrow through spray nozzles or micro-tubes, behind the planter furrow openers and in front of the press wheel.</p> <p>[2x2 Application Placement: During the planting process, apply through spray nozzles or microtubes two inches to the side and two inches below the seed furrow.]</p> <p>T- Banded Applications: Apply as a 5-7 inch band over the top of the open seed furrow, behind the planter furrow openers and in front of the press wheels. Follow the application by an incorporation of one inch into the soil either by using tines, press wheels, closing wheels, or other suitable equipment which is either attached to the planter or part of the planter system.</p> <p>DO NOT T-band over the top of a closed furrow.</p>

At Planting	Wireworm White Grub	0.29 – 0.39 Use higher rates in areas of known heavy infestation.	For best control of Wireworm and/or White Grub , apply the liquid as an in-furrow treatment.
At cultivation/lay-by within 60 days of seedling emergence	Corn rootworm larvae (northern, western, southern, Mexican)	0.19 – 0.39 Use higher rates in areas of known heavy infestation.	Apply A22466 CP by spraying a band at the base of the plant on both sides of the row. Apply A22466 CP when activity of rootworm larvae is first observed. DO NOT FOLLOW AN A22466 CP AT-PLANTING APPLICATION WITH A CULTIVATION/LAY-BY APPLICATION. USE A22466 CP ONLY ONCE PER CROP.

Fluid Ounces of A22466 CP Required per Acre for Typical Row Spacings

Row Spacing	38"	36"	30"	22"	20"	15"
Linear ft per Acre	13,758	14,520	17,424	23,760	26,136	34,848
fl oz/1000 ft of row	fl oz/A (lb ai/A)					
0.19	2.7 (0.052)	2.8 (0.055)	3.4 (0.066)	4.7 (0.092)	5.1 (0.010)	6.8 (0.133)
0.30	4.1 (0.080)	4.4 (0.086)	5.25 (0.103)	-	-	-
0.39	5.4 (0.105)	5.7 (0.111)	6.8 (0.133)	-	-	-

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 6.8 fl oz/A (0.133 lb ai/A of isocycloseram). See **Fluid Ounces of A22466 CP Required per Acre for Typical Row Spacings** chart above for maximum formulated rates for different row spacings.
- 3) **Maximum Annual Rate:** 6.8 fl oz/A/year (0.133 lb ai/A/year of isocycloseram). **DO NOT** exceed 0.186 lb ai/A/year of isocycloseram-containing products including all application types (soil and/or foliar).
- 4) Make only one application of A22466 CP per year. However, in the case of a failed corn crop, another corn crop may be planted at any time. A22466 may be applied to the replanted crop if the total maximum annual rate does not exceed 6.8 fl oz/A (0.133 lb ai/A of isocycloseram) for both the initial and replanted corn crop.
- 5) If a cultivation/lay-by timing application of A22466 CP is made, **DO NOT** apply any foliar applications of isocycloseram-containing products.
- 6) **Pre-Harvest Interval (PHI):** Forage: 14 days; Grain and Stover: 30 days

8.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food, or feed, by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Store in the original container. Store in a cool, dry and well-ventilated place. Protect from extreme heat. Do not store near food or feed.

Pesticide Disposal

Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

{Start of Optional Text}

10.0 [APPENDIX]

10.1 A22466 CP Use Summary Table

IMPORTANT: The table below is a summary of the Crop Use Directions for A22466 CP. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group or Subgroup, with examples	Maximum Rate per Application (lb ai/A)	Maximum Annual Application Rate (lb ai/A/year)	Minimum Application Interval (days)	Pre-Harvest Interval - PHI (days)
Corn field corn, popcorn, and seed corn	0.133	0.133	NA	Forage: 14 Grain and Stover: 30

NA = Not Applicable]

{End of Optional Text}

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:

Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

A22466 CP XXXX NEW-F JUN2021-CL – jvb – 5/7/25
000100-0XXXX.20210622F.A22466-CP-NEW-0621-CL.pdf

Exhibit D

[Master Label]

[Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A21550 CP

[Alternate Brand Name: Vertento[®], Zivalgo[®]]

INSECTICIDE

For control of mites, thrips, true bugs, lepidopterous pests, and other insects in Brassica Head and Stem Vegetables, Crop Group 5-16; Brassica Leafy Greens, Crop Subgroup 4-16B (except watercress); Bulb Vegetable Group, Crop Group 3-07; Citrus Fruit, Crop Group 10-10; Cotton Subgroup 20C; Cucurbit Vegetables, Crop Group 9; Fruiting Vegetables, Crop Group 8-10; Leafy Greens, Crop Subgroup 4-16A; Peanut; Pome Fruit, Crop Group 11-10; Soybean; Stone Fruit, Crop Group 12-12; Tree Nuts, Crop Group 14-12; Tuberous and Corm Vegetables, Crop Subgroup 1C

PLINAZOLIN[®] technology*

Active Ingredient:

Isocycloseram ^{**}	34.8%
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Other Ingredients:	65.2%
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Total:	100.0%
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*PLINAZOLIN[®] technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A21550 CP is formulated as a suspension concentrate and contains 3.33 lb of isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX

EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

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1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
SYNGENTA HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

2.2 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Shoes

2.3 User Safety Requirements

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.6 Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

2.6.1 MANDATORY RUNOFF/EROSION MITIGATION

- **DO NOT** apply isocycloseram when soils are saturated or above field capacity.
- **DO NOT** apply isocycloseram during rain.
- A minimum of **TWO** points, for the crop uses listed on this label, must be achieved unless following the Mitigation Menu steps indicates no additional runoff/erosion mitigation is needed (see <https://www.epa.gov/pesticides/mitigation-menu>).
- Some crop uses listed in this label will require a total of **FOUR** to **SIX** points in specific Pesticide Use Limitation Areas.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin.

If the application site is located outside a PULA, runoff/erosion mitigation is required for this product unless certain field/application parameters are present at the time of application (i.e., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, spot treatment, etc.).

Applicators must access the Mitigation Menu and follow the steps to determine if the minimum number of points must be achieved for the application. Unless the farm/field does not require the minimum points, the applicator must choose among the mitigation and/or mitigation relief measures on EPA's Mitigation Menu Website to meet or exceed the points required before applying this product. The website includes the full menu of runoff/erosion mitigation and mitigation relief measures, such as following recommendations from a runoff/erosion specialist or participating in a qualifying conservation program (see the www.epa.gov/pesticides/mitigation-menu for minimum elements).

2.6.2 SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall or irrigation is expected. Do not make applications during rain and avoid making applications when rainfall is expected before the product has sufficient time to dry.

2.6.3 POLLINATOR PRECAUTIONS

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

The RT₂₅ (Residual Time to 25% mortality; the length of time over which field weathered foliar residues remain toxic to honey bees) for this product is ≤ 3 hours.

The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Developing and maintaining clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48 hours in advance of the application, and confirm hive locations before spraying.
- Using Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Using integrated pest management to prevent or mitigate potential negative effects to pollinators and considering multiple management options before resorting to a pesticide application.
- Mowing understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leaving large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mowing at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.

2.6.4 NON-TARGET ORGANISM ADVISORY

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply when weather conditions favor drift from target areas.

2.6.5 ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

2.6.6 REPORTING ECOLOGICAL INCIDENTS

For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call 1-866-796-4368.

2.7 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. A hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

A21550 CP must be used only in accordance with instructions on this label, in a supplemental label or in state-specific 24(c) labeling. Always read the entire label including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

**FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL
MAY RESULT IN PLANT INJURY, POOR INSECT CONTROL AND/OR ILLEGAL
RESIDUES.**

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Socks
- Shoes
- Chemical-resistant gloves made of any waterproof material

3.0 PRODUCT INFORMATION

A21550 CP is a suspension concentrate that will control specified pests on the crops listed on this label when the product is applied as directed by this label. Thorough coverage of foliage is essential for good insect and mite control.

Mode of Action

Isocycloseram, the active ingredient in A21550 CP, binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 insecticide (GABA-gated chloride channel allosteric modulators).

Suppression

Suppression can mean either inconsistent control (good to poor) or consistent control at a level below what is generally considered acceptable for commercial control.

Crop Tolerance

A21550 CP has been tested for phytotoxicity and has a wide margin of safety on a variety of crops; however, not all crops within a crop group, and not all varieties, cultivars, or hybrids of

crops have been individually tested for crop safety. It is not possible to evaluate crop safety for all applications of A21550 CP on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator. For tank mix adjuvant safety, refer to **Section 4.4.5**.

3.1 Integrated Pest Management (IPM)

Syngenta supports the use of Integrated Pest Management (IPM) programs to manage pest populations. This product may be used as part of an IPM program, which can include genetic technologies and biological and cultural practices aimed at preventing economic pest damage. Integrated Pest Management principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treatment when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

3.2 Resistance Management

Some insect or mite pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects or mites on this label.

For resistance management, A21550 CP contains a Group 30 insecticide/miticide. Any insect or mite population may contain individuals that are inherently resistant to A21550 CP and other Group 30 insecticides/miticides. The resistant individuals may eventually dominate the insect or mite population if this group of insecticides/miticides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect or mite may be present. If you experience difficulty with control and resistance is a suspected cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

To delay insecticide/miticide resistance, take the following steps:

- Rotate the use of A21550 CP or other Group 30 insecticides/miticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/miticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides/miticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect/mite resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect/mite resistance management benefits of an insecticide/miticide mixture are greatest if the two components have similar periods of residual insecticidal/miticidal activity. Mixtures of insecticides/miticides with unequal periods of residual insecticide/miticide activity may offer an insect/mite resistance management benefit only for the period where both insecticides/miticides are active.

- Adopt an integrated pest management program for insecticide/miticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact your local Syngenta representative.

3.2.1 MAINTAINING SUSCEPTIBILITY TO THIS CLASS OF CHEMISTRY

- Avoid using Group 30 insecticides/miticides exclusively for season long control of insect or mite species with more than one generation per crop season.
- For insect or mite species with successive or overlapping generations, apply A21550 CP or other Group 30 insecticides/miticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 30 insecticides/miticides. Do not exceed the maximum A21550 CP allowed per year.
- Following a treatment window of Group 30 insecticides/miticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides/miticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to this class of chemistry.
- If resistance is suspected, do not reapply A21550 CP or other Group 30 insecticides/miticides.

3.2.2 OTHER INSECT RESISTANCE MANAGEMENT (IRM) PRACTICES

- Incorporate IPM techniques into your insect or mite control program.
- Monitor treated insect or mite populations for loss of field efficacy.
- Use tank mixtures or premixes with insecticides/miticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

3.2.3 OTHER SOURCES FOR INFORMATION ON INSECT RESISTANCE MANAGEMENT

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Foliar applications of A21550 CP are permitted by ground or air [or chemigation] as specified in **Section 7.0**, unless otherwise restricted in **Section 6.1**.

4.2 Application Equipment

- A21550 CP may be applied by foliar ground application equipment (tractor mounted, backpack, handgun, air-blast) or aerial application equipment [or by chemigation equipment], except as otherwise directed in **Section 7.0** or **Section 6.1**.
- Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.
- Spray equipment configuration should be arranged to provide accurate, uniform and thorough coverage of the target crop and minimize potential for spray drift.
- To ensure accuracy, calibrate sprayer before each use.
- For information on spray equipment and calibration, consult spray equipment manufacturers and/or state recommendations.
- All [ground/aerial/chemigation] application equipment must be properly maintained and calibrated using appropriate carriers.

4.2.1 NOZZLES

- Use spray nozzles and pressure that deliver medium or coarser sized spray droplets (ASABE S572.1).
- In order to minimize the potential for spray drift, select spray nozzles and pressure that provide the coarsest droplet size that will still provide good coverage for the target pest.

4.2.2 HOODED OR SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce the effects of wind.
- However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential and not interfering with uniform deposition of the product.

4.2.3 AIR-ASSISTED (AIR-BLAST) FIELD CROP SPRAYERS

- Air-assisted field crop sprayers carry droplets to the target via a downward-directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result.
- It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

4.3 Application Volume and Spray Coverage

See **Section 7.0** for additional application volume information.

- Thorough spray coverage is essential for good insect and mite control.
- Use sufficient water carrier to obtain thorough, uniform coverage.
- The highest labeled rate for a specified pest may be needed when aerial applications are made.

4.4 Mixing Directions

1. Thoroughly clean spray equipment before using this product.
2. Prepare no more spray mixture than is needed for the immediate operation.
3. Keep product container tightly closed when not in use.
4. Agitate the spray solution before and during application.
5. Do not let the spray mixture stand overnight in the spray tank.
6. Flush the spray equipment thoroughly with water following each use and apply the rinsate to a previously treated area.

4.4.1 A21550 CP ALONE

1. Fill clean spray tank $\frac{1}{2}$ - $\frac{2}{3}$ full of water.
2. Add A21550 CP directly to the spray tank.
3. Mix thoroughly to fully disperse A21550 CP. Once dispersed, continuous agitation is required.
4. Use mechanical or hydraulic means; do not use air agitation.

4.4.2 TANK MIX PRECAUTIONS

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations, and directions for use on all product labels involved in tank mixing. User must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Tank mixes of A21550 CP with other pesticides, fertilizers, or any other additives not specifically labelled for use with A21550 CP may result in tank mix incompatibility or unsatisfactory performance. In such cases, always check tank mix compatibility by conducting a jar test according to guidance in **Section 4.4.3** before actual tank mixing.

4.4.3 TANK MIX COMPATIBILITY

The following test assumes a spray volume of 25 gal/A. For other spray volumes, make appropriate changes in the components. Perform tank mix compatibility test as follows:

- Add 1 pt of carrier (water) to each of two clear 1-qt jars with tight lids.
- To **one** of the jars, add $\frac{1}{4}$ tsp or 1.2 ml of a commercially available tank mix compatibility agent approved for this use ($\frac{1}{4}$ tsp is equivalent to 2 pt/100 gallons of spray solution). Close the lid, invert the jar, shake, or stir gently to ensure thorough mixing of the compatibility agent.

- To **both** jars, add the appropriate amount of each tank mix partner. If more than one tank mix partner is to be used, follow the mixing order, add dry formulations (wettable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates, and finally add adjuvants. After each addition, invert the jar, shake, or stir gently to thoroughly mix. The appropriate amount of each tank mix partner for this test is as follows:

Dry formulations: For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

Liquid formulations: For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

- After adding all ingredients, close the jars and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as continuous agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) Pre-slurry dry formulations in water before addition to the jar, or (B) add the compatibility agent directly into liquid formulations, before addition to the jar. If these procedures are followed but incompatibility is still observed, do not prepare the tank mix in the spray tank.

4.4.4 A21550 CP IN TANK MIXTURES

1. Always follow the tank mix instructions of the product label that are most restrictive.
2. Fill the tank with $\frac{1}{2}$ - $\frac{2}{3}$ volume of the mixing diluent.
3. Start the agitator running before adding any tank mix partners.
4. Add all products in water-soluble packaging to the tank before any other tank mix partner. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.
5. In general, add tank mix partners in this order:
 - a) Water-soluble bag (WSB)
 - b) Water-soluble granules (SG)
 - c) Water-dispersible granules (WG)
 - d) Wettable powders (WP)
 - e) **Water-based suspension concentrates (SC) (A21550 CP)**
 - f) Capsule suspensions (CS)
 - g) Dispersible concentrates (DC)
 - h) Suspo-emulsions (SE)
 - i) Oil dispersions (OD)
 - j) Emulsion in water (EW)
 - k) Emulsifiable concentrates (EC)
 - l) Water-soluble concentrates (SL)
 - m) Adjuvants, surfactants, oils
 - n) Soluble fertilizers
 - o) Drift retardants
6. Make sure all other products are fully dispersed in the mixing diluent before adding the recommended rate of this product to the tank.

7. Add the remainder of the mixing diluent volume.
8. It is recommended that mixing and spray equipment have continuous agitation for best results.

4.4.5 SPRAY ADDITIVES

- The use of an adjuvant typically improves coverage and penetration and results in optimum insect/mite control, especially in crops with hard-to-wet leaf surfaces.
- Use of a non-phytotoxic, non-ionic, activator type wetting, spreading, and/or penetrating spray adjuvant or horticultural oil, (not a dormant oil) is recommended.
- Non-ionic activator type wetting, spreading and/or penetrating spray adjuvants include:
 - Non-ionic surfactants (NIS) with at least 75% surface active agent
 - Crop oil concentrates (COC)
 - Vegetable oil concentrates (VOC)
 - Methylated seed/vegetable oils (MSO)
 - Organosilicones (OS) with at least 15% emulsifiers/surfactants
 - Blends of these non-ionic activator type spray adjuvants
- Since spray adjuvants alone are known to cause phytotoxicity to certain crops under certain environmental conditions, **do not** use in combination with A21550 CP on a spray-adjuvant-sensitive crop unless the spray adjuvant supplier can confirm a known non-phytotoxic labeled use rate for the intended spray adjuvant on the target crop.
- Spray adjuvants must be compatible with A21550 CP and must be used at concentrations specified on the **spray adjuvant product label** directions for use for the targeted crop unless more specific directions are provided in **Section 7.0** for individual crops on this label.
- Syngenta recommends the use of a Chemical Producers and Distributors Association (CPDA) certified spray adjuvant.

{Start of optional text}

4.5 [Application through Irrigation Systems (Chemigation)]

4.5.1 CHEMIGATION REQUIREMENTS

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

4.5.2 CHEMIGATION PRECAUTIONS

- Apply this product at rates and timings described in **Section 7.0**.
- Apply this product only through overhead sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- Never put A21550 CP into a dry tank or other mixing equipment without first adding water. See **Section 4.4** for more information.
- Inject A21550 CP downstream from any water filtration system.
- The irrigation system used must provide uniform water distribution. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- End guns must be turned off during application if they irrigate nontarget areas or if they do not provide uniform application and coverage.
- Nozzles in the immediate area of wells, control panels, chemical supply tanks, and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation application.
- Do not apply when wind speeds favor drift beyond the area intended.
- Apply in up to 0.25 inches of water per acre. Excessive water may reduce efficacy.

- Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Wear the personal protective equipment as defined in **Section 2.2** for applicators and other handlers when making adjustments or repairs on the chemigation system with A21550 CP in the irrigation water.

4.5.3 OPERATING INSTRUCTIONS FOR CHEMIGATION

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.4 SPECIFIC INSTRUCTIONS FOR PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system

interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.5 APPLICATION DIRECTIONS FOR IRRIGATION SYSTEMS

1. Apply A21550 CP in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area.
2. A pesticide tank is recommended for the application of A21550 CP in chemigation systems.
3. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system
4. With the mix tank $\frac{1}{4}$ to $\frac{1}{2}$ full of water and the agitator running, measure the required amount of A21550 CP and add it to the tank. Then add additional water to bring the total pesticide mixture up to the desired volume for application.
5. Continue agitation throughout the application. Use mechanical or hydraulic agitation. Do not use air for agitation.
6. Injection should occur at a point in the main irrigation water flow to ensure proper mixing with the irrigation water.
7. For continuously moving systems inject the solution containing A21550 CP into the irrigation water line continually and uniformly throughout the irrigation cycle.
8. For continuously moving systems the maximum recommended water volume for overhead chemigation application is 0.25 acre inch of water.
9. For overhead sprinkler irrigation systems that are stationary, add the solution containing A21550 CP to the irrigation water line and apply in a maximum water volume of 0.25 acre inch of water.
10. Calibrate the irrigation system and injector before applying A21550 CP. Calibrate the injection pump while the system is running using the expected irrigation rate.
11. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector.
12. Start the injector and calibrate the injection system. This is necessary to deliver the desired product rate per acre in a uniform manner.
13. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.
14. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws.]

{End of optional text}

5.0 ROTATIONAL CROP RESTRICTIONS

The following crops may be planted at the specified interval following application of A21550 CP:

There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards of Citrus (Crop Group 10-10); Pome Fruit (Crop Group 11-10); Stone Fruits (Crop Group 12-12) or Tree Nuts (Crop Group 14-12).

Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. Do not allow the cover crop to be grazed or harvested for food or feed if planted less than 120 days after last application.

Crop, Crop Group or Subgroup	Plant-Back Interval
Brassica Head and Stem Vegetables (Crop Group 5-16)	
Brassica Leafy Greens (Crop Subgroup 4-16B) (Except watercress)	
Bulb Vegetable Group (Crop Group 3-07)	
Cereals (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)	
Corn (field, pop, seed)	
Cotton (Crop Subgroup 20C)	0 days
Cucurbit Vegetables (Crop Group 9)	
Dried Shelled Pea and Bean (except soybean), Crop Subgroup 6C	
Fruiting Vegetables (Crop Group 8-10)	
Leafy Greens (Crop Subgroup 4-16A)	
Peanut	
Rapeseed (Crop Subgroup 20A)	
Soybean	
Tuberous and Corm Vegetables (Crop Subgroup 1C)	
All other crops Intended for Food and Feed	120 days

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- Aerial application is prohibited for all uses except Cotton, Potato, and Soybean.
- **DO NOT** apply via end-gun chemigation.
- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.
- **DO NOT** treat plants grown for transplanting. A21550 CP is not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- **DO NOT** use on crops grown to harvest in greenhouses unless specified in the crop use section of this label.
- **DO NOT** use in residential areas or residential landscapes.
- **DO NOT** apply more than 0.32 lb ai per acre per year of isocycloseram-containing products, including all crop plantings and application types (seed treatment, soil, foliar). See **Section 7.0** for individual crop restrictions.
- **Ultra-low volume (ULV) applications**, spray volumes <2 gallons per acre, are prohibited.
- **Not for Use in Hawaii.**
- [DO NOT apply by air in New York state.]

6.2 Spray Drift Management

SPRAY DRIFT MANAGEMENT

All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and farm equipment.
- **DO NOT** apply during temperature inversions.

Aerial Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-641). When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft to minimize drift caused by wing tip or rotor blade vortices.
- When the wind speed is between 11-15 miles per hour, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the wind speed is between 11-15 miles per hour, applicators must use a minimum of $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. Otherwise, applicators must use a minimum of $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field.
- Do not release spray at a height greater than 10 feet above the crop canopy unless a greater application height is required for pilot safety.

Airblast Applications:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.

Ground Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-572).
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.

For aerial, ground, and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray row and any non-managed area (i.e., the protection area).

Downwind Managed Areas That Can Represent Spray Drift Buffers

When spray drift buffers are identified as mitigation, the following managed areas can be included in the buffer if they are immediately adjacent/contiguous to the treated field in the downwind direction and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated field;
- b. Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- c. Buildings and their perimeters, silos, or other man-made structures with walls and/or roof;
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Conservation Reserve Program (CRP)¹ and Agricultural Conservation Easement Program (ACEP) lands;
- g. On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, farm ponds, and tailwater collection ponds.

¹ Applicators may need to ensure that pesticide use does not cause degradation of CRP habitat.

For Spray Drift Buffers for Broadcast Applications

Applicators must access and search Bulletins Live! Two (BLT) at

<https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. Wind-directional ecological spray drift buffers are required for applications as follows in **Table A**:

Table A. Wind-Directional Ecological Spray Drift Buffers

Application Method	Droplet Size Distribution (DSD)	Minimum Buffer Distance
Aerial	Medium or coarser	300 ft
Ground (2–4 ft boom height)	Medium or coarser	25 ft
Airblast	NA	85 ft

Buffers to Aquatic Areas

In addition to the wind-directional buffers described in **Table A**, buffers are required to aquatic areas regardless of the wind direction. These buffers cannot be reduced using buffer reduction mitigation options. When buffering to a waterbody, always use the larger buffer distance (either wind-directional ecological or buffer to aquatic areas).

Buffer Zone for Ground and Airblast Applications

Regardless of buffer mitigations, DO NOT make ground applications within 25 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Buffer Zone for Non-ULV Aerial Applications

Regardless of buffer mitigations, DO NOT make aerial applications within 150 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Reduction Options for All Ecological Wind-Directional Drift Buffers

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals). Buffer reduction options also cannot reduce distances to aquatic areas.

When using more than one option during the application, the percent reduction in the buffer distances may be added together. The maximum buffer reduction that can be achieved by a combination of buffer reduction options is 100% (i.e., no drift buffer required).

The website includes the full menu of wind-directional ecological drift buffer reduction options for each application method. The following are examples, but may not be applicable for all application methods:

- Reduce single application rate (all application types)
- Increase in droplet size above the minimum size required (ground and aerial)

- Use hooded sprayer, layby application, or drop nozzles (ground only)
- Lower release boom height (ground only)
- Reduce the number of passes across the field (all application types)
- Install a downwind windbreak, hedgerow, or artificial screen (all application types)
- Apply when the relative humidity $\geq 60\%$ (all application types)

EPA may periodically update the Mitigation Menu Website, for example, by adding new drift buffer reduction options or updating an option's description.

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions).

For Chemigation Applications

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

Vegetative filter strips

- **DO NOT** cultivate within 20 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas to allow growth of a vegetative filter strip.
- Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (e.g., lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, commercial fish farm ponds).
- Only apply products onto fields where a maintained vegetative filter strip of at least 20 ft exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 20 ft may be reduced under the following conditions:
 - Western irrigated agriculture is exempt from this requirement. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).

6.3 Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

6.3.1 IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply the largest droplets possible. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

- **Controlling Droplet Size – Ground Application**

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

- **Controlling Droplet Size – Aerial Application**

- **Adjust Nozzles** – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

6.3.2 RELEASE HEIGHT – GROUND APPLICATION

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle-to-canopy height. Excessive boom height will increase the potential for spray drift.

6.3.3 RELEASE HEIGHT – AERIAL APPLICATION

Higher release heights increase the potential for spray drift.

6.3.4 HOODED OR SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded or shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

6.3.5 TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

6.3.6 TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Do not make applications during temperature inversions.

6.3.7 WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

6.3.8 MEASURING WIND SPEED AND WIND DIRECTION

Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.

Applicators should reassess wind speed and direction at the application site every 15 minutes while applications are in progress.

Measuring wind speed and direction can be done by:

- Relying on equipment on the application equipment that measures wind speed (e.g., aerial equipment).
- Using a tower anemometer with telemetry or handheld anemometer: Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop every 15 minutes to take a reading with a tower anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, in those cases, applicators would not have to stop to take measurements.
- Using a windsock: Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every 15 minutes to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.
- Using an aircraft smoke system: Laying down several puffs of smoke along different lines using an aircraft smoke system can provide an accurate view of what the wind speed and direction for the application.
- Checking behind the spray rig at least every 15 minutes to see if the spray has changed direction from when the application started.

6.3.9 SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

6.3.10 DRIFT CONTROL ADDITIVES

- Using product compatible drift control additives can reduce drift potential.
- When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label.
- If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.
- Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.

7.0 CROP USE DIRECTIONS

7.1 Brassica Head and Stem Vegetables, Crop Group 5-16

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Broccoli Brussel Sprouts	Cabbage Cabbage Chinese		Cauliflower
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper Diamondback moth Flea beetle Imported cabbageworm Leafminers (<i>Liriomyza</i> sp.)	1.1 – 2.0	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground.
Stink bugs	1.6 – 2.0	For leafminer control, apply when adult leafminer flies are first observed.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 1.1 fl oz/A/application of A21550 CP for diamondback moth control. Do not apply A21550 CP or other Group 30 insecticides more than twice within any 30-day “treatment window”. Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21550 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.0 fl oz/A/application <ul style="list-style-type: none"> DO NOT exceed 0.0520 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 4.0 fl oz/A/year 			

a. **DO NOT** exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).

5) **DO NOT** make more than two applications per year.

6) **DO NOT** apply by air.

7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.

8) **Pre-Harvest Interval (PHI):** 1 day

7.2 Brassica Leafy Greens, Crop Subgroup 4-16B (except Watercress)

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	1.1 – 2.0	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth			Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle			
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Stink bugs	1.6 – 2.0	For leafminer control, apply when adult leafminer flies are first observed.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 1.1 fl oz/A/application of A21550 CP for diamondback moth control. Do not apply A21550 CP or other Group 30 insecticides more than twice within any 30-day “treatment window”. Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21550 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.0 fl oz/A/application <ul style="list-style-type: none"> DO NOT exceed 0.0520 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days 			

- 4) **Maximum Annual Rate:** 4.0 fl oz/A/year
 - a. **DO NOT** exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.3 Bulb Vegetable Group, Crop Group 3-07

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers (<i>Liriomyza</i> sp.) Spider mites	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Thrips	3.1 – 4.1	<p>For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.</p> <p>For thrips control, begin making applications when populations are low (1-3 thrips/plant).</p>	<p>Apply this product diluted in a minimum volume of 10 gal/A by ground.</p> <p>Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>[A21550 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]</p>
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions. 2) Maximum Single Application Rate: 4.1 fl oz/A/application a. DO NOT exceed 0.107 lb ai/A of isocycloseram-containing products.			

- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 8.2 fl oz/A/year
 - a. **DO NOT** exceed 0.213 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.4 Citrus Fruit, Crop Group 10-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Broad mite	1.1 – 1.6	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Citrus leafminer			Apply this product diluted in a minimum volume of 30 gal/A by ground.
Citrus rust mite			
Spider mites			
Texas citrus mite			
Asian citrus psyllid	1.6 – 2.5	For Asian citrus psyllid and citrus leafminer control, apply to protect flush of newly expanding foliage.	
Citrus thrips		For mite control, apply when mites are first observed.	
Diaprepes root weevil (adults)	2.1 – 2.5	For citrus thrips control, apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
• Refer to Section 3.2 .			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 2.5 fl oz/A/application
 - a. **DO NOT** exceed 0.0650 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 7.2 fl oz/A/year
 - a. **DO NOT** exceed 0.187 lb ai/A/year of isocycloseram-containing products.
- 5) **DO NOT** make more than two applications at 2.5 fl oz/A per year
- 6) **DO NOT** make more than four applications per year.
- 7) **DO NOT** apply by air.
- 8) **DO NOT** apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, county agricultural commissioners, or other state/tribal lead agencies.
- 9) **Pre-Harvest Interval (PHI):**
 - a. Use rate of 1.1 fl oz/A: 7 days
 - b. Use rate of >1.1 fl oz/A: 21 days

7.5 Cotton, Crop Subgroup 20C

Crop			
Cotton			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cotton flea hopper	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Aerial application to cotton is permitted.
Spider mites			
Tobacco thrips			
Brown stink bug	1.6 – 2.0	For spider mite control, apply when spider mites are first observed.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
Clouded plant bug			
Green stink bug			
Southern green stink bug			
Tarnished plant bug (<i>Lygus lineolaris</i>)			Apply this product, by ground or air, diluted in a minimum volume of 5 gal/A.
Western tarnished plant bug (<i>Lygus hesperus</i>)		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
			For best control, apply A21550 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.

Resistance Management:

- Refer to **Section 3.2**.
- Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product.
- **Thrips:**
 - Use as part of an effective thrips control program. Rotate with products of different modes of action.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 2.0 fl oz/A/application
 - a. **DO NOT** exceed 0.0520 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 4.0 fl oz/A/year
 - a. **DO NOT** exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 7) **DO NOT** feed or allow livestock to graze treated cotton.
- 8) **Pre-Harvest Interval (PHI):** 14 days

7.6 Cucurbit Vegetables, Crop Group 9

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leaffooted bug Leafminers (<i>Liriomyza</i> sp.) Melonworm Pickleworm Potato leafhopper Spider mites Squash bug	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed. For thrips control, begin making applications when populations are low.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground.
Thrips	1.6 – 2.0		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			

- 2) **Maximum Single Application Rate:** 2.0 fl oz/A/application
 - a. **DO NOT** exceed 0.0520 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 4.0 fl oz/A/year
 - a. **DO NOT** exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 3 days

7.7 Fruiting Vegetables, Crop Group 8-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
African eggplant Bush tomato Bell pepper Cocona Currant tomato Eggplant Garden huckleberry	Goji berry Groundcherry Martynia Naranjilla Okra Pea eggplant Pepino	Nonbell pepper Roselle Scarlet eggplant Sunberry Tomatillo Tomato Tree tomato	
Broad mite Colorado potato beetle Flea beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Pepper weevil Thrips	1.6 – 2.5	For mite and leafminer control, apply when mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Armyworms Cabbage looper Tomato fruitworm	2.5	For pepper weevil and thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
<p>Resistance Management:</p> <ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Pepper weevil and thrips: <ul style="list-style-type: none"> Use as part of an effective control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			
2) Maximum Single Application Rate: 2.5 fl oz/A/application			
a. DO NOT exceed 0.0650 lb ai/A of isocycloseram-containing products.			
3) Minimum Application Interval: 7 days			
4) Maximum Annual Rate: 5.0 fl oz/A/year			
a. DO NOT exceed 0.130 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).			
5) DO NOT make more than two applications per year.			
6) DO NOT apply by air.			

- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.8 Leafy Greens, Crop Subgroup 4-16A

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth		For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Potato leafhopper			
Spider mites			
Thrips	1.6 – 2.0		
Resistance Management:			
• Refer to Section 3.2 .			
• Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product.			
• Diamondback Moth:			
○ Do not apply less than 1.1 fl oz/A/application of A21550 CP for diamondback moth control.			
○ Do not apply A21550 CP or other Group 30 insecticides more than twice within any 30-day “treatment window”.			
○ Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21550 CP or other Group 30 insecticides.			
○ Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location.			
• Thrips:			
○ Use as part of an effective thrips control program. Rotate with products of different modes of action.			
Precaution:			
• Some crops such as spinach are known to be sensitive to adjuvants. If an adjuvant is to be used on a sensitive crop, only use adjuvants that are approved for use on that crop and are known not to cause injury.			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 2.0 fl oz/A/application
 - a. **DO NOT** exceed 0.0520 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 4.0 fl oz/A/year
 - a. **DO NOT** exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.9 Peanut

Crop			
Peanut			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Potato leafhopper Spider mites	0.7 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Thrips	1.6 – 2.0		Apply this product diluted in a minimum volume of 10 gal/A by ground.
[Suppression: Corn rootworm (larvae)]	[2.0]	<p>For spider mite control, apply when spider mites are first observed.</p> <p>For thrips control, begin making applications when populations are low.</p>	<p>Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>[For control of corn rootworm larvae only, apply via overhead chemigation in a volume of up to 0.25 inches of water per acre.]</p>
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21550 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.0 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0520 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 4.0 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. DO NOT allow livestock to graze in treated areas or harvest treated peanut plants to be used as livestock feed. [Overhead chemigation is permitted only for suppression of corn rootworm larvae. For all other pests, apply by ground.] Pre-Harvest Interval (PHI): 14 days 			

7.10 Pome Fruit, Crop Group 11-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Apple Azarole Crabapple Loquat	Mayhaw Medlar Pear Pear, Asian	Quince Quince, Chinese Quince, Japanese Tejocote	
European red mite Twospotted spider mite	1.1 – 1.6	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth Obliquebanded leafroller Oriental fruit moth Plum curculio Red banded leafroller Thrips	1.6 – 2.5	Use local pheromone trap catches and degree day models to help time applications for codling moth and Oriental fruit moth .	Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Pear psylla Suppression: Apple maggot	2.1 – 2.5	For thrips control, begin making applications when populations are low. For apple maggot suppression, begin making applications when pest populations are at or below threshold.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. Codling moth: Do not apply A21550 CP (or other Group 30 insecticides) more than three times within a single generation of codling moth (codling moth typically has a single generation “treatment window” of 30 - 45 days. Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 – 45 day “treatment window” before making additional applications of A21550 CP or other Group 30 insecticides. Obliquebanded leafroller: Apply A21550 CP (or other Group 30 insecticides to only one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (different IRAC group number). 			
Precaution:			
<ul style="list-style-type: none"> The use of horticultural oil fewer than 14 days before or after applying Captan® or other sulfur containing products can result in crop injury and loss. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.5 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0650 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 7.5 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.195 lb ai/A/year of isocycloseram-containing products. DO NOT make more than three applications per year. 			

- 6) **DO NOT** apply by air.
- 7) **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 14 days

7.11 Soybean

Crop			
Soybean			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Bean leaf beetle Green cloverworm Potato leafhopper Spider mites	1.1 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
Brown stink bug Green stink bug Southern green stink bug Tarnished plant bug (<i>Lygus lineolaris</i>) Western tarnished plant bug (<i>Lygus hesperus</i>) Velvetbean caterpillar	1.6 – 2.0	For spider mite control, apply when spider mites are first observed.	Apply this product, by ground or air, diluted in a minimum volume of 5 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Redbanded stink bug Suppression: Corn earworm Japanese beetle (adult)	2.0		For best control, apply A21550 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.0 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0520 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 4.0 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.104 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. Aerial application to soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. DO NOT allow livestock to graze in treated areas or harvest treated soybean forage, straw, or hay as feed for livestock. DO NOT feed treated soybean fodder or silage to livestock. Pre-Harvest Interval (PHI): 14 days 			

7.12 Stone Fruit, Crop Group 12-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites	1.1 – 1.6	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spotted wing drosophila		For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Codling moth	1.6 – 2.5	For thrips control, begin making applications when populations are low.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Obliquebanded leafroller			Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Oriental fruit moth			
Plant bugs			
Plum curculio			
Stink bugs			
Thrips			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 2.5 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0650 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 5.0 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.130 lb ai/A/year of isocycloseram-containing products. DO NOT make more than two applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.13 Tree Nuts, Crop Group 14-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
African nut-tree	Coconut	Okari nut	
Almond	Coquito nut	Pachira nut	
Beech nut	Dika nut	Peach palm nut	
Brazil nut	Ginkgo	Pecan	
Brazilian pine	Guiana chestnut	Pequi	
Bunya	Hazelnut (filbert)	Pili nut	
Bur oak	Heartnut	Pine nut	
Butternut	Hickory nut	Pistachio	
Cajou nut	Japanese horse-chestnut	Sapucaia nut	
Candlenut	Macadamia nut	Tropical almond	
Cashew	Mongongo nut	Walnut, black	
Chestnut	Monkey-pot	Walnut, English	
Chinquapin	Monkey puzzle nut	Yellowhorn	
Leaffooted bug	1.1 – 2.5	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Scorch mite			Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Spider mites		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Codling moth	2.5		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Hickory shuckworm			
Oriental fruit moth			
Pecan nut casebearer			
Suppression:			
Navel orangeworm			
Peach twig borer			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			
2) Maximum Single Application Rate: 2.5 fl oz/A/application			
a. DO NOT exceed 0.0650 lb ai/A of isocycloseram-containing products.			
3) Minimum Application Interval: 7 days			
4) Maximum Annual Rate: 7.5 fl oz/A/year			
a. DO NOT exceed 0.195 lb ai/A/year of isocycloseram-containing products.			
5) DO NOT make more than three applications per year.			
6) DO NOT apply by air.			
7) DO NOT apply 3 days prior to flowering until the end of the flowering period.			
8) Pre-Harvest Interval (PHI): 14 days			

7.14 Tuberous and Corm Vegetables, Crop Subgroup 1C

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Colorado potato beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	0.7 – 2.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
European corn borer Flea beetle	1.1 – 2.0		Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air.
Thrips	1.6 – 2.0	<p>For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.</p> <p>For thrips control, begin making applications when populations are low.</p>	<p>Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>For best control, apply A21550 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.</p> <p>[A21550 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]</p>
Resistance Management: <ul style="list-style-type: none"> Refer to Section 3.2. Colorado Potato Beetle: <ul style="list-style-type: none"> Do not apply less than 0.7 fl oz/A/application of A21550 CP for Colorado potato beetle control. Do not apply A21550 CP or other Group 30 insecticides products more than three times to a generation of Colorado potato beetle or within any 30-day “treatment window.” 			

- Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day "treatment window" before making any additional applications of A21550 CP or other Group 30 insecticides.
- **Thrips:**
 - Use as part of an effective thrips control program. Rotate with products of different modes of action.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 2.0 fl oz/A/application
 - a. **DO NOT** exceed 0.0520 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 6.0 fl oz/A/year
 - a. **DO NOT** exceed 0.156 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than three applications per year.
- 6) Aerial application is prohibited for all crops in Tuberous and Corm Vegetables Crop Subgroup 1C **except Potato.**
- 7) For potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) For all crops in Subgroup 1C except potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 9) **DO NOT** apply more than two times during bloom.
- 10) **Pre-Harvest Interval (PHI):** 14 days

8.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Store in the original container. Store in a cool, dry, and well-ventilated place. Protect from extreme heat. Do not store near food or feed.

Pesticide Disposal

Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container Handling – [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure

two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

{Start of optional text}

10.0 APPENDIX

10.1 [A21550 CP Use Summary Table

IMPORTANT: The table below is a summary of the Crop Use Directions for A21550 CP. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group Subgroup with examples	Maximum Rate Per Application (lb ai/A)	Maximum Annual Application Rate (lb ai/A/year)	Minimum Application Interval (days)	Pre-Harvest Interval - PHI (days)
Brassica Head and Stem Vegetables, Crop Group 5-16, cabbage, broccoli	0.0520	0.104	7	1
Brassica Leafy Greens, Crop Subgroup 4-16B (Except watercress), kale, turnip greens	0.0520	0.104	7	1
Bulb Vegetable Group, Crop Group 3-07, bulb onion, green onion	0.107	0.213	7	7
Citrus Fruit, Crop Group 10-10, grapefruit, lemon, orange	0.0650	0.187	7	Use rate of 0.029 lb ai/A: 7 Use rate >0.029 lb ai/A: 21
Cotton, Crop Subgroup 20C	0.0520	0.104	7	14
Cucurbit Vegetables, Crop Group 9, cucumber, squash	0.0520	0.104	7	3
Fruiting Vegetables, Crop Group 8-10, pepper, tomato	0.0650	0.130	7	1
Leafy Greens, Crop Subgroup 4-16A, lettuce, spinach	0.0520	0.104	7	1
Peanut	0.0520	0.104	7	14
Pome Fruit, Crop Group 11-10, apple, pear	0.0650	0.195	7	14
Soybean	0.0520	0.104	7	14
Stone Fruit, Crop Group 12-12, cherry, peach	0.0650	0.130	7	14
Tree Nuts, Crop Group 14-12, almond, pecan, walnut	0.0650	0.195	7	14
Tuberous and Corm Vegetables, Crop Subgroup 1C, potato, ginger	0.0520	0.156	7	14

]

{End of optional text}

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Captan® is a trademark of Tomen Agro, Inc.

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For non-emergency (e.g., current product information),
call Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A21550 CP XXXX NEW-F JUN2021-CL – jvb – 5/7/25
000100-0XXXX.20210622F.A21550 CP-NEW-0621-CL.pdf

Exhibit E

[MASTER LABEL]

[Not for Sale, Sale Into, Distribution and/or Use in [Nassau,] [Kings,] [Queens,] and [Suffolk] counties of New York State.]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A21550 400SC INSECTICIDE

[Alternate Brand Name: Vanecto® 400SC]

INSECTICIDE

For use in Commercial, Industrial, Institutional, Agricultural, and Residential areas.

Do not use this product as the sole source of control for active structural infestations by termites.

PLINAZOLIN® technology*

Active Ingredients:

Isocycloseram**	34.8%
Other Ingredients:	65.2%
Total:	100.0%

*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A21550 400SC Insecticide is formulated as a suspension concentrate and contains 3.33 lb of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX
EPA Est.

Net Contents
[Batch Code: _____(For non-refillables only)]

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1.0 FIRST AID

FIRST AID

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

HOTLINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal)
or Chemical Emergency Assistance (Spill, Leak, Fire or Accident)

Call
1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

2.2 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Shirt and long pants
- Shoes and socks

2.3 User Safety Requirements

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

2.5 Environmental Hazards

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

2.5.1 Surface Water Advisory

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall or irrigation is expected to occur within 48 hours.

2.5.2 Surface Water Protection Statement

For outdoor applications, do not apply during rain.

2.5.3 Pollinator Precautions

This product is highly toxic to bees and other pollinating insects exposed to direct treatment or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

2.5.4 Non-Target Organism Advisory

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply when weather conditions favor drift from target areas.

2.6 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

A21550 400SC Insecticide must be used only in accordance with instructions on this label, in a supplemental label or in state-specific 24(c) labeling. Always read the entire label, including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers are allowed in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

3.0 PRODUCT INFORMATION

A21550 400SC Insecticide is a suspension concentrate that contains the non-repellent active ingredient isocycloseram. When applied following label directions, A21550 400SC Insecticide is effective at controlling a wide range of listed insect pests common in and around residential, commercial, agricultural, and industrial structures.

After dilution in water, A21550 400SC Insecticide forms a suspension for making applications. A21550 400SC Insecticide is formulated not to stain or to damage building surfaces where water applied alone does not stain or cause damage. It is recommended to treat a small area and allow it to dry before making a complete application to determine whether staining will occur.

3.1 Resistance Management

Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

For resistance management, A21550 400SC Insecticide contains a Group 30 insecticide. Any insect population may contain individuals that are inherently resistant to A21550 400SC Insecticide and other Group 30 insecticides. The resistant individuals may eventually dominate the insect population if this group of insecticides are used repeatedly in the same areas. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product, or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of

insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or university extension specialist for the best alternative method of control for your area.

To delay insecticide resistance, take the following steps:

- Rotate the use of A21550 400SC Insecticide or other Group 30 insecticides with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes monitoring, uses historical information related to pesticide use, record keeping, and which considers cultural, biological, and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist.
- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact your local Syngenta representative.

3.2 Food-Handling Establishments

Food-handling establishments are places other than private residences in which food is held, processed, prepared, or served.

3.2.1 Applications in Non-Food Areas

A21550 400SC Insecticide may be used as a spot, void, or crack-and-crevice treatment to control cockroaches and other listed pests in residential structures and the non-food areas of commercial, industrial, public, and institutional buildings/structures, including restaurants, warehouses, food processing plants, supermarkets, hospitals, nursing homes, motels, hotels, schools, daycares, laboratories, computer facilities, aircraft, buses, boats/ships, trains, pet shops and zoos. Refer to **Section 6.0** for directions for specific pests.

Non-food/non-feed areas include areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets, and storage rooms (after bottling or canning).

3.2.2 Applications in Food/Feed-Handling Areas

Apply to food/feed areas of food/feed handling establishments as a crack-and-crevice or void treatment only. Apply A21550 400SC Insecticide in or along cracks and crevices and into voids where insect pests are found, are entering, or are likely to harbor.

Food- and feed-handling areas include areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing edible waste storage, and enclosed processing systems (mills, dairies, edible oils, syrups). Serving areas are also considered a food/feed area when food is uncovered, and the facility is in operation.

3.3 Application in Livestock/Poultry/Companion Animal Housing

A21550 400SC Insecticide may be applied to kill listed pests as a crack-and-crevice, spot application, or surface spray to exterior and/or interior areas of agricultural/commercial structures used to house livestock and poultry. For unoccupied areas of livestock barns or housing structures, apply to floors, vertical and overhead surfaces, or around windows where insect pests are likely to rest or congregate. **See Restrictions in Section 3.3.1** pertaining to use in livestock/poultry housing structures and pet kennels.

3.3.1 Specific Restrictions for Livestock/Poultry/Companion Animal Housing

- **DO NOT** make applications to any animal feedstuffs, water, or watering equipment.
- **DO NOT** contaminate any animal food, feed, or water in and around livestock, poultry or pet housing when making applications.
- **DO NOT** apply to milk-rooms.
- **DO NOT** make interior applications in areas of animal facilities where animals are present. Allow treated surfaces to dry before restocking.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

4.1.1 Indoors

Apply A21550 400SC Insecticide using a coarse low-pressure spray as a crack-and-crevice, spot, or void treatment to infested areas or areas suspected to be infested. Apply to areas including, but not limited to, pest entry sites, attics, wall voids, behind cabinets or equipment, under counters or appliances, and along baseboards.

4.1.2 Outdoors

Apply A21550 400SC Insecticide using a coarse low-pressure spray as a crack-and-crevice, spot, void, general surface, or perimeter banded treatment to control or prevent pest infestations. Treat pest entry points such as around windows, doors, protected eaves or overhangs, or utility penetrations where pests may enter the structure. A perimeter band application cannot exceed 7 feet: for example, a band can include treating 3 feet up the exterior wall and out to 4 feet of horizontal surface away from the wall base.

A21550 400SC Insecticide has not stained or caused damage to painted or varnished surfaces, plastics, fabrics, or other surfaces where water applied alone causes no damage; however, treat a small area and allow it to dry to determine whether staining will occur.

4.1.3 Applications to Control Drywood Termites

For application methods to control drywood termites, see **Section 6.4**.

4.1.4 Re-Treatment Directions for All Pests

Application to specific areas previously untreated can be made as directed. Do not treat more frequently than every 7 days. For light infestations or for maintenance applications, a treatment interval of 30 days is usually sufficient to maintain control. To

control heavy infestations, retreat every 7 days until the infestation is controlled, then revert to maintenance application intervals.

4.2 Application Equipment

Small-volume applications to indoor or outdoor surfaces can be made with backpack or hand-held applicators. **DO NOT** use ULV equipment for spatial or fogging treatments. For outdoor applications with higher volumes, A21550 400SC Insecticide can be applied to exterior of structures using high-volume sprayers, truck-mounted, or other power equipment.

4.3 Application Volumes

4.3.1 Low Volume Applications

For indoor use, apply no more than 1 gallon per 1,000 sq ft.

For outdoor use with backpack or other hand sprayers, 1-3 gallons per 1,000 sq ft is recommended. For exterior use on medium to heavy infestations of pests, porous surfaces, complex sites, such as dense perimeter landscaping, dense mulching, or for maximum residual performance, use the higher range of specified volumes or use high-volume power sprays.

4.3.2 Power-Spray Volumes

For applications to exterior of structures using high-volume power-spray equipment, A21550 400SC Insecticide can be diluted to less than 0.2% concentration and applied at a higher volume so that the same amount of active ingredient is applied per unit area. Higher application volumes help ensure proper spray coverage and distribution of the insecticide which is important when making exterior applications to dense vegetation, landscaped areas that are heavily mulched, or other challenging situations. The higher application volumes are particularly useful to control some ant pests that often nest in soil beneath mulched landscaping, where penetration of the insecticide through the mulch layer is critical for gaining control.

These are examples of how to prepare higher volume (>3 gallons per 1,000 sq ft), lower concentration mixes of A21550 400SC Insecticide:

- To achieve a target spray volume of 5 gallons per 1,000 sq ft, mix 0.64 fl oz of A21550 400SC Insecticide in 5 gallons of water to be applied per 1,000 sq ft area (0.04% dilution is equivalent to 0.0033 lb ai/gallon).
- To achieve a target spray volume of 10 gallons per 1,000 sq ft, mix 0.64 fl oz of A21550 400SC Insecticide in 10 gallons of water to be applied per 1,000 sq ft area (0.02% dilution is equivalent to 0.00166 lb ai/gallon).

4.4 Mixing Directions

The following mixing sequence is recommended:

1. Make sure tank is clean prior to mixing A21550 400SC Insecticide.
2. Fill application tank with water to about half of desired volume.
3. Pour the appropriate amount of A21550 400SC Insecticide into tank.
4. Agitate.
5. Fill tank with remaining volume of water and agitate again.
6. Treatment mixture is now ready to apply. If treatment mixture sits in the tank for extended periods (i.e., more than several hours), re-agitate prior to application.

4.4.1 Mixing Chart for Low Volume Applications of A21550 400SC Insecticide

Desired End Use Dilution (% Active Ingredient)	Amount of A21550 400SC Insecticide Needed to Mix Desired Volume		
	Volume to be Mixed (gallons)		
	1 gallon	3 gallons	25 gallons
0.05%	0.16 fl oz (4.7 ml)	0.48 fl oz (14.2 ml)	4 fl oz (118 ml)
0.1%	0.32 fl oz (9.5 ml)	0.96 fl oz (28.4 ml)	8 fl oz (236 ml)
0.2%	0.64 fl oz (18.9 ml)	1.9 fl oz (56.8 ml)	16 fl oz (473 ml)

4.4.2 Tank Mixing of A21550 400SC Insecticide with Other Insecticides

A21550 400SC Insecticide may be tank-mixed with other currently registered pesticides unless expressly prohibited by the product label. To ensure compatibility, conduct a small volume mixing test with the other product(s). If using A21550 400SC Insecticide in a tank mixture, observe all directions for use, including rates (dilutions), precautions, and any limitations which appear on the individual product labels. Follow the most restrictive label precautions and limitations for each tank mix product, and do not exceed labeled application rates for any product. This product should not be mixed with any product which prohibits such mixing.

5.0 USE RESTRICTIONS AND PRECAUTIONS

- For outdoor applications around structures:
 - **DO NOT** apply more than 0.134 lb ai per acre per application.
 - **DO NOT** apply more than 0.32 lb ai per acre per year.
 - **DO NOT** make more than 15 applications per structure per year at the high rate of 0.2% dilution (equivalent to 0.01664 lb ai per gallon).
 - Consult Section 3.1 for Resistance Management best practices.
 - For outdoor applications, **DO NOT** apply during rain.
- Minimum retreatment interval is 7-days (see pest-specific retreatment intervals).
- **DO NOT** formulate this product into other end-use products without written permission of Syngenta.
- **DO NOT** apply a broadcast or general surface application to interior surfaces of residential or commercial structures.
- **DO NOT** apply as a spatial or fogging treatment using ULV equipment.
- **DO NOT** apply this product to pets or edible crops.
- **DO NOT** use water-based sprays in or on electrical equipment or outlets due to possible shock hazard.
- **DO NOT** apply this product in patient rooms or in any rooms being occupied, including rooms occupied by the elderly or infirm.
- **DO NOT** apply to classrooms when in use.
- **DO NOT** apply to institutions (e.g., libraries and recreational facilities) when occupants are present in the immediate area/room being treated.
- **DO NOT** use in aircraft cabins.
- **DO NOT** clean equipment near wells, water sources, or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

PRECAUTIONS:

- **Keep people and pets away from treated areas until treatment has dried.**
- At residential sites, all exposed food-processing surfaces and utensils in the immediate treatment area must be covered during treatment, or thoroughly washed before reuse.

6.0 PEST CONTROL USE DIRECTIONS

6.1 Ants

Target Pest		
Kills and Controls Ants (except Carpenter ant, Red Imported Fire ant and Harvester ant), including: Argentine ant Odorous house ant Pharaoh ant		
Amount of A21550 400SC Insecticide to Mix in 1 Gallon of Water (% active in diluted mix)	Location	Use Directions
Refer to Section 4.4.1 for mixing instructions. 0.64 fl oz [18.9 ml] / gallon water = (0.2% isocycloseram)	Indoors Outdoors	<p>Apply using a coarse low-pressure spray as a spot, void, or crack-and-crevice treatment at a maximum volume of 1 gallon per 1,000 sq ft. Target active ant trails, nests, or other infested areas or areas suspected to be infested.</p> <p>Direct applications of A21550 400SC Insecticide may be made to areas including, but not limited to, pest entry sites, attics, wall voids, behind cabinets or equipment, under counters or appliances, and along baseboards.</p> <p>Apply using a coarse low-pressure spray as a spot, crack-and-crevice, void, general surface, or perimeter banded treatment to control or prevent ant infestations.</p> <p>A perimeter band of 7 ft, for example, can include 3 ft up the exterior wall and out to 4 ft of horizontal substrate away from the wall base.</p> <p>Treat heavier infestations or more complex substrates such as stone or brick with greater volumes of treatment dilution.</p> <p>Refer to Section 4.3 for application volume information.</p> <p>In addition to exterior structural elements, outdoor nesting sites such as refuse collection areas, flower/mulch beds, adjacent tree holes, surrounding turf areas, crawl spaces, or other nest/foraging sites, and foraging trails can be treated.</p> <p>Surfaces commonly used by ants for foraging such as outdoor edges/frames of windows, doors, utility penetrations, roof lines or eaves, and other structural edges may also be treated.</p>
USE RESTRICTIONS		
1) Refer to Section 5.0 for product use restrictions. 2) For outdoor applications: <ul style="list-style-type: none"> a. DO NOT apply more than 0.134 lb ai per acre per application. b. DO NOT apply more than 0.32 lb ai per acre per year. 3) Minimum Application Interval: 7 days. 4) DO NOT make more than 15 applications per year.		

6.2 Bed bugs

Target Pest		
Kills and Controls Bed bugs		
Amount of A21550 400SC Insecticide to Mix in 1 Gallon of Water (% active in diluted mix)	Location	Use Directions
<p>Refer to Section 4.4.1 for mixing instructions.</p> <p>0.64 fl oz [18.9 ml] / gallon water = (0.2% isocycloseram)</p>	Indoors	<p>Apply a 0.2% dilution to fabric or non-porous surfaces as a spot, crack-and-crevice, or void treatment to areas that may harbor bed bugs with a volume of 1 gallon per 1,000 sq ft and at a distance of approximately 1 foot. Example harborages include cracks and crevices in nightstands and dressers, voids behind [attached] headboards, baseboards, moldings, door frames, window frames, closets, and shelving; behind mirrors and picture frames; and around edges of carpet or other floor coverings.</p> <p>Apply a 0.2% dilution with pin-stream, coarse spray or low-pressure equipment to cracks and joints of bed frames (interior included), headboards and box springs. To kill bed bugs on infested mattresses or upholstered furniture, apply to edges, folds, seams, and tufts. Remove bed linens before treating mattresses and allow spray to dry before remaking the bed.</p> <p>Apply only to areas where prolonged contact by humans or pets will not occur. Applications can be repeated as needed to achieve control.</p> <p>To treat empty luggage, apply to seams, folds, and edges until moist. Remove all clothes and other articles from luggage before application and allow treated areas to thoroughly dry before use.</p> <p>To help remove bed bugs, clean and vacuum infested areas, such as floor surfaces, furniture, and mattresses before treatment. Dispose of vacuum bag off-site, and with bag-less vacuums, remove all bed bug eggs, nymphs and adults from the canister or capsule off-site.</p>
USE RESTRICTIONS		
<p>1) Refer to Section 5.0 for product use restrictions.</p> <p>2) DO NOT make more than 15 applications per year.</p>		

6.3 Cockroaches

Target Pest		
Kills and Controls German Cockroaches on Outdoor Surfaces		
Amount of A21550 400SC Insecticide to Mix in 1 Gallon of Water (% active in diluted mix)	Location	Use Directions
<p>Refer to Section 4.4.1 for mixing instructions.</p> <p>0.64 fl oz [18.9 ml] / gallon water = (0.2% isocycloseram)</p>	Outdoors	<p>Apply to porous and non-porous surfaces using a coarse low-pressure spray as a spot and/or crack-and-crevice, general surface, or perimeter banded treatment to control or prevent cockroach infestations. Make spray applications to surfaces at a distance of approximately 1 foot.</p> <p>A perimeter band of 7 ft, for example, can include 3 ft up the exterior wall and out to 4 ft of horizontal substrate away from the wall base.</p> <p>Refer to Section 4.3 for application volume information.</p> <p>In addition to exterior structural elements, treat outdoor breeding sites, such as refuse collection areas, loading docks, adjacent tree holes, crawl spaces, or other sources of cockroach infestations. Apply A21550 400SC Insecticide in harborage areas around the structure or where pests are likely to enter or rest, such as utility entry points, weep holes, eaves of structures, around windows and doors, or around lights.</p>
USE RESTRICTIONS		
<p>1) Refer to Section 5.0 for additional product use restrictions.</p> <p>2) For outdoor applications:</p> <ol style="list-style-type: none"> DO NOT apply more than 0.134 lb ai per acre per application. DO NOT apply more than 0.32 lb ai per acre per year. <p>3) Minimum Application Interval: 7 days.</p> <p>4) DO NOT make more than 15 applications per year.</p>		

6.4 Drywood Termites

Target Pest		
Kills and Controls Drywood Termites, including: <i>Incisitermes</i>		<i>Cryptotermes</i>
Concentration of A21550 400SC Insecticide in Final Dilution	Location	Use Directions
<p>Refer to Section 4.4.1 for mixing instructions.</p> <p>Apply using a treatment dilution containing 0.05% isocycloseram in water.</p>	Indoors	<p>For remedial control of drywood termites in localized areas of infested wood in structures, apply 0.05% A21550 400SC Insecticide to voids, termite galleries in damaged wood, and/or in spaces between wood and foundations. Locate termite galleries by using visual signs (e.g., fresh fecal pellets, kick-out holes, or blistered wood), the presence of live pests, mechanical sounding techniques (tapping on the wood surface and listening for changes in sound to indicate changes in wood density), listening devices, motion detection devices, or other technologies that help pinpoint drywood termite activity.</p> <p>Wood Injection Method Drill small diameter holes of appropriate size for the injection tip or use a self-puncturing tip, positioned to intersect termite galleries within infested wood. Drywood termite emergence holes or pellet kick-out holes connect directly to galleries and are indicators of potential sites to drill and inject diluted A21550 400SC Insecticide. Care should be taken to avoid electrical wiring, plumbing, etc. when drilling and injecting. Do not drill or puncture completely through wood. Spacing of the holes will depend on the distribution of insect activity and galleries. Injection holes may be clustered in areas with insect activity as indicated by damage, live insects, or other indicators previously described. For large beams (4" x 10" or larger), injection holes on opposite sides may be necessary to effectively penetrate termite galleries.</p> <p>Apply up to 50 ml (1.7 fl oz) of diluted A21550 400SC Insecticide liquid at each injection hole.</p> <p>Re-treatment guidelines: For best results in re-treating galleries, inject diluted A21550 400SC Insecticide into new injection holes positioned between previous injection sites.</p>
Precautions:		
<ul style="list-style-type: none"> Treatment requirements for drywood termite control may vary due to state and local regulations. Consult your State structural pest control regulatory agency. When used as directed, A21550 400SC Insecticide will provide effective remedial control of localized infestations of drywood termites. Knowledge of the biology and behavior of the drywood termite species, the locations and the extent of the infestation(s) will help ensure successful control. 		
USE RESTRICTIONS		
1) Refer to Section 5.0 for additional product use restrictions. 2) Minimum Application Interval: 7 days. 3) DO NOT make more than 15 applications per year.		

7.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food, or feed in storage.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

Container Handling – [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or

rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

8.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Syngenta Crop Protection, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold Syngenta and Seller harmless for any claims relating to such factors.

Syngenta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or Syngenta, and (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, **SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall Syngenta be liable for any incidental, consequential, or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE**

**RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION
OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

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the SYNGENTA Logo and the PURPOSE ICON
are Trademarks of a Syngenta Group Company

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A21550 400SC Insecticide XXXX NEW-F 0621-CL-jab-5/2/25
000100-0XXXX.20210622F.A21550-400SC-Insect-NEW-0621-CL.pdf

Exhibit F

[Master Label]

[Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State]**ISOCYCLOSERAM GROUP 30 INSECTICIDE****A21708 CP****INSECTICIDE**

For control of mites, thrips, true bugs, lepidopterous pests, and other insects in Brassica Head and Stem Vegetables, Crop Group 5-16; Brassica Leafy Greens, Crop Subgroup 4-16B (except watercress); Bulb Vegetable Group, Crop Group 3-07; Citrus Fruit, Crop Group 10-10; Corn (field, pop and seed); Cotton, Crop Subgroup 20C; Cucurbit Vegetables, Crop Group 9; Fruiting Vegetables, Crop Group 8-10; Leafy Greens, Crop Subgroup 4-16A; Peanut; Pome Fruit, Crop Group 11-10; Soybean; Stone Fruit, Crop Group 12-12; Tree Nuts, Crop Group 14-12; Tuberous and Corm Vegetables, Crop Subgroup 1C

PLINAZOLIN® technology***Active Ingredient:**

Isocycloseram ^{**}	9.27%
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Other Ingredients:	90.73%
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Total:	100.00%
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*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A21708 CP is formulated as a dispersible concentrate and contains 0.83 lb of isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN**CAUTION / PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX

EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

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8.0 STORAGE AND DISPOSAL

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

10.0 [APPENDIX

- 10.1 A21708 CP Use Summary Table]

1.0 FIRST AID

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
SYNGENTA HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

2.2 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Shoes
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or Viton™ ≥ 14 mils
- Protective eyewear

2.3 User Safety Requirements

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.6 Environmental Hazards

For terrestrial uses: Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

2.6.1 MANDATORY RUNOFF/EROSION MITIGATION

- **DO NOT** apply isocycloseram when soils are saturated or above field capacity.
- **DO NOT** apply isocycloseram during rain.
- A minimum of **TWO** points, for the crop uses listed on this label, must be achieved unless following the Mitigation Menu steps indicates no additional runoff/erosion mitigation is needed (see <https://www.epa.gov/pesticides/mitigation-menu>).
- Some crop uses listed in this label will require a total of **FOUR** to **SIX** points in specific Pesticide Use Limitation Areas.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin.

If the application site is located outside a PULA, runoff/erosion mitigation is required for this product unless certain field/application parameters are present at the time of application (i.e., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, spot treatment, etc.).

Applicators must access the Mitigation Menu and follow the steps to determine if the minimum number of points must be achieved for the application. Unless the farm/field does not require the minimum points, the applicator must choose among the mitigation and/or mitigation relief measures on EPA's Mitigation Menu Website to meet or exceed the points required before applying this product. The website includes the full menu of runoff/erosion mitigation and mitigation relief measures, such as following recommendations from a runoff/erosion specialist or participating in a qualifying conservation program (see the www.epa.gov/pesticides/mitigation-menu for minimum elements).

2.6.2 SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall or irrigation is expected. Do not make applications during rain and avoid making applications when rainfall is expected before the product has sufficient time to dry.

2.6.3 POLLINATOR PRECAUTIONS

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

The RT₂₅ (Residual Time to 25% mortality; the length of time over which field weathered foliar residues remain toxic to honey bees) for this product is ≤ 3 hours.

The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Developing and maintaining clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48 hours in advance of the application, and confirm hive locations before spraying.
- Using Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Using integrated pest management to prevent or mitigate potential negative effects to pollinators and considering multiple management options before resorting to a pesticide application.
- Mowing understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leaving large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mowing at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.

2.6.4 NON-TARGET ORGANISM ADVISORY

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply when weather conditions favor drift from target areas.

2.6.5 ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

2.6.6 REPORTING ECOLOGICAL INCIDENTS

For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call 1-866-796-4368.

2.7 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents and fire-retardant chemicals (monoammonium phosphate). A hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

A21708 CP must be used only in accordance with instructions on this label, in a supplemental label, or in state-specific 24(c) labeling. Always read the entire label including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Socks
- Shoes
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils
- Protective eyewear

3.0 PRODUCT INFORMATION

A21708 CP is a dispersible concentrate that will control specified pests on the crops listed on this label when the product is applied as directed by this label. Thorough coverage of foliage is essential for good mite and insect control.

Mode of Action

Isocycloseram, the active ingredient in A21708 CP, binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 insecticide (GABA-gated chloride channel allosteric modulators).

Suppression

Suppression can mean either inconsistent control (good to poor) or consistent control at a level below what is generally considered acceptable for commercial control.

Crop Tolerance

A21708 CP has been tested for phytotoxicity and has a wide margin of safety on a variety of crops; however, not all crops within a crop group, and not all varieties, cultivars, or hybrids of crops have been individually tested for crop safety. It is not possible to evaluate crop safety for all applications of A21708 CP on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator. For tank mix adjuvant safety, refer to **Section 4.4.5**.

3.1 Integrated Pest Management (IPM)

Syngenta supports the use of Integrated Pest Management (IPM) programs to manage pest populations. This product may be used as part of an IPM program, which can include genetic technologies and biological and cultural practices aimed at preventing economic pest damage. Integrated Pest Management principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treatment when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

3.2 Resistance Management

Some mite or insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the mites or insects on this label.

For resistance management, A21708 CP contains a Group 30 miticide/insecticide. Any mite or insect population may contain individuals that are inherently resistant to A21708 CP and other Group 30 miticides/insecticides. The resistant individuals may eventually dominate the mite or insect population if this group of miticides/insecticides is used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of mite or insect may be present. If you experience difficulty with control and resistance is a suspected cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

To delay miticide/insecticide resistance, take the following steps:

- Rotate the use of A21708 CP or other Group 30 miticides/insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with miticides/insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual miticides/insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for mite/insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The mite/insect resistance management benefits of a miticide/insecticide mixture are greatest if the two components have similar periods of residual miticidal/insecticidal activity. Mixtures of miticides/insecticides with unequal periods of residual miticide/insecticide activity may offer a mite/insect resistance management benefit only for the period where both miticides/insecticides are active.
- Adopt an integrated pest management program for miticide/insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact your local Syngenta representative.

3.2.1 MAINTAINING SUSCEPTIBILITY TO THIS CLASS OF CHEMISTRY

- Avoid using Group 30 miticides/insecticides exclusively for season-long control of mite or insect species with more than one generation per crop season.
- For mite or insect species with successive or overlapping generations, apply A21708 CP or other Group 30 miticides/insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 30 miticides/insecticides. Do not exceed the maximum A21708 CP allowed per year.
- Following a treatment window of Group 30 miticides/insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 miticides/insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to this class of chemistry.
- If resistance is suspected, do not reapply A21708 CP or other Group 30 miticides/insecticides.

3.2.2 OTHER INSECT RESISTANCE MANAGEMENT (IRM) PRACTICES

- Incorporate IPM techniques into your mite or insect control program.
- Monitor treated mite or insect populations for loss of field efficacy.
- Use tank mixtures or premixes with miticides/insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

3.2.3 OTHER SOURCES FOR INFORMATION ON INSECT RESISTANCE MANAGEMENT

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Foliar applications of A21708 CP are permitted by ground or air [or chemigation] as specified in **Section 7.0**, unless otherwise restricted in **Section 6.1**.

4.2 Application Equipment

- A21708 CP may be applied by foliar ground application equipment (tractor mounted, backpack, handgun, air-blast) or aerial application equipment, [or by chemigation equipment] except as otherwise directed in **Section 7.0** or **Section 6.1**.
- Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.
- Spray equipment configuration should be arranged to provide accurate, uniform and thorough coverage of the target crop and minimize potential for spray drift.
- To ensure accuracy, calibrate sprayer before each use.
- For information on spray equipment and calibration, consult spray equipment manufacturers and/or state recommendations.
- All [ground/aerial/chemigation] application equipment must be properly maintained and calibrated using appropriate carriers.

4.2.1 NOZZLES

- Use spray nozzles and pressure that deliver medium or coarser sized spray droplets (ASABE S572.1).
- In order to minimize the potential for spray drift select spray nozzles and pressure that provide the coarsest droplet size that will still provide good coverage for the target pest.

4.2.2 HOODED OR SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce the effects of wind.
- However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential and not interfering with uniform deposition of the product.

4.2.3 AIR-ASSISTED (AIR-BLAST) FIELD CROP SPRAYERS

- Air-assisted field crop sprayers carry droplets to the target via a downward-directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result.
- It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

4.3 Application Volume and Spray Coverage

See **Section 7.0** for additional application volume information.

- Thorough spray coverage is essential for good mite and insect control.
- Use sufficient water carrier to obtain thorough, uniform coverage.
- The highest labeled rate for a specified pest may be needed when aerial applications are made.

4.4 Mixing Directions

1. Thoroughly clean spray equipment before using this product.
2. Prepare no more spray mixture than is needed for the immediate operation.
3. Keep product container tightly closed when not in use.
4. Agitate the spray solution before and during application.
5. Do not let the spray mixture stand overnight in the spray tank.
6. Flush the spray equipment thoroughly with water following each use and apply the rinsate to a previously treated area.

4.4.1 A21708 CP ALONE

1. Fill clean spray tank $\frac{1}{2}$ - $\frac{2}{3}$ full of water.
2. Add A21708 CP directly to the spray tank.
3. Mix thoroughly to fully disperse A21708 CP. Once dispersed, continuous agitation is required.
4. Use mechanical or hydraulic means; do not use air agitation.

4.4.2 TANK MIX PRECAUTIONS

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations, and directions for use on all product labels involved in tank mixing. User must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Tank mixes of A21708 CP with other pesticides, fertilizers, or any other additives not specifically labelled for use with A21708 CP may result in tank mix incompatibility or unsatisfactory performance. In such cases, always check tank mix compatibility by conducting a jar test according to guidance in **Section 4.4.3** before actual tank mixing.

4.4.3 TANK MIX COMPATIBILITY

The following test assumes a spray volume of 25 gal/A. For other spray volumes, make appropriate changes in the components. Perform tank mix compatibility test as follows:

- Add 1 pt of carrier (water) to each of two clear 1-qt jars with tight lids.
- To **one** of the jars, add $\frac{1}{4}$ tsp or 1.2 ml of a commercially available tank mix compatibility agent approved for this use ($\frac{1}{4}$ tsp is equivalent to 2 pt/100 gallons of spray solution). Close the lid, invert the jar, shake, or stir gently to ensure thorough mixing of the compatibility agent.
- To **both** jars, add the appropriate amount of each tank mix partner. If more than one tank mix partner is to be used, follow the mixing order: add dry formulations (wettable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates, and finally add adjuvants. After each addition, invert the jar, shake, or stir gently to thoroughly mix. The appropriate amount of each tank mix partner for this test, is as follows:

Dry formulations: For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

Liquid formulations: For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

- After adding all ingredients, close the jars and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates but can be remixed readily, the mixture can be sprayed as long as continuous agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) Pre-slurry dry formulations in water before addition to the jar, or (B) add the compatibility agent directly into liquid formulations before addition to the jar. If these procedures are followed but incompatibility is still observed, do not prepare the tank mix in the spray tank.

4.4.4 A21708 CP IN TANK MIXTURES

1. Always follow the tank mix instructions of the product label that are most restrictive.
2. Fill the tank with $\frac{1}{2}$ - $\frac{2}{3}$ volume of the mixing diluent.
3. Start the agitator running before adding any tank mix partners.
4. Add all products in water-soluble packaging to the tank before any other tank mix partner. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.
5. In general, add tank mix partners in this order:
 - a) Water-soluble bag (WSB)
 - b) Water-soluble granules (SG)
 - c) Water-dispersible granules (WG)
 - d) Wettable powders (WP)
 - e) Water-based suspension concentrates (SC)
 - f) Capsule suspensions (CS)
 - g) **Dispersible concentrates (DC) (A21708 CP)**
 - h) Suspo-emulsions (SE)
 - i) Oil dispersions (OD)
 - j) Emulsion in water (EW)
 - k) Emulsifiable concentrates (EC)
 - l) Water-soluble concentrates (SL)
 - m) Adjuvants, surfactants, oils
 - n) Soluble fertilizers
 - o) Drift retardants
6. Make sure all other products are fully dispersed in the mixing diluent before adding the recommended rate of this product to the tank.
7. Add the remainder of the mixing diluent volume.
8. It is recommended that mixing and spray equipment have continuous agitation for best results.

4.4.5 SPRAY ADDITIVES

- The use of an adjuvant typically improves coverage and penetration and results in optimum mite/insect control, especially in crops with hard-to-wet leaf surfaces.
- Use of a non-phytotoxic, non-ionic, activator type wetting, spreading, and/or penetrating spray adjuvant or horticultural oil, (not a dormant oil) is recommended.

- Non-ionic activator type wetting, spreading and/or penetrating spray adjuvants include:
 - Non-ionic surfactants (NIS) with at least 75% surface active agent
 - Crop oil concentrates (COC)
 - Vegetable oil concentrates (VOC)
 - Methylated seed/vegetable oils (MSO)
 - Organosilicones (OS) with at least 15% emulsifiers/surfactants
 - Blends of these non-ionic activator type spray adjuvants
- Since spray adjuvants alone are known to cause phytotoxicity to certain crops under certain environmental conditions, **do not** use in combination with A21708 CP on a spray-adjuvant-sensitive crop unless the spray adjuvant supplier can confirm a known non-phytotoxic labeled use rate for the intended spray adjuvant on the target crop.
- Spray adjuvants must be compatible with A21708 CP and must be used at concentrations specified on the **spray adjuvant product label** directions for use for the targeted crop unless more specific directions are provided in **Section 7.0** for individual crops on this label.
- Syngenta recommends the use of a Chemical Producers and Distributors Association (CPDA) certified spray adjuvant.

{Start of optional text}

4.5 [Application through Irrigation Systems (Chemigation)]

4.5.1 CHEMIGATION REQUIREMENTS

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

4.5.2 CHEMIGATION PRECAUTIONS

- Apply this product at rates and timings described in **Section 7.0**.
- Apply this product only through overhead sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- Never put A21708 CP into a dry tank or other mixing equipment without first adding water. See **Section 4.4** for more information.

- Inject A21708 CP downstream from any water filtration system.
- The irrigation system used must provide uniform water distribution. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- End guns must be turned off during application if they irrigate non-target areas or if they do not provide uniform application and coverage.
- Nozzles in the immediate area of wells, control panels, chemical supply tanks, and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation application.
- Do not apply when wind speeds favor drift beyond the area intended.
- Apply in up to 0.25 inches of water per acre. Excessive water may reduce efficacy.
- Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Wear the personal protective equipment as defined in **Section 2.2** for applicators and other handlers when making adjustments or repairs on the chemigation system with A21708 CP in the irrigation water.

4.5.3 OPERATING INSTRUCTIONS FOR CHEMIGATION

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.4 SPECIFIC INSTRUCTIONS FOR PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.5 APPLICATION DIRECTIONS FOR IRRIGATION SYSTEMS

1. Apply A21708 CP in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area.
2. A pesticide tank is recommended for the application of A21708 CP in chemigation systems.
3. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.
4. With the mix tank $\frac{1}{4}$ - $\frac{1}{2}$ full of water and the agitator running, measure the required amount of A21708 CP and add it to the tank. Then add additional water to bring the total pesticide mixture up to the desired volume for application.
5. Continue agitation throughout the application. Use mechanical or hydraulic agitation. Do not use air for agitation.
6. Injection should occur at a point in the main irrigation water flow to ensure proper mixing with the irrigation water.
7. For continuously moving systems, inject the solution containing A21708 CP into the irrigation water line continually and uniformly throughout the irrigation cycle.
8. For continuously moving systems, the maximum recommended water volume for overhead chemigation application is 0.25 acre inch of water.
9. For overhead sprinkler irrigation systems that are stationary, add the solution containing A21708 CP to the irrigation water line and apply in a maximum water volume of 0.25 acre inch of water.
10. Calibrate the irrigation system and injector before applying A21708 CP. Calibrate the

injection pump while the system is running using the expected irrigation rate.

11. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector.
12. Start the injector and calibrate the injection system. This is necessary to deliver the desired product rate per acre in a uniform manner.
13. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.
14. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws.]

{End of optional text}

5.0 ROTATIONAL CROP RESTRICTIONS

The following crops may be planted at the specified interval following application of A21708 CP:

There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards of Citrus Fruit (Crop Group 10-10); Pome Fruit (Crop Group 11-10); Stone Fruit (Crop Group 12-12) or Tree Nuts (Crop Group 14-12).

Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. Do not allow the cover crop to be grazed or harvested for food or feed if planted less than 120 days after last application.

Crop, Crop Group or Subgroup	Plant-Back Interval
Brassica Head and Stem Vegetables (Crop Group 5-16)	
Brassica Leafy Greens (Crop Subgroup 4-16B) (except watercress)	
Bulb Vegetable Group (Crop Group 3-07)	
Cereals (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)	
Corn (field, pop, seed)	
Cotton (Crop Subgroup 20C)	
Cucurbit Vegetables (Crop Group 9)	0 days
Dried Shelled Pea and Bean (except soybean), (Crop Subgroup 6C)	
Fruiting Vegetables (Crop Group 8-10)	
Leafy Greens (Crop Subgroup 4-16A)	
Peanut	
Rapeseed (Crop Subgroup 20A)	
Soybean	
Tuberous and Corm Vegetables (Crop Subgroup 1C)	
All Other Crops Intended for Food and Feed	120 days

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- Aerial application is prohibited for all uses except Corn, Cotton, Potato, and Soybean.
- **DO NOT** apply via end-gun chemigation.
- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.
- **DO NOT** treat plants grown for transplanting. A21708 CP is not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- **DO NOT** use on crops grown to harvest in greenhouses unless specified in the crop use section of this label.
- **DO NOT** use in residential areas or residential landscapes.
- **DO NOT** apply more than 0.32 lb ai per acre per year of isocycloseram-containing products including all crop plantings and application types (seed treatment, soil, foliar). See **Section 7.0** for individual crop restrictions.
- **Ultra-low volume (ULV) applications**, spray volumes <2 gallons per acre, are prohibited.
- **Not for Use in Hawaii.**
- **[DO NOT apply by air in New York state.]**

6.2 Spray Drift Management

SPRAY DRIFT MANAGEMENT

All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and farm equipment.
- **DO NOT** apply during temperature inversions.

Aerial Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-641). When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft to minimize drift caused by wing tip or rotor blade vortices.
- When the wind speed is between 11-15 miles per hour, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the wind speed is between 11-15 miles per hour, applicators must use a minimum of $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. Otherwise, applicators must use a minimum of $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field.
- Do not release spray at a height greater than 10 feet above the crop canopy unless a greater application height is required for pilot safety.

Airblast Applications:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.

Ground Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-572).
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.

For aerial, ground, and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray row and any non-managed area (i.e., the protection area).

Downwind Managed Areas That Can Represent Spray Drift Buffers

When spray drift buffers are identified as mitigation, the following managed areas can be included in the buffer if they are immediately adjacent/contiguous to the treated field in the downwind direction and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated field;
- b. Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- c. Buildings and their perimeters, silos, or other man-made structures with walls and/or roof;
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Conservation Reserve Program (CRP)¹ and Agricultural Conservation Easement Program (ACEP) lands;
- g. On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, farm ponds, and tailwater collection ponds.

¹ Applicators may need to ensure that pesticide use does not cause degradation of CRP habitat.

For Spray Drift Buffers for Broadcast Applications

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. Wind-directional ecological spray drift buffers are required for applications as follows in **Table A**:

Table A. Wind-Directional Ecological Spray Drift Buffers

Application Method	Droplet Size Distribution (DSD)	Minimum Buffer Distance
Aerial	Medium or coarser	300 ft
Ground (2–4 ft boom height)	Medium or coarser	25 ft
Airblast	NA	85 ft

Buffers to Aquatic Areas

In addition to the wind-directional buffers described in **Table A**, buffers are required to aquatic areas regardless of the wind direction. These buffers cannot be reduced using buffer reduction mitigation options. When buffering to a waterbody, always use the larger buffer distance (either wind-directional ecological or buffer to aquatic areas).

Buffer Zone for Ground and Airblast Applications

Regardless of buffer mitigations, DO NOT make ground applications within 25 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Buffer Zone for Non-ULV Aerial Applications

Regardless of buffer mitigations, DO NOT make aerial applications within 150 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Reduction Options for All Ecological Wind-Directional Drift Buffers

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals). Buffer reduction options also cannot reduce distances to aquatic areas.

When using more than one option during the application, the percent reduction in the buffer distances may be added together. The maximum buffer reduction that can be achieved by a combination of buffer reduction options is 100% (i.e., no drift buffer required).

The website includes the full menu of wind-directional ecological drift buffer reduction options for each application method. The following are examples, but may not be applicable for all application methods:

- Reduce single application rate (all application types)
- Increase in droplet size above the minimum size required (ground and aerial)
- Use hooded sprayer, layby application, or drop nozzles (ground only)
- Lower release boom height (ground only)
- Reduce the number of passes across the field (all application types)
- Install a downwind windbreak, hedgerow, or artificial screen (all application types)
- Apply when the relative humidity $\geq 60\%$ (all application types)

EPA may periodically update the Mitigation Menu Website, for example, by adding new drift buffer reduction options or updating an option's description.

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions).

For Chemigation Applications

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

Vegetative filter strips

- **DO NOT** cultivate within 20 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas to allow growth of a vegetative filter strip.
- Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (e.g., lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, commercial fish farm ponds).
- Only apply products onto fields where a maintained vegetative filter strip of at least 20 ft exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 20 ft may be reduced under the following conditions:
 - Western irrigated agriculture is exempt from this requirement. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).

6.3 Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

6.3.1 IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply the largest droplets possible. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

- **Controlling Droplet Size – Ground Application**
 - **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
 - **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
 - **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.
- **Controlling Droplet Size – Aerial Application**
 - **Adjust Nozzles** – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

6.3.2 RELEASE HEIGHT – GROUND APPLICATION

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle-to-canopy height. Excessive boom height will increase the potential for spray drift.

6.3.3 RELEASE HEIGHT – AERIAL APPLICATION

Higher release heights increase the potential for spray drift.

6.3.4 HOODED OR SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded or shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

6.3.5 TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

6.3.6 TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Do not make applications during temperature inversions.

6.3.7 WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

6.3.8 MEASURING WIND SPEED AND WIND DIRECTION

Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.

Applicators should reassess wind speed and direction at the application site every 15 minutes while applications are in progress.

Measuring wind speed and direction can be done by:

- Relying on equipment on the application equipment that measures wind speed (e.g., aerial equipment).
- Using a tower anemometer with telemetry or handheld anemometer: Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop every 15 minutes to take a reading with a tower

anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, in those cases, applicators would not have to stop to take measurements.

- Using a windsock: Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every 15 minutes to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.
- Using an aircraft smoke system: Laying down several puffs of smoke along different lines using an aircraft smoke system can provide an accurate view of what the wind speed and direction for the application.
- Checking behind the spray rig at least every 15 minutes to see if the spray has changed direction from when the application started.

6.3.9 SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

6.3.10 DRIFT CONTROL ADDITIVES

- Using product compatible drift control additives can reduce drift potential.
- When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label.
- If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.
- Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.

7.0 CROP USE DIRECTIONS

7.1 Brassica Head and Stem Vegetables, Crop Group 5-16

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Broccoli Brussel Sprouts	Cabbage Cabbage Chinese		Cauliflower
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper Diamondback moth Flea beetle Imported cabbageworm Leafminers (<i>Liriomyza</i> sp.)	4.2 – 8.2	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Stink bugs	6.2 – 8.2	For leafminer control, apply when adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 4.2 fl oz/A/application of A21708 CP for diamondback moth control. Do not apply A21708 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21708 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 8.2 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0532 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 16.4 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). 			

5) **DO NOT** make more than two applications per year.
 6) **DO NOT** apply by air.
 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
 8) **Pre-Harvest Interval (PHI):** 1 day

7.2 Brassica Leafy Greens, Crop Subgroup 4-16B (except Watercress)

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	4.2 – 8.2	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth			Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle			
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Stink bugs	6.2 – 8.2	For leafminer control, apply when adult leafminer flies are first observed.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 4.2 fl oz/A/application of A21708 CP for diamondback moth control. Do not apply A21708 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21708 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 8.2 fl oz/A/application
 - a. **DO NOT** exceed 0.0532 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 16.4 fl oz/A/year
 - a. **DO NOT** exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.3 Bulb Vegetable Group, Crop Group 3-07

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers (<i>Liriomyza</i> sp.) Spider mites	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels. For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Thrips	12.4 – 16.4	For thrips control, begin making applications when populations are low (1-3 thrips/plant).	[A21708 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 16.4 fl oz/A/application
 - a. **DO NOT** exceed 0.106 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 32.8 fl oz/A/year
 - a. **DO NOT** exceed 0.213 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.4 Citrus Fruit, Crop Group 10-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Broad mite	4.2 – 6.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Citrus leafminer		For Asian citrus psyllid and citrus leafminer control, apply to protect flush of newly expanding foliage.	Apply this product diluted in a minimum volume of 30 gal/A by ground.
Citrus rust mite		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Spider mites		For citrus thrips control, apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Texas citrus mite			
Asian citrus psyllid	6.2 – 10.3		
Citrus thrips			
Diaprepes root weevil (adults)	8.3 – 10.3		
Resistance Management:			
• Refer to Section 3.2.			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 10.3 fl oz/A/application
 - a. **DO NOT** exceed 0.0668 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 29.0 fl oz/A/year
 - a. **DO NOT** exceed 0.188 lb ai/A/year of isocycloseram-containing products.
- 5) **DO NOT** make more than two applications at 10.3 fl oz/A per year.
- 6) **DO NOT** make more than four applications per year.
- 7) **DO NOT** apply by air.
- 8) **DO NOT** apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, county agricultural commissioners, or other state/tribal lead agencies.
- 9) **Pre-Harvest Interval (PHI):**
 - a. Use rate of 4.2 fl oz/A: 7 days
 - b. Use rate of >4.2 fl oz/A: 21 days

7.5 Corn

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Field Corn	Pop Corn	Seed Corn	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites including Banks grass mite	2.8 – 4.1	<p>Time applications to the most susceptible life-stage at locally determined action thresholds before populations reach damaging levels.</p>	<p>Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.</p> <p>Apply this product, by ground or air, diluted in a minimum volume of 2 gal/A. However, under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>Foliar applications of A21708 CP at labeled rates are allowed following an at-planting application (but not a cultivation/lay-by application) of isocycloseram at labeled rates.</p> <p>For best control, apply A21708 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.</p>
Resistance Management: <ul style="list-style-type: none"> Refer to Section 3.2. 			
Precautions: <ul style="list-style-type: none"> Avoid the use of adjuvants or other additives after the V8 growth stage and prior to the VT growth stage, as use during these development times may impose stress on the plant that could inhibit proper kernel development. VT is defined as when the last branch of the tassel is completely visible, but silks have not yet emerged from the ear shoot. If an adjuvant or other additive is included and applied between the V8 and VT growth stages, the grower and user are responsible for contacting the adjuvant/additive source (distributor, retailer, or manufacturer) to confirm that adjuvant/additive has been tested and proven to be safe to apply at those growth stages. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions. 2) Maximum Single Application Rate: 4.1 fl oz/A/application a. DO NOT exceed 0.0266 lb ai/A of isocycloseram-containing products.			

- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 8.2 fl oz/A/year
 - a. **DO NOT** exceed 0.0532 lb ai/A/year of isocycloseram-containing foliar products.
 - b. **DO NOT** exceed 0.186 lb ai/A/year of isocycloseram containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two foliar applications per year.
- 6) Aerial application to corn is only permitted in the following states: Colorado, Kansas, Nebraska, Oklahoma, and Texas.
- 7) Foliar application of this product is prohibited during pollen shed unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **DO NOT** make foliar applications of A21708 CP if isocycloseram was used as a cultivation/layby application.
- 9) **Pre-Harvest Interval (PHI):**
 - a. Forage: 7 days
 - b. Stover and grain: 21 days

7.6 Cotton, Crop Subgroup 20C

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Cotton			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cotton flea hopper	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Aerial application to cotton is permitted.
Spider mites		For spider mite control, apply when spider mites are first observed.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
Tobacco thrips		For thrips control, begin making applications when populations are low.	Apply this product by ground or air diluted in a minimum volume of 5 gal/A.
Brown stink bug	6.2 – 8.2		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Clouded plant bug			
Green stink bug			
Southern green stink bug			
Tarnished plant bug (<i>Lygus lineolaris</i>)			
Western tarnished plant bug (<i>Lygus hesperus</i>)			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			
2) Maximum Single Application Rate: 8.2 fl oz/A/application			
a. DO NOT exceed 0.0532 lb ai/A of isocycloseram-containing products.			
3) Minimum Application Interval: 7 days			
4) Maximum Annual Rate: 16.4 fl oz/A/year			
a. DO NOT exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).			
5) DO NOT make more than two applications per year.			
6) Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.			
7) DO NOT feed or allow livestock to graze treated cotton.			
8) Pre-Harvest Interval (PHI): 14 days			

7.7 Cucurbit Vegetables, Crop Group 9

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leaffooted bug	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Leafminers (<i>Liriomyza</i> sp.)		For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Melonworm		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Pickleworm			
Potato leafhopper			
Spider mites			
Squash bug			
Thrips	6.2 – 8.2		
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 8.2 fl oz/A/application
 - a. **DO NOT** exceed 0.0532 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 16.4 fl oz/A/year
 - a. **DO NOT** exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 3 days

7.8 Fruiting Vegetables, Crop Group 8-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
African eggplant Bush tomato Bell pepper Cocona Currant tomato Eggplant Garden huckleberry	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Colorado potato beetle Flea beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	6.2 – 10.3	For mite and leafminer control, apply when mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Armyworms Cabbage looper Tomato fruitworm	10.3	For pepper weevil and thrips control, begin making applications when populations are low. Apply foliarly soon after emergence or transplant to control thrips which may vector the tomato spotted wilt virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Pepper weevil and thrips: <ul style="list-style-type: none"> Use as part of an effective control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 10.3 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0668 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.6 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.134 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. 			

- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.9 Leafy Greens, Crop Subgroup 4-16A

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth		For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Potato leafhopper			
Spider mites			
Thrips	6.2 – 8.2		
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 4.2 fl oz/A/application of A21708 CP for diamondback moth control. Do not apply A21708 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21708 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
Precaution:			
<ul style="list-style-type: none"> Some crops such as spinach are known to be sensitive to adjuvants. If an adjuvant is to be used on a sensitive crop, only use adjuvants that are approved for use on that crop and are known not to cause injury. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 8.2 fl oz/A/application
 - a. **DO NOT** exceed 0.0532 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 16.4 fl oz/A/year
 - a. **DO NOT** exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.10 Peanut

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Peanut			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Potato leafhopper Spider mites	2.8 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Thrips	6.2 – 8.2	For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
[Suppression: Corn rootworm (larvae)]	[8.2]	For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
			[For control of corn rootworm larvae only, apply A21708 CP via overhead chemigation in a volume of up to 0.25 inches of water per acre.]
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21708 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 8.2 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0532 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 16.4 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. 			

- 8) **DO NOT** allow livestock to graze in treated areas or harvest treated peanut plants to be used as livestock feed.
- 9) [Overhead chemigation is permitted **only** for suppression of corn rootworm larvae. For all other pests, apply by ground.]
- 10) **Pre-Harvest Interval (PHI):** 14 days

7.11 Pome Fruit, Crop Group 11-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Apple Azarole Crabapple Loquat	Mayhaw Medlar Pear Pear, Asian	Quince Quince, Chinese Quince, Japanese Tejocote	
European red mite Twospotted spider mite	4.2 – 6.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth Obliquebanded leafroller Oriental fruit moth Plum curculio Red banded leafroller Thrips	6.2 – 10.3	Use local pheromone trap catches and degree day models to help time applications for codling moth and Oriental fruit moth . For thrips control, begin making applications when populations are low.	Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Pear psylla Suppression: Apple maggot	8.3 – 10.3	For apple maggot suppression, begin making applications when pest populations are at or below threshold.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. Codling moth: Do not apply A21708 CP (or other Group 30 insecticides) more than three times within a single generation of codling moth (codling moth typically has a single generation “treatment window” of 30 – 45 days. Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 – 45 day “treatment window” before making additional applications of A21708 CP or other Group 30 insecticides. Obliquebanded leafroller: Apply A21708 CP (or other Group 30 insecticides) to only one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (different IRAC group number). 			
Precaution:			
<ul style="list-style-type: none"> The use of horticultural oil fewer than 14 days before or after applying Captan® or other sulfur containing products can result in crop injury and loss. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 10.3 fl oz/A/application <ul style="list-style-type: none"> DO NOT exceed 0.0668 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 30.9 fl oz/A/year <ul style="list-style-type: none"> DO NOT exceed 0.200 lb ai/A/year of isocycloseram-containing products. DO NOT make more than three applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.12 Soybean

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Soybean			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Bean leaf beetle Green cloverworm Potato leafhopper Spider mites	4.2 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
Brown stink bug Green stink bug Southern green stink bug Tarnished plant bug (<i>Lygus lineolaris</i>) Western tarnished plant bug (<i>Lygus hesperus</i>) Velvetbean caterpillar	6.2 – 8.2	For spider mite control, apply when spider mites are first observed.	Apply this product by ground or air diluted in a minimum volume of 5 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Redbanded stink bug Suppression: Corn earworm Japanese beetle (adult)	8.2		For best control, apply A21708 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 8.2 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0532 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 16.4 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.106 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. Aerial application to soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. DO NOT allow livestock to graze in treated areas or harvest treated soybean forage, straw or hay as feed for livestock. DO NOT feed treated soybean fodder or silage to livestock. Pre-Harvest Interval (PHI): 14 days 			

7.13 Stone Fruit, Crop Group 12-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites Spotted wing drosophila	4.2 – 6.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth Obliquebanded leafroller Oriental fruit moth Plant bugs Plum curculio Stink bugs Thrips	6.2 – 10.3	For spider mite control, apply when spider mites are first observed. For thrips control, begin making applications when populations are low.	Apply this product diluted in a minimum volume of 30 gal/A by ground only. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 10.3 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0668 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.6 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.134 lb ai/A/year of isocycloseram-containing products. DO NOT make more than two applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.14 Tree Nuts, Crop Group 14-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leaffooted bug	4.2 – 10.3	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Scorch mite			Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Spider mites			
Codling moth	10.3		Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Hickory shuckworm			
Oriental fruit moth			
Pecan nut casebearer			
Suppression:			
Navel orangeworm			
Peach twig borer			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 10.3 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0668 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 30.9 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.200 lb ai/A/year of isocycloseram-containing products. DO NOT make more than three applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.15 Tuberous and Corm Vegetables, Crop Subgroup 1C

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Colorado potato beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	2.8 – 8.2	Time applications to the most susceptible mite or insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
European corn borer Flea beetle	4.2 – 8.2	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air.
Thrips	6.2 – 8.2	For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
			For best control, apply A21708 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
			[A21708 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Colorado Potato Beetle: <ul style="list-style-type: none"> Do not apply less than 2.8 fl oz/A/application of A21708 CP for Colorado potato beetle control. Do not apply A21708 CP or other Group 30 insecticides products more than three times to a generation of Colorado potato beetle or within any 30-day “treatment window.” Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21708 CP or other Group 30 insecticides. 			

- **Thrips:**
 - Use as part of an effective thrips control program. Rotate with products of different modes of action.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 8.2 fl oz/A/application
 - a. **DO NOT** exceed 0.0532 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 24.6 fl oz/A/year
 - a. **DO NOT** exceed 0.160 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than three applications per year.
- 6) Aerial application is prohibited for all crops in Tuberous and Corm Vegetables Crop Subgroup 1C **except Potato.**
- 7) For potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) For all crops in Subgroup 1C except potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 9) **DO NOT** apply more than two times during bloom.
- 10) **Pre-Harvest Interval (PHI):** 14 days

8.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Store in the original container. Store in a cool, dry, and well-ventilated place. Protect from extreme heat. Do not store near food or feed.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

{Start of Optional Text}

10.0 [APPENDIX

10.1 A21708 CP Use Summary Table

IMPORTANT: The table below is a summary of the Crop Use Directions for A21708 CP. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group Subgroup with examples	Maximum Rate Per Application (lb ai/A)	Maximum Annual Application Rate (lb ai/A/year)	Minimum Application Interval (days)	Pre-Harvest Interval - PHI (days)
Brassica Head and Stem Vegetables, Crop Group 5-16, cabbage, broccoli	0.0532	0.106	7	1
Brassica Leafy Greens, Crop Subgroup 4-16B (except watercress), kale, turnip greens	0.0532	0.106	7	1
Bulb Vegetable Group, Crop Group 3-07, bulb onion, green onion	0.106	0.213	7	7
Citrus Fruit, Crop Group 10-10, grapefruit, lemon, orange	0.0668	0.188	7	Use rate of 0.027 lb ai/A: 7 Use rate >0.027 lb ai/A: 21
Corn, field corn, popcorn	0.0266	0.0532	7	Forage: 7 Stover and grain: 21
Cotton, Crop Subgroup 20C	0.0532	0.106	7	14
Cucurbit Vegetables, Crop Group 9, cucumber, squash	0.0532	0.106	7	3
Fruiting Vegetables, Crop Group 8-10, pepper, tomato	0.0668	0.134	7	1
Leafy Greens, Crop Subgroup 4-16A, lettuce, spinach	0.0532	0.106	7	1
Peanut	0.0532	0.106	7	14
Pome Fruit, Crop Group 11-10, apple, pear	0.0668	0.200	7	14
Soybean	0.0532	0.106	7	14
Stone Fruit, Crop Group 12-12, cherry, peach	0.0668	0.134	7	14
Tree Nuts, Crop Group 14-12, almond, pecan, walnut	0.0668	0.200	7	14
Tuberous and Corm Vegetables, Crop Subgroup 1C, potato, ginger	0.0532	0.160	7	14

]

{End of optional text}

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Captan® is a trademark of Tomen Agro, Inc.

Viton™ is a trademark of The Chemours Company FC, LLC

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:

Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A21708 CP XXXX NEW-F JUN2021-CL – jvb – 5/7/25
000100-0XXXX.20210622F.A21708-CP-NEW-0621-CL.pdf

Exhibit G

[Master Label]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A22725 ST**[Alternate Brand Name: Equento™ 400FS]****INSECTICIDE**

A seed treatment product for protection against damage from certain insects of cereals (small grain), rapeseed (including canola), dried shelled peas, beans, lentils, and chickpea.

PLINAZOLIN® technology***Active Ingredient:**

Isocycloseram**	34.8%
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Other Ingredients	65.2%
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Total:	100.0%
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*PLINAZOLIN technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A22725 ST is a flowable concentrate for seed treatment containing 3.34 lb isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN.

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)*

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX

EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

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1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
SYNGENTA HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

2.2 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Shoes
- Waterproof gloves

Additional PPE for canola seed treatment only:

- **Workers filling seed containers (baggers) and bag sewers must also wear:**
 - A minimum of a NIOSH-approved particulate-filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.
- **In addition to all PPE above, workers cleaning a treater must also wear:**
 - A chemical-resistant disposable suit (e.g., Tyvek) or coveralls over long pants (**Note:** Workers cleaning continuous-flow drum treaters must wear chemical-resistant, *hooded* coveralls.)
 - Chemical-resistant gloves at least 13-inches long and taped or otherwise secured to the sleeves of the coveralls

2.3 User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 Engineering Controls

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.6 Environmental Hazards

2.6.1 Pollinator Precautions

Isocycloseram is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds.

Pollinators can be exposed to dust from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops, and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed flow lubricants or polymer coatings may help decrease the amount of dust released during planting. Follow the recommendations of the planter manufacturer regarding the use of seed flow lubricants.

2.6.2 Non-Target Organism Advisory

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Do not contaminate water when disposing of equipment washwaters.

2.6.3 Endangered and Threatened Species Protection Requirements

Before planting seed treated with this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of planting. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When planting seed treated with this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are planting seed treated with this product, including any restrictions on planting timing if applicable.

2.7 Physical or Chemical Hazards

Do not mix or allow contact with oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

This product must be applied with commercial seed-treating equipment with closed transfer and application systems. Use is permitted in commercial seed treatment facilities and as an end-use seed treatment on agricultural establishments before planting. **DO NOT** use for at-plant applications (e.g., hopper box, planter box). This product is to be used in liquid or slurry treaters only.

**FAILURE TO FOLLOW DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL
MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL
RESIDUES.**

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes and socks
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils or VitonTM \geq 14 mils

Treatment of highly mechanically scarred or damaged seed or seed known to be of low vigor and poor quality may result in reduced germination and/or reduction of seed and seedling vigor. Treat a quantity of seed using equipment similar to that planned for treating the total seed lot. Then conduct germination tests with a portion of this treated seed before committing the total seed lot to a selected seed treatment.

Due to seed quality, crop or variety sensitivity, and seed storage conditions beyond the control of Syngenta, no claims are made to guarantee the germination of seed or propagating material for all crop seed when treated with A22725 ST.

3.0 PRODUCT INFORMATION

A22725 ST is a seed treatment product containing the active ingredient isocycloseram (insecticide). A22725 ST protects cereals (small grain), dried shelled peas and beans, and rapeseed (including canola) against early-season damage from specified insect pests.

Refer to the Crop Use Directions for approved crops and insects controlled by A22725 ST.

3.1 Resistance Management

Some insects are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label. Consult your local or state agricultural authorities for details.

A22725 ST contains a Group 30 insecticide. Insect biotypes with acquired or inherent resistance to Group 30 insecticides may eventually dominate the insect population if Group 30 insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by A22725 ST and other Group 30 insecticides.

Isocycloseram binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is a GABA-gated chloride channel allosteric modulator.

If resistance to this product develops in your area, this product or other products with similar modes of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

Maintaining Susceptibility to This Class of Chemistry

- Use products at their full, recommended doses.
- Use appropriate, well-maintained equipment. Use recommended water volumes and apply at optimal temperatures in order to obtain optimal treatment.
- When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.
- Avoid using Group 30 insecticides exclusively for season-long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, use a treatment window approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, single or consecutive applications may be made using seed, in-furrow, or foliar treatments unless otherwise excluded by product labels. Do not exceed the maximum amount of this insecticide's mode of action allowed per growing season.

- Following a treatment window of Group 30 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides.
- A treatment window rotation along with other Integrated Pest Management (IPM) practices for the crop and use area are considered an effective strategy for preventing or delaying a pest's ability to develop resistance to this class of chemistry.
- If resistance is suspected, do not reapply A22725 ST or other Group 30 insecticides.

Other Insect Resistance Management (IRM) Practices

- Incorporate IPM techniques into your insect control program.
- Monitor treated insect populations for loss of field efficacy.
- Use tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

Other Sources of Information on Insect Resistance Management

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

Important: Re-circulate A22725 ST thoroughly before using.

This product must be applied with commercial seed-treating equipment with closed transfer and application systems. Use is permitted in commercial seed treatment facilities and as an end-use seed treatment on agricultural establishments before planting. DO NOT use for at-plant applications (e.g., hopper box, planter box). This product is to be used in liquid or slurry treaters only. Follow the manufacturer's application instructions for the seed treatment equipment being used.

Apply A22725 ST as a water-based slurry through standard liquid-type seed treatment equipment that provides uniform seed coverage. Seed treaters with atomizers or spinning discs are highly recommended for better product coverage on the seed. Uneven or incomplete seed coverage may not give the desired level of insect control. Thoroughly mix the specified amount of A22725 ST into the required amount of water or liquid inoculant for the slurry treater and dilution rate to be used.

Certain crops require addition of inoculants when the seed is treated or planted. A22725 ST is compatible with several liquid inoculant products. Consult the maker of the inoculant product and a Syngenta representative for directions before applying A22725 ST with inoculants.

The total application volume must be sufficient to provide desired level of coverage. Dilution is typically done with water or liquid inoculants.

Continuous agitation or mixing of the slurry mixture is necessary to prevent settling out of the solution. Clean out any unused product from the treater after treating or maintain constant agitation if the leftover slurry will be maintained overnight.

Seed treated with this product must be visually identifiable from untreated seed by the use of an approved colorant or dye to prevent accidental use of treated seed as food for humans or feed for animals. Refer to 21 CFR, Part 2.25. Any colorant or dye added to treated seed must be cleared for use in accordance with 40 CFR, Part 153.155(c).

Allow seed to dry before bagging.

The use of seed-flow lubricants or polymer coatings may help decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed-flow lubricants. Seed must be completely dry before adding to planter.

4.1 Use of On-Farm Treated Seed (when treated seed are not for sale or distribution)

- Treated seed sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12.
- Store treated seed away from food and feedstuffs. Do not allow children, pets, or livestock to have access to treated seed.
- Treated seed are for planting purposes only. Do not use for food, feed, or oil purposes. Do not use treated seed for fuel or ethanol production purposes.
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting. Additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on the soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 pound or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
- Excess treated seed may be returned to the supplier if permitted by the state.

4.2 Seed Treatment in Commercial Facilities or Seed Treatment On Farm (when treated seed are to be sold or distributed) – Seed Bag Labeling Requirements

The Federal Seed Act requires that bags containing treated seed shall be labeled with the following statements:

- This seed has been treated with isocycloseram insecticide.
- **DO NOT** use for food, feed, or oil purposes.

The U.S. Environmental Protection Agency requires that bags containing treated seed shall be labeled with the following statements. Any seed treated with A22725 ST that is sold or distributed without these statements or that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

- This seed has been treated with A22725 ST (EPA Reg. No. 100-1708) containing isocycloseram. Any seed treated with A22725 ST that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).
- The contents of this bag are for planting purposes only. **DO NOT** use for fuel or ethanol production purposes.
- Store treated seed away from food and feedstuffs.
- **DO NOT allow children, pets, or livestock to have access to treated seed.**
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.

4.3 Cleaning Seed-Treatment Equipment

All label-required PPE must be worn when cleaning seed treaters. The use of compressed air for cleaning seed-treating equipment and the area surrounding it is **not** permitted because of the increased potential for dermal or inhalation exposure to contaminated dust. Instead, use a central vacuum system or portable vacuum cleaner with a HEPA filter to clean up if scraping is used to remove dried residue from treaters.

Power/pressure washing of seed treaters is not prohibited but is not recommended because it increases the potential for worker exposure due to splashing and results in additional liquid requiring disposal. Instead, use one of these alternative wet methods of cleaning:

- Wet the walls of the treating drum with a solution of Simple Green® and water, but not to the point of drip or overflow. (Water alone is not as effective at cleaning the drum

as the solution.) Allow the solution to sit for 5-10 minutes, then wipe down the walls of the treater. Repeat if necessary.

- Add discarded seed or pebbles to the treater along with a solution of Simple Green and water. Run the mixture through the treater a few times until the drum is sufficiently clean.

4.4 Tank Mixtures

A22725 ST mixes easily with water and other water-based seed treatments manufactured by Syngenta and many other companies. When mixing with products from other manufacturers, test the compatibility prior to use by conducting a jar test: Mix all intended seed treatments with a proportional amount of water to achieve the desired slurry mixture in a clear glass container. Mix well and allow mixture to sit for one hour. Remix and observe for incompatibility.

Mixing A22725 ST with tank-mix partners: Add ½ of the required water to the mix tank and turn on the agitation. Mechanical agitation is preferred. If using wettable powders, add them first to clean water allowing them to completely disperse prior to adding A22725 ST or other products. Allow each tank-mix partner to completely disperse before adding the next product. Add the remaining amount of water and agitate. Maintain agitation until the entire slurry mixture has been used.

Canola: For additional protection from certain seed-borne and soil-borne pathogens, A22725 ST may be combined with seed treatment products containing pydiflumetofen, mefenoxam, difenoconazole, fludioxonil, and/or sedaxane. For insect protection, A22725 ST may be tank mixed with seed treatment products containing thiamethoxam.

Cereals, Small Grain: For additional protection from certain seed-borne and soil-borne pathogens, A22725 ST may be combined with seed treatment products containing pydiflumetofen, mefenoxam, difenoconazole, fludioxonil, thiabendazole and/or sedaxane. For insect protection, A22725 ST may be tank mixed with seed treatment products containing thiamethoxam.

Dried Shelled Pea and Bean (Except Soybean) Crop Subgroup 6C: For additional protection from certain seed-borne and soil-borne pathogens, A22725 ST may be combined with seed treatment products containing pydiflumetofen, mefenoxam, fludioxonil, thiabendazole and/or sedaxane. For insect protection, A22725 ST may be tank mixed with seed treatment products containing thiamethoxam.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

5.0 ROTATIONAL CROP RESTRICTIONS

In the event of a crop failure or harvest of a crop grown from seed treated with A22725 ST, the field may be replanted according to the following schedule:

Immediate Plantback
Brassica Head and Stem Vegetable Crop Group 5-16
Brassica Leafy Greens Crop Subgroup 4-16B, Except Watercress
Bulb Vegetable Crop Group 3-07
Canola
Cereals, Small Grain: Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, and Wheat
Corn: Field, Pop, and Seed
Cotton
Cucurbit Vegetables Crop Group 9
Dried Shelled Pea and Bean Crop Subgroup 6C
Fruiting Vegetables Crop Group 8-10
Leafy Greens Crop Subgroup 4-16A
Peanut
Potato
Rapeseed Crop Subgroup 20A
Soybean
Tuberous and Corm Vegetables Crop Subgroup 1C
120-day Plantback
All other crops

6.0 RESTRICTIONS

- Not for Use in Hawaii
- Store treated seed away from food and feedstuffs.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Wear long-sleeved shirt, long pants and chemical resistant gloves when handling treated seed. When loading and/or planting treated barley, rye, triticale, or wheat seeds, wear a minimum of a NIOSH-approved particulate-filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.
- For Cereals, Small Grain:
 - Treated seed must be planted into the soil at a minimum depth of 1 inch.
 - **DO NOT** exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed.
- For Dried Shelled Pea and Bean Crop Subgroup 6C:
 - Treated seed must be planted into the soil at a minimum depth of 1 inch.
 - **DO NOT** exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed.
- For Rapeseed (Including Canola) Crop Subgroup 20A (except Flax Seed, Mustard Seed, and Sesame Seed):
 - Treated seed must be planted into the soil at a minimum depth of ½ inch.
 - **DO NOT** exceed 0.033 lb ai/A/year (37 g ai/ha/year) of isocycloseram when planting treated seed.

7.0 SEED CONTAINER LABEL REQUIREMENTS

7.1 Seed Treatment in Commercial Facilities or Seed Treatment On Farm (when treated seed are to be sold or distributed) – Seed Bag Labeling Requirements

The Federal Seed Act requires that bags containing treated seed shall be labeled with the following statements:

- This seed has been treated with isocycloseram insecticide.
- **DO NOT** use for food, feed, or oil purposes.

The U.S. Environmental Protection Agency requires that bags containing treated seed shall be labeled with the following statements. Any seed treated with A22725 ST that is sold or distributed without these statements or that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

- This seed has been treated with A22725 ST (EPA Reg. No. 100-1708) containing isocycloseram. Any seed treated with A22725 ST that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).
- The contents of this bag are for planting purposes only. **DO NOT** use for fuel or ethanol production purposes.
- **Pollinator Precaution:** Isocycloseram is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Pollinators can be exposed to dust from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed-flow lubricants or polymer coatings may help decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed-flow lubricants.
- Store treated seed away from food and feedstuffs.
- **DO NOT allow children, pets, or livestock to have access to treated seed.**
- Wear long-sleeved shirt, long pants and chemical resistant gloves when handling treated seed. When loading and/or planting treated barley, rye, triticale, or wheat seeds, wear a minimum of a NIOSH-approved particulate-filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with

any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.

- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting, additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.
- For Cereals, Small Grain:
 - Treated seed must be planted into the soil at a minimum depth of 1 inch.
 - **DO NOT** exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed.
- For Dried Shelled Pea and Bean Crop Subgroup 6C:
 - Treated seed must be planted into the soil at a minimum depth of 1 inch.
 - **DO NOT** exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed.
- For Rapeseed (Including Canola) Crop Subgroup 20A (except Flax Seed, Mustard Seed, and Sesame Seed):
 - Treated seed must be planted into the soil at a minimum depth of ½ inch.
- **DO NOT** exceed 0.033 lb ai/A/year (37 g ai/ha/year) of isocycloseram when planting treated seed.
- **Endangered and Threatened Species Protection Requirements:** Before planting seed treated with this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of planting. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When planting seed treated with this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are planting seed treated with this product, including any restrictions on planting timing if applicable.
- In the event of crop failure or harvest of a crop grown from seed treated with A22725 ST, crops may be replanted according to the following schedule:

Immediate Plantback
Brassica Head and Stem Vegetable Crop Group 5-16
Brassica Leafy Greens Crop Subgroup 4-16B, Except Watercress
Bulb Vegetable Crop Group 3-07
Canola
Cereals, Small Grain: Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, and Wheat
Corn: Field, Pop, and Seed
Cotton
Cucurbit Vegetables Crop Group 9
Dried Shelled Pea and Bean Crop Subgroup 6C
Fruiting Vegetables Crop Group 8-10
Leafy Greens Crop Subgroup 4-16A
Peanut
Potato
Rapeseed Crop Subgroup 20A
Soybean
Tuberous and Corm Vegetables Crop Subgroup 1C
120-day Plantback
All other crops

8.0 CROP USE DIRECTIONS

8.1 Cereals, Small Grain

[Not Registered for Use by California]

CROPS	INSECTS CONTROLLED	USE RATE	
		fl oz/100 lb seed (lb ai/100 lb seed)	*mg ai/1000 seed
Cereals, Small Grain Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	Wireworm spp.	0.1 – 0.3 (0.0025 – 0.0075)	Wheat ¹ : 0.94-2.83 Barley ² : 0.94-2.83 Oats ³ : 0.69-2.07 Rye ⁴ : 0.73-2.18 Triticale ⁵ : 0.89-2.67
Forage, Fodder and Straw of Small Grain Cereals Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	White Grubs Including European Chafer	0.2 – 0.3 (0.0050 – 0.0075)	Wheat ¹ : 1.88-2.83 Barley ² : 1.88-2.83 Oats ³ : 1.38-2.07 Rye ⁴ : 1.46-2.18 Triticale ⁵ : 1.78-2.67
Cereals, Small Grain Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	White Grubs Including European Chafer	0.2 – 0.3 (0.0050 – 0.0075)	Wheat ¹ : 1.88-2.83 Barley ² : 1.88-2.83 Oats ³ : 1.38-2.07 Rye ⁴ : 1.46-2.18 Triticale ⁵ : 1.78-2.67
<p>*Based on an average seed weight of:</p> <ol style="list-style-type: none"> 1. 12,000 wheat grains/lb 2. 12,000 barley grains/lb 3. 16,400 oat grains/lb 4. 15,600 rye grains/lb 5. 12,750 triticale grains/lb 			
<p>Resistance Management:</p> <ul style="list-style-type: none"> Refer to Section 3.1. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> DO NOT exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed. 			

8.2 Dried Shelled Pea and Bean (Except Soybean) Crop Subgroup 6C

[Not Registered for Use by California]

CROPS	INSECTS CONTROLLED	USE RATE	
		fl oz/100 lb seed (lb ai/100 lb seed)	*mg ai/1000 seed
Chickpea (garbanzo bean) (<i>Cicer arietinum</i>)	Wireworm spp.		Chickpea ¹ : 8.72-34.89
Lentil (<i>Lens esculenta</i>)		0.1 – 0.4 (0.0025 – 0.01)	Field Pea ² : 4.93-19.72
Pea (<i>Pisum</i> spp.) (includes field pea)	Suppression only: Seedcorn maggot		Lentil ³ : 1.33-5.33
Bean (<i>Lupinus</i> spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin)			
Bean (<i>Phaseolus</i> spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean)			
Bean (<i>Vigna</i> spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean)	Wireworm spp. Suppression only: Seedcorn maggot	0.1 – 0.4 (0.0025 – 0.01)	Bean ⁴ : 9.07-36.29 Cowpea ⁵ : 3.54-14.17
Broad bean (dry) (fava bean) (<i>Vicia faba</i>)			
Guar (<i>Cyamopsis tetragonoloba</i>)			
Lablab bean (hyacinth bean) (<i>Lablab purpureus</i>)			
Pigeon pea (<i>Cajanus cajan</i>)			
*Based on an average seed weight of:			
<ol style="list-style-type: none"> 1. 900 chickpeas/lb 2. 1,930 field peas/lb 3. 10,600 lentils/lb 4. 1,250 dry beans/lb 5. 3,200 cowpeas/lb 			
Resistance Management:			
<ul style="list-style-type: none"> • Refer to Section 3.1. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> • DO NOT exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed. 			

8.3 Rapeseed (Including Canola) Crop Subgroup 20A (except Flax Seed, Mustard Seed, and Sesame Seed)

[Not Registered for Use by California]

CROPS	INSECT TARGETS	USE RATE		
		fl oz/100 lb seed (lb ai/100 lb seed)	mL/100 kg seed (g ai/100 kg seed)	mg ai/seed (based on 100,000 seeds/lb)
Rapeseed Canola Other Crops in Subgroup 20A: including borage, cuphea, crambe, echium, gold of pleasure, hare's ear mustard, lesquerella, lunaria, meadowfoam, milkweed, oil radish, poppy seed, and cultivars and hybrids of the above crops	Flea Beetle ¹ (suppression) Cutworms	7.7 (0.2)	500 (200)	0.009
¹Tank Mix: When using A22725 ST for flea beetle protection on Canola, A22725 ST should be tank-mixed with Helix Vibrance or another insecticide-containing seed treatment with flea beetle activity that is registered for use on Canola.				
Resistance Management:				
<ul style="list-style-type: none"> Refer to Section 3.1. 				
USE RESTRICTIONS				
<ul style="list-style-type: none"> DO NOT exceed 0.033 lb ai/A/year (37 g ai/ha/year) of isocycloseram when planting treated seed. Under high insect pressures, a foliar insecticide may be required. Therefore, monitor crops regularly for insect infestation levels. 				

9.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry, secure place. Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

10.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

Equento™, PLINAZOLIN®, the ALLIANCE FRAME, the SYNGENTA Logo, and the PURPOSE ICON are Trademarks of a Syngenta Group Company

Viton™ is a trademark of The Chemours Company FC, LLC
Simple Green® is a registered trademark of Sunshine Makers, Inc.

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A22725 ST XXXX NEW-G 0621-CL – ep – 05/06/2025
000100-XXXXXX.20210601G.A22725_ST_NEW_JUNE2021-CL.pdf

Exhibit H

[Master Label]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A22241 ST**[Alternate Brand Name: Equento™ 100FS]****INSECTICIDE**

A seed treatment product for protection against damage from certain insects of cereals (small grain) and dried shelled peas, beans, lentils, and chickpeas.

PLINAZOLIN® technology***Active Ingredient:**

Isocycloseram**	9.35%
Other Ingredients	90.65%
Total:	100.00%

*PLINAZOLIN technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A22241 ST is a flowable concentrate for seed treatment containing 0.83 lb isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN.

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)*

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX
EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only.)]

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1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
SYNGENTA HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

2.2 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Shoes
- Waterproof gloves

2.3 User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.4 Engineering Controls

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.5 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.6 Environmental Hazards

2.6.1 Pollinator Precautions

Isocycloseram is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds.

Pollinators can be exposed to dust from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops, and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed flow lubricants or polymer coatings may help decrease the amount of dust released during planting. Follow the recommendations of the planter manufacturer regarding the use of seed flow lubricants.

2.6.2 Non-Target Organism Advisory

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Do not contaminate water when disposing of equipment washwaters.

2.6.3 Endangered and Threatened Species Protection Requirements

Before planting seed treated with this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of planting. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When planting seed treated with this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are planting seed treated with this product, including any restrictions on planting timing if applicable.

2.7 Physical or Chemical Hazards

Do not mix or allow contact with oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

This product must be applied with commercial seed-treating equipment with closed transfer and application systems. Use is permitted in commercial seed treatment facilities and as an end-use seed treatment on agricultural establishments before planting. **DO NOT** use for at-plant applications (e.g., hopper box, planter box). This product is to be used in liquid or slurry treaters only.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes and socks
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils or VitonTM \geq 14 mils

Treatment of highly mechanically scarred or damaged seed or seed known to be of low vigor and poor quality may result in reduced germination and/or reduction of seed and seedling vigor. Treat a quantity of seed using equipment similar to that planned for treating the total seed lot. Then conduct germination tests with a portion of this treated seed before committing the total seed lot to a selected seed treatment.

Due to seed quality, crop or variety sensitivity, and seed storage conditions beyond the control of Syngenta, no claims are made to guarantee the germination of seed or propagating material for all crop seed when treated with A22241 ST.

3.0 PRODUCT INFORMATION

A22241 ST is a seed treatment product containing the active ingredient isocycloseram (insecticide). A22241 ST protects cereals and dried shelled peas and beans against early-season damage from wireworms.

3.1 Resistance Management

Some insects are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label. Consult your local or state agricultural authorities for details.

A22241 ST contains a Group 30 insecticide. Insect biotypes with acquired or inherent resistance to Group 30 insecticides may eventually dominate the insect population if Group 30 insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by A22241 ST and other Group 30 insecticides.

Isocycloseram binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is a GABA-gated chloride channel allosteric modulator.

If resistance to this product develops in your area, this product or other products with similar modes of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

Maintaining Susceptibility to This Class of Chemistry

- Use products at their full, recommended doses.
- Use appropriate, well-maintained equipment. Use recommended water volumes and apply at optimal temperatures in order to obtain optimal treatment.
- When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.
- Avoid using Group 30 insecticides exclusively for season-long control of insect species with more than one generation per crop season.

- For insect species with successive or overlapping generations, use a treatment window approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, single or consecutive applications may be made using seed, in-furrow, or foliar treatments unless otherwise excluded by product labels. Do not exceed the maximum amount of this insecticide's mode of action allowed per growing season.
- Following a treatment window of Group 30 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides.
- A treatment window rotation along with other Integrated Pest Management (IPM) practices for the crop and use area are considered an effective strategy for preventing or delaying a pest's ability to develop resistance to this class of chemistry.
- If resistance is suspected, do not reapply A22241 ST or other Group 30 insecticides.

Other Insect Resistance Management (IRM) Practices

- Incorporate IPM techniques into your insect control program.
- Monitor treated insect populations for loss of field efficacy.
- Use tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

Other Sources of Information on Insect Resistance Management

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

Important: Re-circulate A22241 ST thoroughly before using.

This product must be applied with commercial seed-treating equipment with closed transfer and application systems. Use is permitted in commercial seed treatment facilities and as an end-use seed treatment on agricultural establishments before planting. DO NOT use for at-plant applications (e.g., hopper box, planter box). This product is to be used in liquid or slurry treaters only. Follow the manufacturer's application instructions for the seed treatment equipment being used.

Apply A22241 ST as a water-based slurry through standard liquid-type seed treatment equipment that provides uniform seed coverage. Seed treaters with atomizers or spinning discs are highly recommended for better product coverage on the seed. Uneven or incomplete seed coverage may not give the desired level of insect control. Thoroughly mix the specified amount of A22241 ST into the required amount of water or liquid inoculant for the slurry treater and dilution rate to be used.

Certain crops require addition of inoculants when the seed is treated or planted. A22241 ST is compatible with several liquid inoculant products. Consult the maker of the inoculant product and a Syngenta representative for directions before applying A22241 ST with inoculants.

The total application volume must be sufficient to provide desired level of coverage. Dilution is typically done with water or liquid inoculants.

Continuous agitation or mixing of the slurry mixture is necessary to prevent settling out of the solution. Clean out any unused product from the treater after treating or maintain constant agitation if the leftover slurry will be maintained overnight.

Seed treated with this product must be visually identifiable from untreated seed by the use of an approved colorant or dye to prevent accidental use of treated seed as food for humans or feed for animals. Refer to 21 CFR, Part 2.25. Any colorant or dye added to treated seed must be cleared for use in accordance with 40 CFR, Part 153.155(c).

Allow seed to dry before bagging.

The use of seed-flow lubricants or polymer coatings may help decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed-flow lubricants. Seed must be completely dry before adding to planter.

4.1 Use of On-Farm Treated Seed (when treated seed are not for sale or distribution)

Treated seed sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12.

- Store treated seed away from food and feedstuffs. Do not allow children, pets, or livestock to have access to treated seeds.
- Treated seed are for planting purposes only. Do not use for food, feed, or oil purposes. Do not use treated seed for fuel or ethanol production purposes.
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seed are thoroughly incorporated by the planter during planting. Additional incorporation may be required to thoroughly cover exposed seed.
- Treated seed exposed on the soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 pound or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
- Excess treated seed may be returned to the supplier if permitted by the state.

- Do not contaminate bodies of water when disposing of equipment wash water.

4.2 Seed Treatment in Commercial Facilities or Seed Treatment On Farm (when treated seed are to be sold or distributed) – Seed Bag Labeling Requirements

The Federal Seed Act requires that bags containing treated seed shall be labeled with the following statements:

- This seed has been treated with isocycloseram insecticide.
- **DO NOT** use for food, feed, or oil purposes.

The U.S. Environmental Protection Agency requires that bags containing treated seed shall be labeled with the following statements. Any seed treated with A22241 ST that is sold or distributed without these statements or that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

- This seed has been treated with A22241 ST (EPA Reg. No. 100-1705) containing isocycloseram. Any seed treated with A22241 ST that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).
- The contents of this bag are for planting purposes only. **DO NOT** use for fuel or ethanol production purposes.
- Store treated seed away from food and feedstuffs.
- **DO NOT allow children, pets, or livestock to have access to treated seed.**
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.

4.3 Cleaning Seed-Treatment Equipment

All label-required PPE must be worn when cleaning seed-treating equipment. The use of compressed air for cleaning seed-treating equipment and the area surrounding it is **not permitted** due to the increased potential for dermal or inhalation exposure to contaminated dust. Instead, use a central vacuum system or portable vacuum cleaner with a HEPA filter to clean up if scraping is used to remove dried residue from treaters.

Power/pressure washing of seed treaters is not prohibited but is **not recommended** because it increases the potential for worker exposure due to splashing and results in additional liquid requiring disposal. Instead, use one of these alternative wet methods of cleaning:

- Wet the walls of the treating drum with a solution of Simple Green® All-Purpose Cleaner and water, but not to the point of drip or overflow. (Water alone is not as effective at cleaning the drum as the solution.) Allow the solution to sit for 5-10 minutes, then wipe down the walls of the treater. Repeat if necessary.
- Add discarded seed or pebbles to the treater along with a solution of Simple Green All-Purpose Cleaner and water. Run the mixture through the treater a few times until the drum is sufficiently clean.

4.4 Tank Mixtures

A22241 ST mixes easily with water and other water-based seed treatments manufactured by Syngenta and many other companies. When mixing with products from other manufacturers, test the compatibility prior to use by conducting a jar test: Mix all intended seed treatments with a proportional amount of water to achieve the desired slurry mixture in a clear glass container. Mix well and allow mixture to sit for one hour. Remix and observe for incompatibility.

Mixing A22241 ST with tank-mix partners: Add ½ of the required water to the mix tank and turn on the agitation. Mechanical agitation is preferred. If using wettable powders, add them first to clean water allowing them to completely disperse prior to adding A22241 ST or other products. Allow each tank-mix partner to completely disperse before adding the next product. Add the remaining amount of water and agitate. Maintain agitation until the entire slurry mixture has been used.

Cereals, Small Grain: For additional protection from certain seed-borne and soil-borne pathogens, A22241 ST may be combined with seed treatment products containing pydiflumetofen, mefenoxam, difenoconazole, fludioxonil, thiabendazole and/or sedaxane. For insect protection, A22241 ST may be tank mixed with seed treatment products containing thiamethoxam.

Dried Shelled Pea and Bean (Except Soybean) Crop Subgroup 6C: For additional protection from certain seed-borne and soil-borne pathogens, A22241 ST may be combined with seed treatment products containing pydiflumetofen, mefenoxam, fludioxonil, thiabendazole and/or sedaxane. For insect protection, A22241 ST may be tank mixed with seed treatment products containing thiamethoxam.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

5.0 ROTATIONAL CROP RESTRICTIONS

In the event of a crop failure or harvest of a crop grown from seed treated with A22241 ST, the field may be replanted according to the following schedule:

Immediate Plantback
Brassica Head and Stem Vegetable Crop Group 5-16
Brassica Leafy Greens Crop Subgroup 4-16B, Except Watercress
Bulb Vegetable Crop Group 3-07
Canola
Cereals, Small Grain: Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, and Wheat
Corn: Field, Pop, and Seed
Cotton
Cucurbit Vegetables Crop Group 9
Dried Shelled Pea and Bean Crop Subgroup 6C
Fruiting Vegetables Crop Group 8-10
Leafy Greens Crop Subgroup 4-16A
Peanut
Potato
Rapeseed Crop Subgroup 20A
Soybean
Tuberous and Corm Vegetables Crop Subgroup 1C
120-day Plantback
All other crops

6.0 RESTRICTIONS

- Not for Use in Hawaii
- Store treated seed away from food and feedstuffs.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Wear long-sleeved shirt, long pants and chemical resistant gloves when handling treated seed. When loading and/or planting treated barley, rye, triticale, or wheat seeds, wear a minimum of a NIOSH-approved particulate-filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.
- Treated seed must be planted into the soil at a minimum depth of 1 inch.
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.
- For Cereals, Small Grain: **DO NOT** exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed.
- For Dried Shelled Pea and Bean Crop Subgroup 6C: **DO NOT** exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed.

7.0 SEED CONTAINER LABEL REQUIREMENTS

7.1 Seed Treatment in Commercial Facilities or Seed Treatment On Farm (when treated seed are to be sold or distributed) – Seed Bag Labeling Requirements

The Federal Seed Act requires that bags containing treated seed shall be labeled with the following statements:

- This seed has been treated with isocycloseram insecticide.
- **DO NOT** use for food, feed, or oil purposes.

The U.S. Environmental Protection Agency requires that bags containing treated seed shall be labeled with the following statements. Any seed treated with A22241 ST that is sold or distributed without these statements or that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

- This seed has been treated with A22241 ST (EPA Reg. No. 100-1705) containing isocycloseram. Any seed treated with A22241 ST that is sold or distributed for a use not permitted by the following labeling does not qualify as an exempted treated article under 40 CFR 152.25(a) and is therefore sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).
- The contents of this bag are for planting purposes only. **DO NOT** use for fuel or ethanol production purposes.
- **Pollinator Precaution:** Isocycloseram is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Pollinators can be exposed to dust from treated seed when it is carried by air or when it is deposited onto flowering crops, flowering weeds, or water. **Avoid** planting treated seed in dry and windy conditions close to areas where pollinators may be active and **avoid** planting if pollinators are foraging downwind. **Control** nearby flowering weeds before planting to ensure pollinators are not attracted to the site. **Avoid** releasing dust that may have accumulated in bags and bulk seed containers during transport. **Aim** to keep any dust in the treated seed bag by not shaking the bags when filling the planting machines. Loading operations should occur at least 10 yards inside the field to be planted, **avoiding** proximity to apiaries/beehives, hedges, water sources of flowering crops and weeds. When using vacuum pneumatic sowing machines, the exhaust air should be re-directed to the soil and released close to the soil surface. Use of downward deflectors may decrease off-site movement of dust. The use of seed-flow lubricants or polymer coatings may help decrease the amount of dust released during planting. **Follow** the recommendations of the planter manufacturer regarding the use of seed-flow lubricants.
- Store treated seed away from food and feedstuffs.
- **DO NOT allow children, pets, or livestock to have access to treated seed.**
- Wear long-sleeved shirt, long pants and chemical resistant gloves when handling treated seed. When loading and/or planting treated barley, rye, triticale, or wheat seeds, wear a minimum of a NIOSH-approved particulate-filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with

any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.

- Treated seed must be planted into the soil at a minimum depth of 1 inch.
- Do not plant treated seed by broadcasting on the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Treated seed exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting, including in row ends.
- Manage excess treated seed (e.g., spilled, unused, or expired treated seed) by one or more of the following methods:
 - Collect excess treated seed for reuse for planting.
 - Bury excess treated seed (only allowed if totaling 1 lb or less) at least 30 feet away from bodies of water at a depth of 6 inches or double the planting depth, whichever is greater.
 - Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
 - Excess treated seed may be returned to the supplier if permitted by the state.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- Dispose of seed packaging in accordance with local requirements.
- **Endangered and Threatened Species Protection Requirements:** Before planting seed treated with this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of planting. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When planting seed treated with this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are planting seed treated with this product, including any restrictions on planting timing if applicable.
- In the event of crop failure or harvest of a crop grown from seed treated with A22241 ST, crops may be replanted according to the following schedule:

Immediate Plantback
Brassica Head and Stem Vegetable Crop Group 5-16
Brassica Leafy Greens Crop Subgroup 4-16B, Except Watercress
Bulb Vegetable Crop Group 3-07
Canola
Cereals, Small Grain: Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Tricale, and Wheat
Corn: Field, Pop, and Seed
Cotton
Cucurbit Vegetables Crop Group 9
Dried Shelled Pea and Bean Crop Subgroup 6C
Fruiting Vegetables Crop Group 8-10
Leafy Greens Crop Subgroup 4-16A

Peanut
Potato
Rapeseed Crop Subgroup 20A
Soybean
Tuberous and Corm Vegetables Crop Subgroup 1C
120-day Plantback
All other crops

- For Cereals, Small Grain: **DO NOT** exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed.
- For Dried Shelled Pea and Bean Crop Subgroup 6C: **DO NOT** exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed.

8.0 CROP USE DIRECTIONS

8.1 Cereals, Small Grain

[Not Registered for Use by California]

CROPS	INSECTS CONTROLLED	USE RATE	
		fl oz/100 lb seed (lb ai/100 lb seed)	*mg ai/1000 seed
Cereals, Small Grain Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	Wireworm spp.	0.38 – 1.15 (0.0025 – 0.0075)	Wheat ¹ : 0.94-2.83 Barley ² : 0.94-2.83 Oats ³ : 0.69-2.07 Rye ⁴ : 0.73-2.18 Triticale ⁵ : 0.89-2.67
Forage, Fodder and Straw of Small Grain Cereals Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	Wireworm spp.	0.38 – 1.15 (0.0025 – 0.0075)	Wheat ¹ : 0.94-2.83 Barley ² : 0.94-2.83 Oats ³ : 0.69-2.07 Rye ⁴ : 0.73-2.18 Triticale ⁵ : 0.89-2.67
Cereals, Small Grain Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	White Grubs Including European Chafer	0.76 – 1.15 (0.0050 – 0.0075)	Wheat ¹ : 1.88-2.83 Barley ² : 1.88-2.83 Oats ³ : 1.38-2.07 Rye ⁴ : 1.46-2.18 Triticale ⁵ : 1.78-2.67
Forage, Fodder and Straw of Small Grain Cereals Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Teosinte, Triticale, Wheat	White Grubs Including European Chafer	0.76 – 1.15 (0.0050 – 0.0075)	Wheat ¹ : 1.88-2.83 Barley ² : 1.88-2.83 Oats ³ : 1.38-2.07 Rye ⁴ : 1.46-2.18 Triticale ⁵ : 1.78-2.67
*Based on an average seed weight of:			
<ol style="list-style-type: none"> 1. 12,000 wheat grains/lb 2. 12,000 barley grains/lb 3. 16,400 oat grains/lb 4. 15,600 rye grains/lb 5. 12,750 triticale grains/lb 			
Resistance Management: <ul style="list-style-type: none"> • Refer to Section 3.1. 			
USE RESTRICTIONS			
DO NOT exceed 0.019 lb ai/A/year (22 g ai/ha/year) of isocycloseram when planting treated seed.			

8.2 Dried Shelled Pea and Bean (Except Soybean) Crop Subgroup 6C

[Not Registered for Use by California]

CROPS	INSECTS CONTROLLED	USE RATE	
		fl oz/100 lb seed (lb ai/100 lb seed)	*mg ai/1000 seed
Chickpea (garbanzo bean) (<i>Cicer arietinum</i>)	Wireworm spp.		Chickpea ¹ : 8.72-34.89
Lentil (<i>Lens esculenta</i>)	<i>Suppression only</i> : Seedcorn maggot	0.38 – 1.53 (0.0025 – 0.01)	Field Pea ² : 4.93-19.72
Pea (<i>Pisum spp.</i>) (includes field pea)			Lentil ³ : 1.33-5.33
Bean (<i>Lupinus spp.</i>) (includes grain lupin, sweet lupin, white lupin and white sweet lupin)			
Bean (<i>Phaseolus spp.</i>) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean)			
Bean (<i>Vigna spp.</i>) (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean)	Wireworm spp. <i>Suppression only</i> : Seedcorn maggot	0.38 – 1.53 (0.0025 – 0.01)	Dry Bean ⁴ : 9.07-36.29 Cowpea ⁵ : 3.54-14.17
Broad bean (dry) (fava bean) (<i>Vicia faba</i>)			
Guar (<i>Cyamopsis tetragonoloba</i>)			
Lablab bean (hyacinth bean) (<i>Lablab purpureus</i>)			
Pigeon pea (<i>Cajanus cajan</i>)			
*Based on an average seed weight of:			
1. 900 chickpeas/lb 2. 1,930 field peas/lb 3. 10,600 lentils/lb 4. 1,250 dry beans/lb 5. 3,200 cowpeas/lb			
Resistance Management: • Refer to Section 3.1.			
USE RESTRICTIONS			
DO NOT exceed 0.067 lb ai/A/year (75 g ai/ha/year) of isocycloseram when planting treated seed.			

9.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry, secure place. Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

10.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

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Viton™ is a trademark of The Chemours Company FC, LLC Simple Green® is a registered trademark of Sunshine Makers, Inc.

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A22241 ST XXXX NEW-G 0621-CL – ep – 05/06/2025
000100-XXXXXX.20210601G.A22241_ST_NEW_JUNE2021-CL.pdf

Exhibit I

[MASTER LABEL]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A22128 Cockroach Gel Bait**[Alternate Brand Name: Vanecto® Cockroach Gel Bait]****INSECTICIDE****For use in Commercial, Industrial, Institutional, Agricultural, and Residential Areas.****PLINAZOLIN® technology*****Active Ingredients:**

Isocycloseram**	1.0%
Other Ingredients:	99.0%
Total:	100.0%

PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram**CAS No. 2061933-85-3*

[A22128 Cockroach Gel Bait is a ready-to-use bait that contains 0.01 lb isocycloseram per pound of product.]

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX
EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only)]

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1.0 FIRST AID

FIRST AID

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

HOTLINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident)

Call

1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

2.2 User Safety Recommendations

User Safety Recommendations

Users should:

- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

2.3 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Read entire label before using this product. Syngenta will not be responsible for losses or damages resulting from use of this product in any manner not specifically stated on this label or other labels or bulletins published by Syngenta. User assumes all risks associated with such non-specified use.

3.0 PRODUCT INFORMATION

A22128 Cockroach Gel Bait controls cockroaches indoors and outdoors, including German [Asian, Surinam,] and American roaches. [A22128 Cockroach Gel Bait is also effective on glucose-averse German cockroaches indoors].

A22128 Cockroach Gel Bait can be applied indoors or outdoors as a crack-and-crevice, spot, or void treatment in and around residential homes, industrial facilities, offices, warehouses, commercial kitchens, supermarkets, hospitals, schools, nursing homes, hotels/motels, buses, trains, aircraft, retail and commercial establishments, agricultural facilities, sewers, and other areas infested with cockroaches.

This product may be used in conjunction with non-repellent, residual insecticides and granular baits such as those containing indoxacarb (e.g., [**Advion® WDG**,] [**Advion Microflow Insect Bait**,] [**Advion Total Insect Bait**,] and [**Advion Insect Granular Bait**]) and thiamethoxam (e.g., [**Optigard® Flex liquid**]), or similar products.

For best management practices, use bait as part of an overall Integrated Pest Management (IPM) program including use of non-repellent residual products and complementary insecticide baits.

3.1 Resistance Management

For resistance management, A22128 Cockroach Gel Bait contains a Group 30 insecticide. Any insect population may contain individuals naturally resistant to A22128 Cockroach Gel Bait and other Group 30 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same treated areas. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of A22128 Cockroach Gel Bait with different groups that control the same pests.
- Contact your local Syngenta representative, retailer, or extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Syngenta at 1-866-SYNGENT(A) (866-796-4368).

Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

3.2 Food-Handling Establishments

Food/Feed-handling establishments are places other than private residences in which food is held, processed, prepared, or served.

3.2.1 Applications in Non-Food Areas

A22128 Cockroach Gel Bait is designed for use as a crack-and-crevice, spot, and/or void treatment to control cockroaches in residential structures and the non-food/non-feed areas of commercial, industrial, public and institutional buildings/structures, including restaurants, warehouses, food processing plants, supermarkets, hospitals, nursing homes, motels, hotels, schools, laboratories, computer facilities, aircraft, buses, boats/ships, trains, pet shops, and zoos.

Non-food/non-feed areas include areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets, and storage (after bottling or canning). Refer to section below for use directions and restrictions when making applications in food/feed handling areas of Food/Feed-Handling Establishments.

3.2.2 Applications in Food Areas

Application to food/feed areas of food/feed handling establishments may be made as a crack-and-crevice and/or void treatment only. Apply A22128 Cockroach Gel Bait in or along cracks and crevices and into voids where cockroaches are found, are entering, or are likely to harbor.

Food and feed handling areas include areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing edible waste storage, and enclosed processing systems (mills, dairies, edible oils, syrups). Serving areas are also considered a food/feed area at the time when food is uncovered, and the facility is in operation.

3.2.3 Specific Restrictions for Food/Feed-Handling Establishments

- **DO NOT** apply to areas or surfaces where food/feed, food utensils or food-processing surfaces may come into contact and become contaminated.
 - If A22128 Cockroach Gel Bait contacts an exposed surface, first remove the gel bait, then wash surface with soap and water.
- **DO NOT** apply to surfaces that are routinely washed, such as cracks and crevices in tops of tables, tops of food/feed preparation surfaces and holding surfaces for prepared foods.
- **DO NOT** apply A22128 Cockroach Gel Bait to surfaces where the temperature exceeds 120-130°F because this could cause the bait to liquefy.
 - Examples include, but are not limited to, parts of stoves, ovens, grills, fume hoods, saunas, heat lamps, coffee urns, steam tables, toasters, fryers, dishwashers, and hot water pipes.

3.3 Application in Livestock/Poultry/Companion Animal Housing

- Apply A22128 Cockroach Gel Bait as a spot, crack-and-crevice and/or void space treatment to control cockroaches inhabiting animal rearing or holding facilities.
- Apply bait in and around locations of the structure beyond the reach of animals.
- Inspect A22128 Cockroach Gel Bait placements periodically for consumption or attractiveness and re-apply as needed. In facilities where cockroach populations are large, it is important to replenish bait as needed.
- Placements of bait that become covered in dust may need to be replaced to maintain effectiveness.
- See Section 4 and Section 6 for details on how much bait to use and where to apply.

3.3.1 Specific Restrictions for Livestock/Poultry/Companion Animal Housing

- **DO NOT** place bait within the reach of animals.
- **DO NOT** apply bait to any animal feedstuffs, water, or watering equipment.
- **DO NOT** contaminate any animal food, feed, or water in and around livestock, poultry, or companion animal housing when making applications.

4.0 APPLICATION DIRECTIONS

Apply A22128 Cockroach Gel Bait as a crack-and-crevice, spot, and/or void application to areas frequented by cockroaches such as between different elements of construction, between equipment and floors, openings leading into voids and hollow spaces in floors, walls, ceilings, and equipment legs and bases, around plumbing pipes, doors and windows, and behind and under appliances, cabinets and sinks, in closets, and in any other locations where cockroaches are typically known to hide.

4.1 How to Apply A22128 Cockroach Gel Bait

Apply A22128 Cockroach Gel Bait as either spots or a small, thin bead.

- Each bait spot is approximately 1/4 inch in diameter and approximately equal to 0.5 grams of product. Multiple, smaller spots may be used and are generally more effective.
- Each bead is approximately 1/8 inch wide and approximately 2 inches long, and approximately equal to 1-2 grams of product.

Apply the amount of A22128 Cockroach Gel Bait based on the estimated size of the cockroach infestation.

- For **light to moderate infestations**, apply approximately 10-30 spots or 5-15 beads of A22128 Cockroach Gel Bait per 100 sq ft of treated area.
- For **heavy infestations** or for larger cockroach species, apply approximately 30-40 spots or 15-20 beads of A22128 Cockroach Gel Bait per 100 sq ft of treated area.
- Re-apply as needed.

4.1.1 Indoor Use

- Inspect infested areas to determine overall infestation levels, locations of harborage areas, and the most appropriate application points.
- Several small spot or bead applications distributed within an area are often more effective than 1 or 2 applications of large quantities. In some cases, a bead may be appropriate such as along or between construction elements or other cracks and crevices.
- Make applications into and along cracks and crevices or into voids where cockroaches may find harborage such as along walls or floors, behind or under equipment, under tables, within framing of tables or furniture, around sinks, within or near garbage collection areas, attics, crawl spaces, and cracks and crevices in cabinets.
- This product may be applied after or prior to non-repellent insecticide applications in the same area.

- Inspect A22128 Cockroach Gel Bait placements periodically for consumption or attractiveness and re-apply as needed.
- [For applications under appliances, voids or in other hard-to-reach areas, application using wax paper or cardboard as a substrate may improve the convenience of application and inspection of bait placements. This method consists of cutting wax paper or cardboard into approximately 2-3" x 2-3" squares, folding into a triangle and applying the bait into the fold of the wax paper or cardboard triangle. The wax paper or cardboard square with bait can be placed under appliances or in other hard-to-reach areas. Inspect wax paper or cardboard placements periodically and replenish as needed.]
- [For applications to vertical surfaces such as walls and sides of appliances, masking/painter's tape may be used. Put the tape on first and then apply the bait to the tape surface. When it is time to replace the bait, simply peel the tape away and repeat with new tape and fresh bait.]

4.1.2 Outdoor Use

- A22128 Cockroach Gel Bait may also be applied as a spot or thin bead to pest entry sites such as along windows, doors, walls, and between construction elements; drains leading to sewers; adjacent trees that can harbor cockroaches; garbage holding areas; or other placement sites where cockroaches harbor.
- Inspect A22128 Cockroach Gel Bait placements periodically for consumption or attractiveness and re-apply as needed.

5.0 USE RESTRICTIONS AND PRECAUTIONS

5.1 Use Restrictions

For outdoor applications:

- **DO NOT** apply more than 40 spots (20 grams of product) per 100 sq ft per treatment (**DO NOT** apply more than 0.19 lb ai/ A).

For indoor and outdoor applications:

- **DO NOT** make more than 12 applications per individual 100 sq ft treatment area per year.
- Consult Section 3.1 for Resistance Management precautions.
- **DO NOT** treat areas that are easily accessible to children and pets.
- **DO NOT** apply to food preparation surfaces.
- **DO NOT** allow open foods to contact the bait.

5.2 Use Precautions

- Avoid applying A22128 Cockroach Gel Bait to surfaces recently treated with repellent residual sprays.

- Avoid direct application of repellent residual sprays to placements of A22128 Cockroach Gel Bait.

6.0 PEST CONTROL USE DIRECTIONS

6.1 Cockroaches

Target Pest		
Controls Cockroaches, including:		
Application Rate	Location	Use Directions
German Cockroach American Cockroach [Asian Cockroach] [Australian Cockroach] [Brown Cockroach]		[Brown-banded Cockroach] [Surinam Cockroach] [Turkestan Cockroach]
Use sufficient bait to control the cockroach population and re-apply as needed to maintain control. Apply bait in small spots (about 1/4 inch in diameter = approximately 0.5 grams) or in a thin continuous bead approximately 1/8 inch wide and 2 inches long (= approximately 1-2 grams). For light to moderate infestations: 10-30 spots per 100 sq ft 5-15 beads per 100 sq ft For heavy infestations or for larger cockroach species: 30-40 spots per 100 sq ft 15-20 beads per 100 sq ft	Indoors Outdoors	Target areas of cockroach infestation or areas known or suspected to be cockroach harborage sites. Direct applications can be made to areas including, but not limited to, pest entry sites, attics, wall voids, behind cabinets or equipment, under counters or under/behind appliances, and along baseboards. Apply as a spot or crack-and-crevice treatment to exterior structural elements. Also treat outdoor breeding sites, such as refuse collection areas, loading docks, adjacent tree holes, crawl spaces, or other sources of cockroach infestations. Apply A22128 Cockroach Gel Bait in harborage areas around the structure or where pests are likely to enter or rest, such as utility entry points, weep holes, eaves of structures, around windows or doors, or around lights.
		For use in Livestock/Poultry/Companion Animal Housing, refer to Section 3.3.
USE RESTRICTIONS		
<ul style="list-style-type: none"> • DO NOT apply more than 0.19 lb ai/ A. • DO NOT make more than 12 applications per individual 100 sq ft treatment area per year. • DO NOT treat areas that are easily accessible to children or pets. • Refer to Section 5.1 for additional product use restrictions. 		

7.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

Pesticide Storage

Store in cool, dry place inaccessible to children and pets.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Disposal

Nonrefillable Container: Do not reuse or refill this container. Offer for recycling if available. Place empty bait dispensers in trash. If partially filled, wrap in newspaper and discard in trash or call your local solid waste authority for disposal instructions.

8.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Syngenta Crop Protection, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold Syngenta and Seller harmless for any claims relating to such factors.

Syngenta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or Syngenta, and (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, **SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall Syngenta be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

Vanecto®, Advion®, Optigard®, PLINAZOLIN®, The ALLIANCE FRAME
the SYNGENTA Logo and the PURPOSE ICON
are Trademarks of a Syngenta Group Company

©20XX Syngenta

For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

[OPTIONAL MARKETING CLAIMS:

- Effective on bait averse and non-averse German cockroaches
- See visible results overnight
- Controls large roaches such as American cockroach
- Controls German cockroaches directly (through feeding) and indirectly (through secondary kill processes such as necrophagy)]

A22128 Cockroach Gel Bait XXXX NEW-H 0621-CL-jab-5/2/25
000100-0XXXX.20210622H.A22128-CockroachGelBait-NEW-0621-CL.pdf

Exhibit J

[Master Label]

[Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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A21377 CP

[Alternate Brand Name: Incipio®]

INSECTICIDE

For control of mites, thrips, true bugs, lepidopterous pests, and other insects in Brassica Head and Stem Vegetables, Crop Group 5-16; Brassica Leafy Greens, Crop Subgroup 4-16B (except watercress); Bulb Vegetable Group, Crop Group 3-07; Citrus Fruit, Crop Group 10-10; Cotton, Crop Subgroup 20C; Cucurbit Vegetables, Crop Group 9; Fruiting Vegetables, Crop Group 8-10; Leafy Greens, Crop Subgroup 4-16A; Peanut; Pome Fruit, Crop Group 11-10; Soybean; Stone Fruit, Crop Group 12-12; Tree Nuts, Crop Group 14-12; Tuberous and Corm Vegetables, Crop Subgroup 1C

PLINAZOLIN® technology*

Active Ingredient:

Isocycloseram**	18.3%
Other Ingredients:	81.7%
Total:	100.0%

*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

A21377 CP is formulated as a suspension concentrate and contains 1.67 lb of isocycloseram per gallon.

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX
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8.0 STORAGE AND DISPOSAL

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

10.0 [APPENDIX

- 10.1 A21377 CP Use Summary Table]

1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
SYNGENTA HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks
- Shoes

2.2 User Safety Requirements

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.4 User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.5 Environmental Hazards

For terrestrial uses: Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

2.5.1 MANDATORY RUNOFF/EROSION MITIGATION

- **DO NOT** apply isocycloseram when soils are saturated or above field capacity.
- **DO NOT** apply isocycloseram during rain.
- A minimum of **TWO** points, for the crop uses listed on this label, must be achieved unless following the Mitigation Menu steps indicates no additional runoff/erosion mitigation is needed (see <https://www.epa.gov/pesticides/mitigation-menu>).
- Some crop uses listed in this label will require a total of **FOUR** to **SIX** points in specific Pesticide Use Limitation Areas.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin.

If the application site is located outside a PULA, runoff/erosion mitigation is required for this product unless certain field/application parameters are present at the time of application (i.e., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, spot treatment, etc.).

Applicators must access the Mitigation Menu and follow the steps to determine if the minimum number of points must be achieved for the application. Unless the farm/field does not require the minimum points, the applicator must choose among the mitigation and/or mitigation relief measures on EPA's Mitigation Menu Website to meet or exceed the points required before applying this product. The website includes the full menu of runoff/erosion mitigation and mitigation relief measures, such as following recommendations from a runoff/erosion specialist or participating in a qualifying conservation program (see the www.epa.gov/pesticides/mitigation-menu for minimum elements).

2.5.2 SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall or irrigation is expected. Do not make applications during rain and avoid making applications when rainfall is expected before the product has sufficient time to dry.

2.5.3 POLLINATOR PRECAUTIONS

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

The RT₂₅ (Residual Time to 25% mortality; the length of time over which field weathered foliar residues remain toxic to honey bees) for this product is ≤ 3 hours.

The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Developing and maintaining clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48 hours in advance of the application, and confirm hive locations before spraying.
- Using Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Using integrated pest management to prevent or mitigate potential negative effects to pollinators and considering multiple management options before resorting to a pesticide application.
- Mowing understory weeds or cover crops in orchards and vineyards can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leaving large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mowing at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.

2.5.4 NON-TARGET ORGANISM ADVISORY

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply when weather conditions favor drift from target areas.

2.5.5 ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable

Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

2.5.6 REPORTING ECOLOGICAL INCIDENTS

For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call 1-866-796-4368.

2.6 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

A21377 CP must be used only in accordance with instructions on this label, in a supplemental label or in state-specific 24(c) labeling. Always read the entire label including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY, POOR INSECT CONTROL AND/OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Socks
- Shoes
- Chemical-resistant gloves made of any waterproof material

3.0 PRODUCT INFORMATION

A21377 CP is a suspension concentrate that will control specified pests on the crops listed on this label when the product is applied as directed by this label. Thorough coverage of foliage is essential for good insect and mite control.

Mode of Action

Isocycloseram, the active ingredient in A21377 CP, binds to a site on the GABA receptor, resulting in a block of inhibitory neurotransmission, hyperexcitation, and death of target insects, and is classified by the Insecticide Resistance Action Committee (IRAC) as a Group 30 insecticide (GABA-gated chloride channel allosteric modulators).

Suppression

Suppression can mean either inconsistent control (good to poor) or consistent control at a level below what is generally considered acceptable for commercial control.

Crop Tolerance

A21377 CP has been tested for phytotoxicity and has a wide margin of safety on a variety of crops; however, not all crops within a crop group, and not all varieties, cultivars, or hybrids of crops have been individually tested for crop safety. It is not possible to evaluate crop safety for all applications of A21377 CP on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator. For tank mix adjuvant safety, refer to **Section 4.4.5**.

3.1 Integrated Pest Management (IPM)

Syngenta supports the use of Integrated Pest Management (IPM) programs to manage pest populations. This product may be used as part of an IPM program, which can include genetic technologies and biological and cultural practices aimed at preventing economic pest damage. Integrated Pest Management principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treatment when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

3.2 Resistance Management

Some insect or mite pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects or mites on this label.

For resistance management, A21377 CP contains a Group 30 insecticide/miticide. Any insect or mite population may contain individuals that are inherently resistant to A21377 CP and other Group 30 insecticides/miticides. The resistant individuals may eventually dominate the insect or mite population if this group of insecticides/miticides is used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect or mite may be present. If you experience difficulty with control and resistance is a suspected cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

To delay insecticide/miticide resistance, take the following steps:

- Rotate the use of A21377 CP or other Group 30 insecticides/miticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/miticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides/miticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect/mite resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect/mite resistance management benefits of an insecticide/miticide mixture are greatest if the two components have similar periods of residual insecticidal/miticidal activity. Mixtures of insecticides/miticides with unequal periods of residual insecticide/miticide activity may offer an insect/mite resistance management benefit only for the period where both insecticides/miticides are active.
- Adopt an integrated pest management program for insecticide/miticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact your local Syngenta representative.

3.2.1 MAINTAINING SUSCEPTIBILITY TO THIS CLASS OF CHEMISTRY

- Avoid using Group 30 insecticides/miticides exclusively for season-long control of insect or mite species with more than one generation per crop season.
- For insect or mite species with successive or overlapping generations, apply A21377 CP or other Group 30 insecticides/miticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 30 insecticides/miticides. Do not exceed the maximum A21377 CP allowed per year.
- Following a treatment window of Group 30 insecticides/miticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides/miticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to this class of chemistry.
- If resistance is suspected, do not reapply A21377 CP or other Group 30 insecticides/miticides.

3.2.2 OTHER INSECT RESISTANCE MANAGEMENT (IRM) PRACTICES

- Incorporate IPM techniques into your insect or mite control program.
- Monitor treated insect or mite populations for loss of field efficacy.
- Use tank mixtures or premixes with insecticides/miticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

3.2.3 OTHER SOURCES FOR INFORMATION ON INSECT RESISTANCE MANAGEMENT

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Foliar applications of A21377 CP are permitted by ground or air [or chemigation] as specified in **Section 7.0**, unless otherwise restricted in **Section 6.1**.

4.2 Application Equipment

- A21377 CP may be applied by foliar ground application equipment (tractor mounted, backpack, handgun, air-blast) or aerial application equipment [or by chemigation equipment], except as otherwise directed in **Section 7.0** or **Section 6.1**.
- Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.
- Spray equipment configuration should be arranged to provide accurate, uniform and thorough coverage of the target crop and minimize potential for spray drift.
- To ensure accuracy, calibrate sprayer before each use.
- For information on spray equipment and calibration, consult spray equipment manufacturers and/or state recommendations.
- All [ground/aerial/chemigation] application equipment must be properly maintained and calibrated using appropriate carriers.

4.2.1 NOZZLES

- Use spray nozzles and pressure that deliver medium or coarser sized spray droplets (ASABE S572.1).
- In order to minimize the potential for spray drift select spray nozzles and pressure that provide the coarsest droplet size that will still provide good coverage for the target pest.

4.2.2 HOODED OR SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce the effects of wind.
- However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential and not interfering with uniform deposition of the product.

4.2.3 AIR-ASSISTED (AIR-BLAST) FIELD CROP SPRAYERS

- Air-assisted field crop sprayers carry droplets to the target via a downward-directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result.
- It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

4.3 Application Volume and Spray Coverage

See **Section 7.0** for additional application volume information.

- Thorough spray coverage is essential for good insect and mite control.
- Use sufficient water carrier to obtain thorough, uniform coverage.
- The highest labeled rate for a specified pest may be needed when aerial applications are made.

4.4 Mixing Directions

1. Thoroughly clean spray equipment before using this product.
2. Prepare no more spray mixture than is needed for the immediate operation.
3. Keep product container tightly closed when not in use.
4. Agitate the spray solution before and during application.
5. Do not let the spray mixture stand overnight in the spray tank.
6. Flush the spray equipment thoroughly with water following each use and apply the rinsate to a previously treated area.

4.4.1 A21377 CP ALONE

1. Fill clean spray tank $\frac{1}{2}$ - $\frac{2}{3}$ full of water.
2. Add A21377 CP directly to the spray tank.
3. Mix thoroughly to fully disperse the A21377 CP. Once dispersed, continuous agitation is required.
4. Use mechanical or hydraulic means; do not use air agitation.

4.4.2 TANK MIX PRECAUTIONS

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations, and directions for use on all product labels involved in tank mixing. User must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Tank mixes of A21377 CP with other pesticides, fertilizers, or any other additives not specifically labelled for use with A21377 CP may result in tank mix incompatibility or unsatisfactory performance. In such cases, always check tank mix compatibility by conducting a jar test according to guidance in **Section 4.4.3** before actual tank mixing.

4.4.3 TANK MIX COMPATIBILITY

The following test assumes a spray volume of 25 gal/A. For other spray volumes, make appropriate changes in the components. Perform tank mix compatibility test as follows:

- Add 1 pt of carrier (water) to each of two clear 1-qt jars with tight lids.
- To **one** of the jars, add $\frac{1}{4}$ tsp or 1.2 ml of a commercially available tank mix compatibility agent approved for this use ($\frac{1}{4}$ tsp is equivalent to 2 pt/100 gallons of spray solution). Close the lid, invert the jar, shake, or stir gently to ensure thorough mixing of the compatibility agent.
- To **both** jars, add the appropriate amount of each tank mix partner. If more than one tank mix partner is to be used, follow the mixing order: add dry formulations (wettable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates, and finally add adjuvants. After each addition, invert the jar, shake, or stir gently to thoroughly mix. The appropriate amount of each tank mix partner for this test, is as follows:

Dry formulations: For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

Liquid formulations: For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

- After adding all ingredients, close the jars and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates but can be remixed readily, the mixture can be sprayed as long as continuous agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) Pre-slurry dry formulations in water before addition to the jar, or (B) add the compatibility agent directly into liquid formulations before addition to the jar. If these procedures are followed but incompatibility is still observed, do not prepare the tank mix in the spray tank.

4.4.4 A21377 CP IN TANK MIXTURES

1. Always follow the tank mix instructions of the product label that are most restrictive.
2. Fill the tank with $\frac{1}{2}$ - $\frac{2}{3}$ volume of the mixing diluent.
3. Start the agitator running before adding any tank mix partners.
4. Add all products in water-soluble packaging to the tank before any other tank mix partner. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.
5. In general, add tank mix partners in this order:
 - a) Water-soluble bag (WSB)
 - b) Water-soluble granules (SG)
 - c) Water-dispersible granules (WG)
 - d) Wettable powders (WP)
 - e) **Water-based suspension concentrates (SC) (A21377 CP)**
 - f) Capsule suspensions (CS)
 - g) Dispersible concentrates (DC)
 - h) Suspo-emulsions (SE)
 - i) Oil dispersions (OD)
 - j) Emulsion in water (EW)
 - k) Emulsifiable concentrates (EC)
 - l) Water-soluble concentrates (SL)
 - m) Adjuvants, surfactants, oils
 - n) Soluble fertilizers
 - o) Drift retardants
6. Make sure all other products are fully dispersed in the mixing diluent before adding the recommended rate of this product to the tank.
7. Add the remainder of the mixing diluent volume.
8. It is recommended that mixing and spray equipment have continuous agitation for best results.

4.4.5 SPRAY ADDITIVES

- The use of an adjuvant typically improves coverage and penetration and results in optimum insect/mite control, especially in crops with hard-to-wet leaf surfaces.
- Use of a non-phytotoxic, non-ionic, activator type wetting, spreading, and/or penetrating spray adjuvant or horticultural oil, (not a dormant oil) is recommended.
- Non-ionic activator type wetting, spreading and/or penetrating spray adjuvants include:
 - o Non-ionic surfactants (NIS) with at least 75% surface active agent

- Crop oil concentrates (COC)
- Vegetable oil concentrates (VOC)
- Methylated seed/vegetable oils (MSO)
- Organosilicones (OS) with at least 15% emulsifiers/surfactants
- Blends of these non-ionic activator type spray adjuvants
- Since spray adjuvants alone are known to cause phytotoxicity to certain crops under certain environmental conditions, **do not** use in combination with A21377 CP on a spray-adjuvant-sensitive crop unless the spray adjuvant supplier can confirm a known non-phytotoxic labeled use rate for the intended spray adjuvant on the target crop.
- Spray adjuvants must be compatible with A21377 CP and must be used at concentrations specified on the **spray adjuvant product label** directions for use for the targeted crop unless more specific directions are provided in **Section 7.0** for individual crops on this label.
- Syngenta recommends the use of a Chemical Producers and Distributors Association (CPDA) certified spray adjuvant.

{Start of optional text}

4.5 [Application through Irrigation Systems (Chemigation)]

4.5.1 CHEMIGATION REQUIREMENTS

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

4.5.2 CHEMIGATION PRECAUTIONS

- Apply this product at rates and timings described in **Section 7.0**.
- Apply this product only through overhead sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- Never put A21377 CP into a dry tank or other mixing equipment without first adding water. See **Section 4.4** for more information.
- Inject A21377 CP downstream from any water filtration system.

- The irrigation system used must provide uniform water distribution. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- End guns must be turned off during application if they irrigate non-target areas or if they do not provide uniform application and coverage.
- Nozzles in the immediate area of wells, control panels, chemical supply tanks, and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation application.
- Do not apply when wind speeds favor drift beyond the area intended.
- Apply in up to 0.25 inches of water per acre. Excessive water may reduce efficacy.
- Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Wear the personal protective equipment as defined in **Section 2.1** for applicators and other handlers when making adjustments or repairs on the chemigation system with A21377 CP in the irrigation water.

4.5.3 OPERATING INSTRUCTIONS FOR CHEMIGATION

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.4 SPECIFIC INSTRUCTIONS FOR PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.5 APPLICATION DIRECTIONS FOR IRRIGATION SYSTEMS

1. Apply A21377 CP in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area.
2. A pesticide tank is recommended for the application of A21377 CP in chemigation systems.
3. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.
4. With the mix tank $\frac{1}{4}$ - $\frac{1}{2}$ full of water and the agitator running, measure the required amount of A21377 CP and add it to the tank. Then add additional water to bring the total pesticide mixture up to the desired volume for application.
5. Continue agitation throughout the application. Use mechanical or hydraulic agitation. Do not use air for agitation.
6. Injection should occur at a point in the main irrigation water flow to ensure proper mixing with the irrigation water.
7. For continuously moving systems, inject the solution containing A21377 CP into the irrigation water line continually and uniformly throughout the irrigation cycle.
8. For continuously moving systems, the maximum recommended water volume for overhead chemigation application is 0.25 acre inch of water.
9. For overhead sprinkler irrigation systems that are stationary, add the solution containing A21377 CP to the irrigation water line and apply in a maximum water volume of 0.25 acre inch of water.
10. Calibrate the irrigation system and injector before applying A21377 CP. Calibrate the

injection pump while the system is running using the expected irrigation rate.

11. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector.
12. Start the injector and calibrate the injection system. This is necessary to deliver the desired product rate per acre in a uniform manner.
13. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.
14. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with state and federal laws.]

{End of optional text}

5.0 ROTATIONAL CROP RESTRICTIONS

The following crops may be planted at the specified interval following application of A21377 CP:

There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards of Citrus Fruit (Crop Group 10-10); Pome Fruit (Crop Group 11-10); Stone Fruit (Crop Group 12-12) or Tree Nuts (Crop Group 14-12).

Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. Do not allow the cover crop to be grazed or harvested for food or feed if planted less than 120 days after last application.

Crop, Crop Group or Subgroup	Plant-Back Interval
Brassica Head and Stem Vegetables (Crop Group 5-16)	
Brassica Leafy Greens (Crop Subgroup 4-16B) (except watercress)	
Bulb Vegetable Group (Crop Group 3-07)	
Cereals (barley, buckwheat, oats, pearl millet, proso millet, rye, teosinte, triticale, wheat)	
Corn (field, pop, seed)	
Cotton (Crop Subgroup 20C)	
Cucurbit Vegetables (Crop Group 9)	
Dried Shelled Pea and Bean (except soybean), Crop Subgroup 6C	0 days
Fruiting Vegetables (Crop Group 8-10)	
Leafy Greens (Crop Subgroup 4-16A)	
Peanut	
Rapeseed (Crop Subgroup 20A)	
Soybean	
Tuberous and Corm Vegetables (Crop Subgroup 1C)	
All Other Crops Intended for Food and Feed	120 days

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- Aerial application is prohibited for all uses except Cotton, Potato, and Soybean.
- **DO NOT** apply via end-gun chemigation.
- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.
- **DO NOT** treat plants grown for transplanting. A21377 CP is not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- **DO NOT** use on crops grown to harvest in greenhouses unless specified in the crop use section of this label.
- **DO NOT** use in residential areas or residential landscapes.
- **DO NOT** apply more than 0.32 lb ai per acre per year of isocycloseram-containing products including all crop plantings and application types (seed treatment, soil, foliar). See **Section 7.0** for individual crop restrictions.
- **Ultra-low volume (ULV) applications**, spray volumes <2 gallons per acre, are prohibited.
- **Not for Use in Hawaii.**
- **[DO NOT apply by air in New York state.]**

6.2 Spray Drift Management

SPRAY DRIFT MANAGEMENT

All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and farm equipment.
- **DO NOT** apply during temperature inversions.

Aerial Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-641). When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft to minimize drift caused by wing tip or rotor blade vortices.
- When the wind speed is between 11-15 miles per hour, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the wind speed is between 11-15 miles per hour, applicators must use a minimum of $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. Otherwise, applicators must use a minimum of $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field.
- Do not release spray at a height greater than 10 feet above the crop canopy unless a greater application height is required for pilot safety.

Airblast Applications:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.

Ground Applications:

- Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S-572).
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.

For aerial, ground, and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray row and any non-managed area (i.e., the protection area).

Downwind Managed Areas That Can Represent Spray Drift Buffers

When spray drift buffers are identified as mitigation, the following managed areas can be included in the buffer if they are immediately adjacent/contiguous to the treated field in the downwind direction and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated field;
- b. Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- c. Buildings and their perimeters, silos, or other man-made structures with walls and/or roof;
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Conservation Reserve Program (CRP)¹ and Agricultural Conservation Easement Program (ACEP) lands;
- g. On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, farm ponds, and tailwater collection ponds.

¹ Applicators may need to ensure that pesticide use does not cause degradation of CRP habitat.

For Spray Drift Buffers for Broadcast Applications

Applicators must access and search Bulletins Live! Two (BLT) at

<https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. Wind-directional ecological spray drift buffers are required for applications as follows in **Table A**:

Table A. Wind-Directional Ecological Spray Drift Buffers

Application Method	Droplet Size Distribution (DSD)	Minimum Buffer Distance
Aerial	Medium or coarser	300 ft
Ground (2–4 ft boom height)	Medium or coarser	25 ft
Airblast	NA	85 ft

Buffers to Aquatic Areas

In addition to the wind-directional buffers described in **Table A**, buffers are required to aquatic areas regardless of the wind direction. These buffers cannot be reduced using buffer reduction mitigation options. When buffering to a waterbody, always use the larger buffer distance (either wind-directional ecological or buffer to aquatic areas).

Buffer Zone for Ground and Airblast Applications

Regardless of buffer mitigations, DO NOT make ground applications within 25 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Buffer Zone for Non-ULV Aerial Applications

Regardless of buffer mitigations, DO NOT make aerial applications within 150 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Reduction Options for All Ecological Wind-Directional Drift Buffers

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals). Buffer reduction options also cannot reduce distances to aquatic areas.

When using more than one option during the application, the percent reduction in the buffer distances may be added together. The maximum buffer reduction that can be achieved by a combination of buffer reduction options is 100% (i.e., no drift buffer required).

The website includes the full menu of wind-directional ecological drift buffer reduction options for each application method. The following are examples, but may not be applicable for all application methods:

- Reduce single application rate (all application types)
- Increase in droplet size above the minimum size required (ground and aerial)
- Use hooded sprayer, layby application, or drop nozzles (ground only)

- Lower release boom height (ground only)
- Reduce the number of passes across the field (all application types)
- Install a downwind windbreak, hedgerow, or artificial screen (all application types)
- Apply when the relative humidity $\geq 60\%$ (all application types)

EPA may periodically update the Mitigation Menu Website, for example, by adding new drift buffer reduction options or updating an option's description.

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions).

For Chemigation Applications

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Choose two of the following additional mitigations:
 - Use a pressure of 20 psi or less.
 - Use a release height of 5 feet or less.
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

- 1) 25 ft buffer, or;
- 2) Limit throw distance to edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots).

Vegetative filter strips

- **DO NOT** cultivate within 20 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas to allow growth of a vegetative filter strip.
- Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (e.g., lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, commercial fish farm ponds).
- Only apply products onto fields where a maintained vegetative filter strip of at least 20 ft exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 20 ft may be reduced under the following conditions:
 - Western irrigated agriculture is exempt from this requirement. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).

6.3 Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

6.3.1 IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply the largest droplets possible. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

- **Controlling Droplet Size – Ground Application**
 - **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
 - **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
 - **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.
- **Controlling Droplet Size – Aerial Application**
 - **Adjust Nozzles** – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

6.3.2 RELEASE HEIGHT – GROUND APPLICATION

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle-to-canopy height. Excessive boom height will increase the potential for spray drift.

6.3.3 RELEASE HEIGHT – AERIAL APPLICATION

Higher release heights increase the potential for spray drift.

6.3.4 HOODED OR SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded or shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

6.3.5 TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

6.3.6 TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Do not make applications during temperature inversions.

6.3.7 WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

6.3.8 MEASURING WIND SPEED AND WIND DIRECTION

Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.

Applicators should reassess wind speed and direction at the application site every 15 minutes while applications are in progress.

Measuring wind speed and direction can be done by:

- Relying on equipment on the application equipment that measures wind speed (e.g., aerial equipment).
- Using a tower anemometer with telemetry or handheld anemometer: Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop every 15 minutes to take a reading with a tower anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, in those cases, applicators would not have to stop to take measurements.
- Using a windsock: Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every 15 minutes to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.
- Using an aircraft smoke system: Laying down several puffs of smoke along different lines using an aircraft smoke system can provide an accurate view of what the wind speed and direction for the application.

- Checking behind the spray rig at least every 15 minutes to see if the spray has changed direction from when the application started.

6.3.9 SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

6.3.10 DRIFT CONTROL ADDITIVES

- Using product compatible drift control additives can reduce drift potential.
- When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label.
- If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.
- Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.

7.0 CROP USE DIRECTIONS

7.1 Brassica Head and Stem Vegetables, Crop Group 5-16

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Broccoli Brussel Sprouts	Cabbage Cabbage Chinese	Cauliflower	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper Diamondback moth Flea beetle Imported cabbageworm Leafminers (<i>Liriomyza</i> sp.)	2.1 – 4.1	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground.
Stink bugs	3.1 – 4.1	For leafminer control, apply when adult leafminer flies are first observed.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 2.1 fl oz/A/application of A21377 CP for diamondback moth control. Do not apply A21377 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21377 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 4.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 8.2 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. For crops grown for seed, DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 1 day 			

7.2 Brassica Leafy Greens, Crop Subgroup 4-16B (except Watercress)

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	2.1 – 4.1	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth			Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle			
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Stink bugs	3.1 – 4.1	For leafminer control, apply when adult leafminer flies are first observed.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 2.1 fl oz/A/application of A21377 CP for diamondback moth control. Do not apply A21377 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21377 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 4.1 fl oz/A/application <ul style="list-style-type: none"> DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days 			

- 4) **Maximum Annual Rate:** 8.2 fl oz/A/year
 - a. **DO NOT** exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.3 Bulb Vegetable Group, Crop Group 3-07

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers (<i>Liriomyza</i> sp.) Spider mites	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Under high pest populations, apply a higher rate within the labeled rate range.
Thrips	6.2 – 8.2	For thrips control, begin making applications when populations are low (1-3 thrips/plant).	Apply this product diluted in a minimum volume of 10 gal/A by ground. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. [A21377 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 8.2 fl oz/A/application
 - a. **DO NOT** exceed 0.107 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 16.4 fl oz/A/year
 - a. **DO NOT** exceed 0.214 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.4 Citrus Fruit, Crop Group 10-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Broad mite	2.1 – 3.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Citrus leafminer		For Asian citrus psyllid and citrus leafminer control, apply to protect flush of newly expanding foliage.	Apply this product diluted in a minimum volume of 30 gal/A by ground.
Citrus rust mite		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Spider mites		For citrus thrips control, apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Texas citrus mite			
Asian citrus psyllid	3.1 – 5.1		
Citrus thrips			
Diaprepes root weevil (adults)	4.2 – 5.1		
Resistance Management:			
• Refer to Section 3.2 .			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			
2) Maximum Single Application Rate: 5.1 fl oz/A/application			
a. DO NOT exceed 0.0665 lb ai/A of isocycloseram-containing products.			
3) Minimum Application Interval: 7 days			

- 4) **Maximum Annual Rate:** 14.4 fl oz/A/year
 - a. **DO NOT** exceed 0.188 lb ai/A/year of isocycloseram-containing products.
- 5) **DO NOT** make more than two applications at 5.1 fl oz/A per year.
- 6) **DO NOT** make more than four applications per year.
- 7) **DO NOT** apply by air.
- 8) **DO NOT** apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, county agricultural commissioners, or other state/tribal lead agencies.
- 9) **Pre-Harvest Interval (PHI):**
 - a. Use rate of 2.1 fl oz/A: 7 days
 - b. Use rate of >2.1 fl oz/A: 21 days

7.5 Cotton, Crop Subgroup 20C

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Cotton			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cotton flea hopper Spider mites Tobacco thrips	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Aerial application to cotton is permitted.
Brown stink bug Clouded plant bug Green stink bug Southern green stink bug Tarnished plant bug (<i>Lygus lineolaris</i>) Western tarnished plant bug (<i>Lygus hesperus</i>)	3.1 – 4.1	<p>For spider mite control, apply when spider mites are first observed.</p> <p>For thrips control, begin making applications when populations are low.</p>	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range. <p>Apply this product by ground or air diluted in a minimum volume of 5 gal/A.</p> <p>Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>For best control, apply A21377 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.</p>
Resistance Management: <ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			
2) Maximum Single Application Rate: 4.1 fl oz/A/application			
a. DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products.			
3) Minimum Application Interval: 7 days			
4) Maximum Annual Rate: 8.2 fl oz/A/year			
a. DO NOT exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).			
5) DO NOT make more than two applications per year.			
6) Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.			
7) DO NOT feed or allow livestock to graze treated cotton.			
8) Pre-Harvest Interval (PHI): 14 days			

7.6 Cucurbit Vegetables, Crop Group 9

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leaffooted bug Leafminers (<i>Liriomyza</i> sp.) Melonworm Pickleworm Potato leafhopper Spider mites Squash bug	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed. For thrips control, begin making applications when populations are low.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Thrips	3.1 – 4.1		
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions. 2) Maximum Single Application Rate: 4.1 fl oz/A/application <ul style="list-style-type: none"> a. DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products. 3) Minimum Application Interval: 7 days 4) Maximum Annual Rate: 8.2 fl oz/A/year			

- a. **DO NOT** exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 3 days

7.7 Fruiting Vegetables, Crop Group 8-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
African eggplant Bush tomato Bell pepper Cocona Currant tomato Eggplant Garden huckleberry	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Colorado potato beetle Flea beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	3.1 – 5.1	For mite and leafminer control, apply when mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Armyworms Cabbage looper Tomato fruitworm	5.1	For pepper weevil and thrips control, begin making applications when populations are low. Apply foliarly soon after emergence or transplant to control thrips which may vector the tomato spotted wilt virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Pepper weevil and thrips: <ul style="list-style-type: none"> Use as part of an effective control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 5.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0665 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 10.2 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.133 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. 			

- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.8 Leafy Greens, Crop Subgroup 4-16A

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cabbage looper	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Diamondback moth		For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Flea beetle		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Imported cabbageworm			
Leafminers (<i>Liriomyza</i> sp.)			
Potato leafhopper			
Spider mites			
Thrips	3.1 – 4.1		
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Diamondback Moth: <ul style="list-style-type: none"> Do not apply less than 2.1 fl oz/A/application of A21377 CP for diamondback moth control. Do not apply A21377 CP or other Group 30 insecticides more than twice within any 30-day “treatment window.” Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21377 CP or other Group 30 insecticides. Do not make more than six total applications per calendar year of any Group 30 insecticides for control of diamondback moth at the same farm location. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
Precaution:			
<ul style="list-style-type: none"> Some crops such as spinach are known to be sensitive to adjuvants. If an adjuvant is to be used on a sensitive crop, only use adjuvants that are approved for use on that crop and are known not to cause injury. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 4.1 fl oz/A/application
 - a. **DO NOT** exceed 0.0535 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 8.2 fl oz/A/year
 - a. **DO NOT** exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than two applications per year.
- 6) **DO NOT** apply by air.
- 7) For crops grown for seed, **DO NOT** apply 3 days prior to flowering until the end of the flowering period.
- 8) **Pre-Harvest Interval (PHI):** 1 day

7.9 Peanut

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Peanut			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Potato leafhopper	1.4 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations, apply a higher rate within the labeled rate range.
Spider mites		For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 10 gal/A by ground.
Thrips	3.1 – 4.1	For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
[Suppression: Corn rootworm (larvae)]	[4.1]		[For control of corn rootworm larvae only, apply A21377 CP via overhead chemigation in a volume of up to 0.25 inches of water per acre.]
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. Do not make more than two sequential applications of A21377 CP or any other foliar applied isocycloseram-containing product. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 4.1 fl oz/A/application <ul style="list-style-type: none"> DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 8.2 fl oz/A/year <ul style="list-style-type: none"> DO NOT exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. DO NOT apply by air. 			

- 7) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) **DO NOT** allow livestock to graze in treated areas or harvest treated peanut plants to be used as livestock feed.
- 9) **[Overhead chemigation]** is permitted **only** for suppression of corn rootworm larvae. For all other pests, apply by ground.]
- 10) **Pre-Harvest Interval (PHI):** 14 days

7.10 Pome Fruit, Crop Group 11-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Apple Azarole Crabapple Loquat	Mayhaw Medlar Pear Pear, Asian	Quince Quince, Chinese Quince, Japanese Tejocote	
European red mite Twospotted spider mite	2.1 – 3.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth Obliquebanded leafroller Oriental fruit moth Plum curculio Red banded leafroller Thrips	3.1 – 5.1	Use local pheromone trap catches and degree day models to help time applications for codling moth and Oriental fruit moth .	Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Pear psylla Suppression: Apple maggot	4.2 – 5.1	For thrips control, begin making applications when populations are low. For apple maggot suppression, begin making applications when pest populations are at or below threshold.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. Codling moth: Do not apply A21377 CP (or other Group 30 insecticides) more than three times within a single generation of codling moth (codling moth typically has a single generation “treatment window” of 30 - 45 days. Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 – 45 day “treatment window” before making additional applications of A21377 CP or other Group 30 insecticides. Obliquebanded leafroller: Apply A21377 CP (or other Group 30 insecticides to only one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (different IRAC group number). 			
Precaution:			
<ul style="list-style-type: none"> The use of horticultural oil fewer than 14 days before or after applying Captan® or other sulfur containing products can result in crop injury and loss. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 5.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0665 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 15.3 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.200 lb ai/A/year of isocycloseram-containing products. DO NOT make more than three applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.11 Soybean

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Soybean			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Bean leaf beetle Green cloverworm Potato leafhopper Spider mites	2.1 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
Brown stink bug Green stink bug Southern green stink bug Tarnished plant bug (<i>Lygus lineolaris</i>) Western tarnished plant bug (<i>Lygus hesperus</i>) Velvetbean caterpillar	3.1 – 4.1	For spider mite control, apply when spider mites are first observed.	Apply this product, by ground or air diluted in a minimum volume of 5 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Redbanded stink bug Suppression: Corn earworm Japanese beetle (adult)	4.1		For best control, apply A21377 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 4.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0535 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 8.2 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.107 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar). DO NOT make more than two applications per year. Aerial application to soybean is only permitted in the following states: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Foliar application of this product is prohibited from the onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less. DO NOT allow livestock to graze in treated areas or harvest treated soybean forage, straw, or hay as feed for livestock. DO NOT feed treated soybean fodder or silage to livestock. Pre-Harvest Interval (PHI): 14 days 			

7.12 Stone Fruit, Crop Group 12-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites	2.1 – 3.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spotted wing drosophila		For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Codling moth	3.1 – 5.1	For thrips control, begin making applications when populations are low.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Obliquebanded leafroller			Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Oriental fruit moth			
Plant bugs			
Plum curculio			
Stink bugs			
Thrips			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 5.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0665 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 10.2 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.133 lb ai/A/year of isocycloseram-containing products. DO NOT make more than two applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.13 Tree Nuts, Crop Group 14-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
African nut-tree	Coconut	Okari nut	
Almond	Coquito nut	Pachira nut	
Beech nut	Dika nut	Peach palm nut	
Brazil nut	Ginkgo	Pecan	
Brazilian pine	Guiana chestnut	Pequi	
Bunya	Hazelnut (filbert)	Pili nut	
Bur oak	Heartnut	Pine nut	
Butternut	Hickory nut	Pistachio	
Cajou nut	Japanese horse-chestnut	Sapucaia nut	
Candlenut	Macadamia nut	Tropical almond	
Cashew	Mongongo nut	Walnut, black	
Chestnut	Monkey-pot	Walnut, English	
Chinquapin	Monkey puzzle nut	Yellowhorn	
Leaffooted bug	2.1 – 5.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Scorch mite			Apply this product diluted in a minimum volume of 30 gal/A by ground only.
Spider mites		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Codling moth	5.1		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Hickory shuckworm			
Oriental fruit moth			
Pecan nut casebearer			
Suppression:			
Navel orangeworm			
Peach twig borer			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.2. In order to decrease the likelihood of insecticide resistance development, alternate row middle (ARM) spray practices are not recommended. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Maximum Single Application Rate: 5.1 fl oz/A/application <ol style="list-style-type: none"> DO NOT exceed 0.0665 lb ai/A of isocycloseram-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 15.3 fl oz/A/year <ol style="list-style-type: none"> DO NOT exceed 0.200 lb ai/A/year of isocycloseram-containing products. DO NOT make more than three applications per year. DO NOT apply by air. DO NOT apply 3 days prior to flowering until the end of the flowering period. Pre-Harvest Interval (PHI): 14 days 			

7.14 Tuberous and Corm Vegetables, Crop Subgroup 1C

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Colorado potato beetle Leafminers (<i>Liriomyza</i> sp.) Potato leafhopper Spider mites	1.4 – 4.1	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations or when using aerial application, apply a higher rate within the labeled rate range.
European corn borer Flea beetle	2.1 – 4.1		Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air.
Thrips	3.1 – 4.1	<p>For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.</p> <p>For thrips control, begin making applications when populations are low.</p>	<p>Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.</p> <p>For best control, apply A21377 CP with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.</p> <p>[A21377 CP may be applied via overhead chemigation in a volume of up to 0.25 inches of water per acre, however the resulting level and duration of control could be less than with ground application.]</p>
<p>Resistance Management:</p> <ul style="list-style-type: none"> Refer to Section 3.2. Colorado Potato Beetle: <ul style="list-style-type: none"> Do not apply less than 1.4 fl oz/A/application of A21377 CP for Colorado potato beetle control. Do not apply A21377 CP or other Group 30 insecticides products more than three times to a generation of Colorado potato beetle or within any 30-day “treatment window.” Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (i.e., a non-Group 30 insecticide) for at least a 30-day “treatment window” before making any additional applications of A21377 CP or other Group 30 insecticides. Thrips: <ul style="list-style-type: none"> Use as part of an effective thrips control program. Rotate with products of different modes of action. 			

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 4.1 fl oz/A/application
 - a. **DO NOT** exceed 0.0535 lb ai/A of isocycloseram-containing products.
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:** 12.3 fl oz/A/year
 - a. **DO NOT** exceed 0.160 lb ai/A/year of isocycloseram-containing products including all application types (seed treatment, soil, foliar).
- 5) **DO NOT** make more than three applications per year.
- 6) Aerial application is prohibited for all crops in Tuberous and Corm Vegetables Crop Subgroup 1C **except Potato.**
- 7) For potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is made before 10 am or after 3 pm, OR (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 8) For all crops in Subgroup 1C except potato, foliar application of this product is prohibited from onset of flowering until flowering is complete unless: (i) the application is being made between 2-hrs prior to sunset and 2-hrs after the following sunrise, **OR** (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 9) **DO NOT** apply more than two times during bloom.
- 10) **Pre-Harvest Interval (PHI):** 14 days

8.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Store in the original container. Store in a cool, dry and well-ventilated place. Protect from extreme heat. Do not store near food or feed.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

{Start of optional text}

10.0 [APPENDIX

10.1 A21377 CP Use Summary Table

IMPORTANT: The table below is a summary of the Crop Use Directions for A21377 CP. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group Subgroup with examples	Maximum Rate Per Application (lb ai/A)	Maximum Annual Application Rate (lb ai/A/year)	Minimum Application Interval (Days)	Pre-Harvest Interval - PHI (Days)
Brassica Head and Stem Vegetables, Crop Group 5-16, cabbage, broccoli	0.0535	0.107	7	1
Brassica Leafy Greens, Crop Subgroup 4-16B (except watercress), kale, turnip greens	0.0535	0.107	7	1
Bulb Vegetable Group, Crop Group 3-07, bulb onion, green onion	0.107	0.214	7	7
Citrus Fruit, Crop Group 10-10, grapefruit, lemon, orange	0.0665	0.188	7	Use rate of 0.027 lb ai/A: 7 Use rate >0.027 lb ai/A: 21
Cotton, Crop Subgroup 20C	0.0535	0.107	7	14
Cucurbit Vegetables, Crop Group 9, cucumber, squash	0.0535	0.107	7	3
Fruiting Vegetables, Crop Group 8-10, pepper, tomato	0.0665	0.133	7	1
Leafy Greens, Crop Subgroup 4-16A, lettuce, spinach	0.0535	0.107	7	1
Peanut	0.0535	0.107	7	14
Pome Fruit, Crop Group 11-10, apple, pear	0.0665	0.200	7	14
Soybean	0.0535	0.107	7	14
Stone Fruit, Crop Group 12-12, cherry, peach	0.0665	0.133	7	14
Tree Nuts, Crop Group 14-12, almond, pecan, walnut	0.0665	0.200	7	14
Tuberous and Corm Vegetables, Crop Subgroup 1C, potato, ginger	0.0535	0.160	7	14

]

{End of optional text}

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Captan® is a trademark of Tomen Agro, Inc.

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at
1-866-796-4368.

Manufactured for:

Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A21377 CP XXXX NEW-F JUN2021-CL – jvb – 5/7/25
000100-0XXXX.20210622F.A21377 CP-NEW-0621-CL.pdf

Exhibit K

[MASTER LABEL]

[Not for Sale, Sale Into, Distribution and/or Use in [Nassau,] [Kings,] [Queens,] and [Suffolk] Counties of New York State]

ISOCYCLOSERAM	GROUP	30	INSECTICIDE
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Atexzo®

[Alternate Brand Name: Vykenda®]

INSECTICIDE

For control of listed insect and mite pests in turfgrass (including golf courses; institutional and commercial turf, sod farms; sports fields; parks; municipal grounds; and cemeteries)

For control of listed insect pests of:

- Ornamental plants; ornamental bulb, corm, and tuber crops; evergreen (including conifer) and deciduous trees, and Christmas trees
- Vegetable plants, fruit and nut trees, vines, and small fruits grown for resale to consumers

For application to field and container grown plants produced in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries, forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

PLINAZOLIN® technology*

Active Ingredients:

Isocycloseram **	18.3%
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Other Ingredients:	81.7%
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Total:	100.0%
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*PLINAZOLIN® technology denotes the Syngenta trademark for the active ingredient isocycloseram

**CAS No. 2061933-85-3

Atexzo® is formulated as a suspension concentrate and contains 1.67 lb of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

See additional Precautionary Statements and Directions for Use [on label] [inside booklet].

EPA Reg. No. 100-XXXX

EPA Est.

Net Contents

[Batch Code: _____ (For non-refillables only)]

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1.0 FIRST AID

FIRST AID
Have the product container or label with you when calling a poison control center or doctor or going for treatment.
HOTLINE NUMBER
For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372

PRECAUTIONARY STATEMENTS

2.0 PRECAUTIONARY STATEMENTS

2.1 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes and socks

2.2 User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 User Safety Recommendations

User Safety Recommendations

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

2.4 Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

2.4.1 Mandatory Runoff Mitigation

- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.
- You must achieve a minimum of **TWO** points for the crop uses listed on this label unless otherwise stipulated below.
- Some uses listed in this label will require a total of **FOUR** to **SIX** points in specific Pesticide Use Limitation Areas (PULA).
- Certain turf uses (including golf course managed roughs, institutional and commercial turf, institutional, commercial and residential landscapes; sports fields, parks, municipal grounds, and cemeteries) and certain ornamental uses (residential and commercial landscapes, parks, and interior plantscapes) only require runoff mitigation points if the application site falls within a PULA.
- For golf course use only, no points are required if limiting applications to tees, greens, and fairways.

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> up to six months before the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. If you are located inside a PULA, follow the instructions in the bulletin.

If the application site is located outside a PULA, runoff/erosion mitigation is required for this product unless certain field/site application parameters are present at the time of application (i.e., subsurface or tile drains with controlled outlet, perimeter berm systems, irrigation tailwater return systems, spot treatment, etc.). Access EPA's Mitigation Menu Website at www.epa.gov/pesticides/mitigation-menu for a full list of application parameters to evaluate whether your application site / field is subject to runoff/erosion mitigation.

If the application does not meet the specified application parameters, a minimum of TWO points for the uses listed on this label must be achieved. The applicator must choose among the mitigation and/or mitigation relief measures on EPA's Mitigation Menu Website to meet or exceed these points before applying this product.

The website includes the full menu of runoff/erosion mitigation and mitigation relief measures (<https://www.epa.gov/pesticides/mitigation-menu>). The following are examples of mitigation options for non-agricultural application sites (e.g., golf courses, commercial turf, landscapes) and agricultural use sites such as sod farms and nurseries.

Examples of Runoff/Erosion Mitigation Measures and Associated Point-Values for Reducing Exposure

Mitigation	Qualifying Practices	Points
Annual application rate reduction	Any application 10 to < 30% less than the maximum labeled annual application rate	1
	Any application 30 to < 60% less than the maximum labeled annual application rate	2
	Any application ≥ 60% less than the maximum labeled annual application rate	3
Reduction in proportion of treated area (banded application, partial area treatment, ground precision sprayer, smart sprayer, or other specialized method)	Portion of field/site not treated: 10 to < 30%	2
	Portion of field/site not treated: 30 to < 60%	3
	Portion of field/site not treated: ≥ 60%	4
Soil incorporation	Watering-in or mechanical incorporation before runoff producing rain event.	1
Field or treated area with slope ≤ 3%	Naturally low slope or flat fields/treated areas	2
Predominantly sandy soils	Fields with 10-20% clay and 50-90% sand (includes loam, silt loam, or silt soil) without a restrictive layer that impedes the movement of water through the soil (also described as Hydrologic Soil Group B)	2
In-field vegetative strips	Inter-row vegetative strips, strip cropping or intercropping, alley cropping, prairie strips, contour buffer strips, contour strip cropping, vegetative barrier (occurring in a contoured field)	2
Irrigation water management	Use of soil moisture sensors/evapotranspiration meters with center pivots & sprinklers; above ground drip tape, drip emitters; microsprinklers	2
Cover crop or continuous ground cover	Cover crop or continuous ground cover; with tillage	1
	Cover crop or continuous ground cover; no tillage; short-term cover crop	2
	Cover crop or continuous ground cover; no tillage; long-term cover crop	3
Mulching	Mulching with permeable artificial materials (i.e., landscape fabrics, synthetic mulches)	1
	Mulching with natural materials	3
Water retention systems	Retention pond, sediment basins, catch basins, sediment traps	2
Vegetative Filter Strip (VFS) – Adjacent to treated area	Vegetative barrier/field border 20 to < 30 ft	1
	Vegetative barrier/field border 30 to < 60 ft	2
	Vegetative barrier/field border > 60 ft	3
Grassed waterway	Grassed waterway	2
Vegetated Ditch	Vegetated ditch	1
Riparian Area	Riparian forest buffer, riparian herbaceous cover 20 to < 30 ft	1
	Riparian forest buffer, riparian herbaceous cover 30 to < 60 ft	2
	Riparian forest buffer, riparian herbaceous cover ≥ 60 ft	3

To achieve mitigation points for the application, the mitigation and mitigation relief measures must be:

- Employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website.
- In place during the application unless a different timing (such as before or after application) is specifically provided in the measure's description on EPA's Mitigation Menu Website.

EPA may periodically update the Mitigation Menu Website, for example, by adding new mitigation measures or updating a mitigation measure description.

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., use prohibition, timing restriction, application method restriction, sandy soil application restriction).

2.4.2 Surface Water Advisory

This product may impact surface-water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of isocycloseram from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall is expected to occur within 48 hours after application. When irrigation is required within 48 hours after application, avoid irrigating to the point of runoff. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

2.4.3 Surface Water Protection Statement

For outdoor applications, do not apply during rain.

2.4.4 Pollinator Precautions

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

The following Best Management Practices (BMPs) can help reduce risk to pollinators:

- Developing and maintaining clear communication with local beekeepers to help protect bees. To the extent possible, advise beekeepers within a 1-mile radius 48-hrs in advance of the application, and confirm hive locations before spraying.
- Avoiding applications during bloom.
- Avoiding applications when bees are actively foraging.

- Applying pesticides in the evening or early morning hours when fewer bees are foraging.
- Using Pollinator Protection Plans when they are available. These plans may be available from state lead agencies and promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees and other pollinators to pesticides.
- Using integrated pest management to prevent or mitigate potential negative effects to pollinators and consider multiple management options before resorting to a pesticide application.
- Avoiding applying pesticides to plants in bloom, including flowering weeds.
- Mowing understory weeds or cover crops in field nurseries can prevent flowering of weeds and reduce exposure to bees where and when pesticides are applied.

The following Best Management Practices (BMPs) can help promote the health and habitat of ground-nesting bees:

- For uncultivated land, leaving large undisturbed patches of land unmowed and untilled can provide nesting and forage sites.
- For uncultivated land, mowing at the highest cutting height possible (minimum of 8-10 inches if possible) can increase and diversify food sources.

For additional resources on pollinator BMPs and Pollinator Protection Plans, visit

<https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.

2.4.5 Non-Target Organism Advisory

This pesticide is toxic to fish and highly toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply when weather conditions favor drift from target areas.

2.4.6 Endangered and Threatened Species Protection Requirements:

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (Bulletins) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all label directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

2.4.7 Reporting Ecological Incidents:

For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call Syngenta Crop Protection at 1-866-796-4368

2.4.8 Physical or Chemical Hazards

Do not mix or allow to come into contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Atexzo must be used only in accordance with instructions on this label, in a supplemental label or in state-specific 24(c) labeling. Always read the entire label, including the Conditions of Sale and Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

FAILURE TO FOLLOW THE USE DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY, POOR PEST CONTROL, AND/OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Long-sleeved shirt and long pants

- Shoes and socks

Exception: If product is drenched or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. No REI is required following a soil-incorporated or a soil-drench application.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep children and pets out of the treated area until sprays have dried.

NOTE: Applications to turfgrass on golf courses, industrial, municipal, and commercial sites, sports fields, parks, and applications to ornamental plants grown in residential and commercial landscapes, parks, and interior plantscapes are not within the scope of the Worker Protection Standard.

3.0 PRODUCT INFORMATION

Atexzo is a broad-spectrum insecticide and miticide containing the active ingredient isocycloseram applied as a broadcast or directed spray to control many important insect and mite pests of ornamental crops and turf. All applications must be made according to the use directions that follow.

3.1 Resistance Management

Some insect or mite pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects or mites on this label.

For resistance management, Atexzo contains a Group 30 insecticide/miticide. Any insect or mite population may contain individuals that are inherently resistant to Atexzo and other Group 30 insecticides/miticides. The resistant individuals may eventually dominate the insect or mite population if this group of insecticides/miticides are used repeatedly in the same use areas. Appropriate resistance management strategies should be followed.

If resistance to this product develops in your area, this product, or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect or

mite may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative for the best alternative method of control for your area.

To delay insecticide and miticide resistance, take the following steps:

- Rotate the use of Atexzo or other Group 30 insecticides/miticides within a growing season, or across growing seasons, with different groups that control the same pest(s).
- Use tank mixtures with insecticides and miticides from different groups that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides or miticides selected for use in mixtures should be highly effective for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - Insect and mite resistance management benefits of an insecticide or miticide mixture are greatest if the two components have similar periods of residual activity. Mixtures of insecticides or miticides with unequal periods of residual activity may offer a resistance management benefit only for the period where both insecticides or miticides are active.
- Adopt an integrated pest management program for insecticide and miticide use that includes scouting, uses historical information related to pesticide use, record keeping, and which considers cultural, biological, and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist.
- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact your local Syngenta representative.

3.1.1 Maintaining Susceptibility to This Class of Chemistry

- Avoid using Group 30 insecticides/miticides exclusively for season long control of insect or mite species with more than one generation per year.
- For insect or mite species with successive or overlapping generations, apply Atexzo or other Group 30 insecticides/miticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology

of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (soil, foliar, unless otherwise stated) of the Group 30 insecticides/miticides. Do not exceed the maximum rate of Atexzo allowed per year.

- Following a treatment window of Group 30 insecticides/miticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 30 insecticides/miticides.
- A treatment window rotation, along with other IPM practices for the use area, is considered an effective strategy for preventing or delaying a pest's ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply Atexzo or other Group 30 insecticides/miticides.

3.1.2 Other Insect Resistance Management (IRM) Practices

- Incorporate IPM techniques into your insect or mite control program.
- Monitor treated insect or mite populations for loss of field efficacy.
- Use tank-mixtures or premixes with insecticides/miticides from a different target site of action group if the products are all registered for the same use and effective rates are applied.

3.1.3 Other Sources for Information on Insect Resistance Management

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

3.2 Integrated Pest Management (IPM)

Atexzo should be integrated into an overall insect and mite management strategy that includes selection of plant species and varieties with insect and mite tolerance, optimum plant populations, proper fertilization, pruning, plant debris removal and management, and proper timing and placement of irrigation.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Atexzo may be applied with foliar spray equipment commonly used for making ground applications to ornamental plants and turf. Proper adjustments and calibration of foliar spray equipment are essential to canopy penetration and coverage and for providing optimum insect and mite control.

Spray equipment to make foliar applications of Atexzo include, but are not limited to:

- Hydraulic Boom Sprayer
- Electrostatic Sprayer

- Airblast Sprayer
- Mechanically Pressurized Handgun
- Backpack
- Hand Pressurized Hand Wand
- Automatic Cold Fogger (See Section 4.1.1)
- Chemigation

4.1.1 Automatic Cold Fogger Applications (Greenhouses) [Not Registered for Use by California]

Applications can be made in greenhouses with automatic cold fogger equipment (such as Damm AutoFog™). Apply the same amount of Atexzo per treated unit area as would be applied in a dilute spray volume to the same area.

Do not apply through cold fogger equipment when workers are present in the greenhouse during the application.

4.1.2 Electrostatic Applications

Applications can be made in greenhouses with electrostatic application equipment. Apply the same amount of Atexzo per treated unit area as would be applied in a dilute spray volume to the same area.

4.2 Application Equipment

4.2.1 Nozzles

- Equip sprayers with nozzles that provide accurate and uniform application.
- Nozzles should be the same size and uniformly spaced across the boom.
- Calibrate sprayer before use.
- It is suggested that screens be used to protect the pump and to prevent nozzles from clogging.
- Screens placed on suction side of pump should be 50-mesh or coarser.
- Do not place a screen in the recirculation line.
- Check nozzle manufacturer's recommendations.

4.2.2 Pump

- Use a pump with capacity to:
 1. Maintain the recommended psi for the nozzles being used to apply the spray mixture.
 2. Provide sufficient agitation in tank to keep mixture in suspension - this requires recirculation of 10% of tank volume per minute.

- Use a jet agitator or liquid sparge tube for agitation.
- Do not air sparge.
- Use 50-mesh or coarser screens between the pump and boom, and, where required, at the nozzles.

4.3 Application Volume and Spray Coverage

Atexzo must be diluted with water before application. Apply in a volume of water that provides good coverage of the foliage.

4.4 Mixing Directions

4.4.1 Atexzo Alone

1. Add ½-⅔ of the required amount of water to the spray or mixing tank.
2. With the agitator running, add Atexzo to the tank.
3. Continue agitation while adding the remainder of the water
4. Begin application of the spray solution after Atexzo has completely dispersed into the mix water.
5. Maintain agitation until all the mixture has been sprayed.

4.4.2 Tank-Mix Precautions

Atexzo is compatible with many commonly used fungicides, liquid fertilizers, insecticides, and biological control products. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

4.4.3 Tank-Mix Compatibility

The physical compatibility of Atexzo will vary with different sources of pesticide products and local cultural practices. To ensure the physical compatibility of the mixture, prepare a mix on a small scale (such as a pint or quart jar) using the proper proportions of pesticides and water.

4.4.4 Atexzo in Tank Mixtures

Always shake each product container well before use. Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after the addition of each product.

1. Water-soluble bags
2. Water-dispersible granules
3. Wettable powders

4. Atexzo and other water-based suspension concentrates
5. Water-soluble concentrates
6. Emulsifiable concentrates
7. Adjuvants, surfactants, oils
8. Soluble fertilizers
9. Drift retardants

4.4.5 Spray Additives

The use of an adjuvant product may enhance the performance of Atexzo allowing for improved distribution to the targeted plant surface or to the insect pest. Adjuvants may also be beneficial when applications are made to plants with waxy or difficult to wet leaf surfaces.

- When considering the use of an adjuvant, it is recommended to select a product certified by the Council of Producers and Distributors of Agrotechnology (CPDA).
- The adjuvant should contain use directions for the intended application.
- A tank mix compatibility evaluation (i.e., jar test) should be conducted to confirm the mixture is physically compatible.
- Evaluate the application of the tank mix to a small area of representative plants to confirm plant safety before applying on a larger scale.

4.5 Application through Irrigation Systems (Chemigation)

4.5.1 Application Directions for Overhead Irrigation Systems

- Apply this product through overhead, hand-held, or micro-irrigation systems, and motorized, calibrated irrigation systems either alone or with other pesticides that are registered for application through irrigation systems. Dilution ratios are typically 1:100 to 1:200. Do not apply this product through any other type of irrigation system.
- Plant injury and/or poor insect control, or illegal pesticide residues can result from non-uniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Use only with drive systems which provide uniform water distribution.
- Chemical tank and injector system should be thoroughly cleaned and flushed with clean water prior to use.
- Do not apply when winds are greater than 15 mph to avoid drift or wind skips.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Thorough coverage of foliage is required for good control.
- Good agitation should be maintained in the tank during the entire application period.

- **DO NOT** apply via end-gun chemigation.

If using overhead chemigation equipment outdoors, choose one of the following two options:

1. 25 ft buffer, or:
2. Choose two of the following additional mitigations
 - Use a pressure of 20 psi or less
 - Use a release height of 5 ft or less
 - Include a windbreak downwind of the application site. This can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots.

If using non-end gun impact sprinkler chemigation equipment, choose one of the following two options:

1. 25 ft buffer, or:
2. Limit throw distance to the edge of field (treated area) plus include a downwind windbreak (this can include a downwind windbreak, hedgerow, riparian zone, forest, shrubland, or woodlots)

Windbreak-Shelterbelt Criteria

Both basic and advanced windbreaks or shelterbelts (e.g., trees or riparian hedgerows) between the application site and non-managed area must be present and meet the following criteria for 50% and 75% wind-directional buffer distance reductions, respectively:

- The windbreak or shelterbelt must be downwind between the pesticide application and the non-managed area.
- The windbreak or shelterbelt must run the full length of the treated area with no significant breaks in the vegetation.
- The windbreak or shelterbelt foliage must be sufficiently dense such that the non-managed area is not visible from the upwind side at the time of application.
- The windbreak or shelterbelt must be planted according to local/regional/federal conservation program standards; however, no state or federally listed noxious or invasive trees or shrubs should be planted.
- The windbreak or shelterbelt must be maintained such that their functionality is not compromised.
- For basic windbreaks (50% reduction)
 - The height of the trees in the windbreak or shelterbelt must be at the same height or above the release height of the application.
 - The windbreak must have a minimum of one row of trees and/or shrubs or a 4-foot-wide strip of nonwoody vegetation.
 - A semi-permeable manmade structure, curtain, or netting that is raised prior to application can be used instead of a windbreak or shelterbelt. This structure must be downwind between the pesticide application and the non-managed area, cover the entire distance of field adjacent to non-managed area, and at the same height or higher than the release height of the application.
- For advanced windbreak-shelterbelt (75% reduction)
 - The height of the trees in the windbreak or shelterbelt must be at a height that is at least twice as high as the release height of the application.
 - The windbreak or shelterbelt must have a minimum of two or more rows of trees and/or shrubs with a mixture of vegetation types (e.g., trees, shrubs, herbs), or

that have 8 or more feet of depth for herbaceous (nonwoody) vegetation.

- A semi-permeable manmade structure, curtain, or netting that is raised prior to application can be used instead of a windbreak or shelterbelt. This structure must be downwind between the pesticide application and the non-managed area, cover the entire distance of field adjacent to non-managed area, and at a height that is at least twice as high as the release height of the application.

Solid-Set, Hand-Move, and Moving-Wheel Irrigation

- Determine the acreage covered by the sprinklers.
- Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval. When applying Atexzo through irrigation equipment use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Atexzo required to treat the area covered by the irrigation system.
- Add the required amount of Atexzo into the same quantity of water used to calibrate the injection application.
- Operate the system at the same pressure and time interval established during the calibration.
- Stop injection equipment after treatment is completed. Continue to operate the system until the Atexzo solution has cleared the last sprinkler head.

4.5.2 Operating Instructions for Chemigation

1. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

4.5.3 Specific Instructions for Public Water Systems

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), back-flow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

5.0 RESTRICTIONS AND PRECAUTIONS

5.1 Use Restrictions

- See **Sections 6.0, 7.0, and 8.0** for use-specific restrictions.

Ground Application Restrictions

Observe the following restrictions when making ground applications in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish ponds.

- **DO NOT** apply by aerial application
- **DO NOT** cultivate within 25 ft of aquatic areas to allow growth of a vegetative filter strip.
- **DO NOT** apply when weather conditions favor drift to aquatic areas.
- **DO NOT** apply when gusts or sustained winds exceed 15 mph.
- **DO NOT** apply during a temperature inversion. Mist or fog may indicate the presence of an inversion in humid areas.

- **DO NOT** apply via end-gun chemigation.
- **DO NOT** apply when soils are saturated or above field capacity.
- **DO NOT** apply during rain.

[The following restrictions are required to permit use of Atexzo in the State of New York:

- **Golf course greens and tee boxes:** **DO NOT** apply this product within 25 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).
- **Golf course fairways:** **DO NOT** apply this product within 50 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).

For all other outdoor application sites, follow spray drift buffer requirements in **Section 5.2.1**

- **DO NOT** use in Hawaii except for indoor/greenhouse production. Outdoor use in Hawaii is prohibited.

5.2 Spray Drift Management

MANDATORY SPRAY DRIFT MITIGATION

DO NOT APPLY VIA AERIAL APPLICATION EQUIPMENT

For All Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 15 miles per hour.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft) or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees that are not the target crop, buildings, and equipment.
- **DO NOT** apply during temperature inversions.

Ground boom Applications (Outdoor Applications):

- *For all uses except golf course:* Select nozzle and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S572).
- *For golf course use only:* Select nozzle and pressure that deliver coarse or coarser spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with the most current American Society of Agricultural & Biological Engineers standards (ASABE S572).
- *For all uses except golf course:* Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 4 feet above ground or plant canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions.

- *For golf course use only:* Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 2 feet above ground or plant canopy. Set boom to lowest effective height over the ground or plant canopy based on equipment manufacturer's directions.

Airblast Applications:

- Sprays must be directed into the canopy.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.

For ground boom and airblast applications, always maintain a no-application area (buffer) from the downwind edge of the last spray pass and any non-managed area (i.e., the protection area)

Downwind managed areas that can represent spray drift buffers for agricultural use patterns (e.g., sod farms, commercial nurseries)

When spray drift buffers are identified as mitigation, the following managed areas can be included in the buffer if they are immediately adjacent/contiguous to the treated field in the downwind direction and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Agricultural fields, pastures, forage fields, and private rangelands, including untreated portions of the treated field/site;
- b. Roads, paved or gravel surfaces, mowed grassy/fallow areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- c. Buildings and their perimeters, or other man-made structures with walls and/or roof;
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Conservation Reserve Program (CRP)¹ and Agricultural Conservation Easement Program (ACEP) lands;
- g. On-site contained irrigation water resources that are not connected to adjacent water bodies, including on-site irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, ponds, and tailwater collection ponds.

¹ Applicators may need to ensure that pesticide use does not cause degradation of CRP habitat.

Downwind managed areas that can represent spray drift buffers for non-agricultural use patterns (e.g., golf courses, commercial turf)

When spray drift buffers are identified as mitigation, the following managed areas can be included in the buffer if they are immediately adjacent/contiguous to the treated site in the downwind direction and people are not present in those areas (including inside closed buildings/structures). If the pesticide product label or bulletin, or the state or local government in which the application area is located has a requirement that prohibits or restricts spray drift in any area, including these specific managed areas, that prohibition/restriction must be followed.

- a. Roads, paved or gravel surfaces, buildings and their perimeters or other man-made structures with walls and/or roof;
- b. Mowed grassy areas adjacent to the application site or untreated portions of the application site
- c. For golf course use only: including tees, greens, fairways, collars, intermediate roughs, and roughs, if the product is not applied at these sites
- d. Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website. Examples include vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement;
- e. Areas present and/or maintained as a drift buffer reduction measure as listed on EPA's Mitigation Menu website. Examples include vegetative windbreaks, hedgerows, shelterbelts, riparian areas, private forests, woodlots, and shrublands;
- f. Managed wetlands and artificial ponds/waterbodies that are entirely contained within the treatment area and do not leave the treatment area and/or empty into other waterbodies (including waterways, water hazards (golf course use only), and constructed wetlands).

For Spray Drift Buffers for Broadcast Applications

Applicators must access and search Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins> within six months of the application to determine whether the application site falls within a Pesticide Use Limitation Area (PULA) that has a Bulletin in BLT. Wind-directional ecological spray drift buffers are required for applications as follows in **Table A**:

Table A. Ecological Spray Drift Buffers

Application method	Droplet size distribution (DSD)	Minimum buffer distance
Ground (2–4 foot boom height)	Medium or coarser	25 ft
Ground (< 2 foot boom height) ¹	Coarse or coarser	15 ft
Airblast Sprayer	NA	85 ft

DSD = droplet size distribution; NA = not applicable

¹ Application conditions for golf course use

Buffers to Aquatic Areas

In addition to the wind-directional buffers described in **Table A**, buffers are required to aquatic areas regardless of the wind direction. These buffers cannot be reduced using buffer reduction mitigation options. When buffering to a waterbody, always use the larger buffer distance (either wind-directional ecological or buffer to aquatic areas).

Buffer zone for ground and airblast applications

Regardless of buffer mitigations, **DO NOT** make ground and airblast applications within 25 ft of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas.

Reduction Options for Ecological Wind-Directional Drift Buffers for Use Sites Other than Golf Courses:

The applicator may choose among the ecological drift buffer reduction options on EPA's Mitigation Menu Website (<https://www.epa.gov/pesticides/mitigation-menu>) to reduce the wind-directional ecological buffer distance before applying this product. All buffer reduction options selected must align with the minimum droplet size and release height requirements on this label.

To reduce the buffer distance for the application, the buffer reduction options must be employed in accordance with the instructions and descriptions on EPA's Mitigation Menu Website. These buffer reduction options do not apply to areas occupied by humans for residential or commercial purposes (such as lawns, sidewalks, outdoor recreational areas, athletic fields, buildings/homes, farmworker housing, schools, daycare centers, nursing homes, and hospitals). Buffer reduction options also cannot reduce distances to aquatic areas.

When using more than one option during the application, the buffer distances may be added together. Combining multiple buffer reduction options can eliminate the implementation of an ecological wind-directional buffer altogether.

Ground Spray Drift Buffer Reduction Options for *Golf Course Use Only*:

The following mitigation options allow for reduction of the total buffer:

- A reduction in the required wind-directional buffer distance can be made if reducing the single application rate. The percent reduction in buffer directly corresponds to the application rate reduction from the maximum on the pesticide product label.
- A 10-foot reduction in the required wind-directional buffer distance can be made if the relative humidity is 60% or more at the time of application.

The incorporation of one of the following mitigation options results in no buffer (i.e., 0 feet) on golf courses:

- Over-the-top hooded sprayer.
- Restricting the number of equipment passes to the treated site/field to 10 or less.
- If a windbreak or shelterbelt (e.g., trees or riparian hedgerows) between the application site and non-managed area is present and meets either the basic or the advanced criteria listed in the '**Windbreak-Shelterbelt Criteria**' section of this label.
- If a windbreak or shelterbelt consists of riparian/forests/shrubland/woodlots that are 60 ft wide or greater

When tank mixing, the most restrictive of the products' label or bulletin requirements must be followed (e.g., drift buffers that are not wind-directional, Application Exclusion Zone drift requirements, drift buffers to residences, schools, and parks where bystanders could be present, use prohibitions, timing restrictions, and application method prohibitions).

ADDITIONAL SPRAY DRIFT INFORMATION:

This section is intended to provide additional information for applicators to assist in implementing the mandatory spray drift mitigations above. **THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.** Be aware of nearby non-target sites and environmental conditions.

5.2.1 Importance of Droplet Size

An effective way to reduce spray drift is to apply large droplets. Consider the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

5.2.2 Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Consider using the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Using the lowest spray pressure recommended for the nozzle will produce the target spray volume and droplet size.

- Spray nozzle – Consider using a spray nozzle that is designed for the intended application, as well as using nozzles designed to reduce drift.

5.2.3 Release Height – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.

5.2.4 Hooded (or Shielded) Sprayers

Shielding the boom or individual nozzles can reduce spray drift. Consider using hooded sprayers. Applicators should verify that the shields are not interfering with the uniform deposition of the spray on the target area.

5.2.5 Temperature and Humidity

When making applications in hot and dry conditions, consider using larger droplets to reduce effects of evaporation.

5.2.6 Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

5.2.7 Wind

Drift potential generally increases with wind speed. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

5.2.8 Measuring Wind Speed and Wind Direction

Applicators should check and acquire the predicted wind speed and direction for the application site within 12 hours prior to conducting applications to determine the time periods wind speed is likely to fall outside the applicable thresholds.

- Applicators should reassess wind speed and direction at the application site every 15 minutes while applications are in progress.
- Measuring wind speed and direction can be done by:

- Relying on equipment on the application equipment that measures wind speed.
- Using a tower anemometer with telemetry or handheld anemometer. Users should read user manual on how to calibrate, operate and interpret the output from an anemometer. Ground applicators should stop every 15 minutes to take a reading with a tower anemometer with telemetry or handheld anemometer. Some anemometers may have software that would allow users to view wind measurements in real time while making an application, and, in those cases, applicators would not have to stop to take measurements.
- Using a windsock. Wind can be estimated with a windsock using the strips on a windsock. The applicator should consult the user manual for the windsock on wind speed estimation and direction of wind. Applicators should look at the sock at least every 15 minutes to estimate wind speed and direction. The windsock should be pointed in the opposite direction of the windbreak and the non-managed area.
- Checking behind the spray rig at least every 15 minutes to see if the spray has changed direction from when the application started.

6.0 TURF

Atexzo may be used on turfgrasses that are being grown for aesthetic or recreational purposes or climatic modification in, on, or around dwellings, business and office complexes, shopping complexes, multi-family complexes, institutional buildings, airports, cemeteries, interior plantscapes, ornamental gardens, wildlife plantings, parks, playgrounds, schools, day-care facilities, golf courses (tee box areas, roughs, fairways, greens, collars etc.), athletic fields, other landscaped areas (including green roofs), and sod farms.

Apply Atexzo as a broadcast spray application. For best control, apply foliar sprays in water volumes sufficient to ensure complete coverage of the target plant. Repeat applications at specified intervals.

6.1 Broadcast Applications

Turfgrass (including all cultivars, varieties, and/or hybrids)		
Insect Pest	Use Rate	Use Directions
Annual Bluegrass Weevil ^[1]	6.8 – 8.2 fl oz/A 0.16 – 0.19 per 1,000 sq ft	Atexzo may be applied to control annual bluegrass weevil adults and larvae. Apply Atexzo when overwintered adult annual bluegrass weevils are observed, and early instar larvae are hatching and penetrating into turfgrass sheaths. Higher rates may be required to control late (3 rd to 4 th) instar larvae. Atexzo may also be applied to control adults and larvae in summer annual bluegrass weevil generations.
Billbugs ^[1]	3.4 – 8.2 fl oz/A 0.08 – 0.19 per 1,000 sq ft	Apply Atexzo when overwintered adult billbugs are first observed. Higher rates may be required for applications made to late instar larvae.
Bermudagrass Mites ^[1]	1.7 – 6.8 fl oz/A 0.04 – 0.16 per 1,000 sq ft	Atexzo will provide knockdown and residual control of bermudagrass mites. Apply the first treatment at turf green up and continue applications on a 14 – 21-day interval for optimal control. The addition of a non-ionic surfactant is recommended. Applying Atexzo in a seasonal program with Divanem® insecticide is recommended for extended mite control and resistance management.
European and Common Crane Fly ^[1]	3.4 – 8.2 fl oz/A 0.08 – 0.19 per 1,000 sq ft	Apply Atexzo as a preventative application prior to egg hatch. Late winter and spring applications will provide curative control of late instar larvae. Curative control of late instars may require higher rates.
European Earwig ^[1]	3.4 – 6.8 fl oz/A 0.08 – 0.16 per 1,000 sq ft	Initiate applications when adults are first observed.

Flea Beetles ^[1]	3.4 – 8.2 fl oz/A 0.08 – 0.19 per 1,000 sq ft	Begin applications when adult populations are first observed. Repeat applications may be required to maintain control.
Turf Caterpillars ^[1] (including armyworms, cutworms, and sod webworms)	3.4 – 8.2 fl oz/A 0.08 – 0.19 per 1,000 sq ft	Atexzo will provide excellent curative and residual caterpillar control in turfgrass. To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application.
Mole Crickets ^[1]	5.1 – 8.2 fl oz/A 0.12 – 0.19 per 1,000 sq ft	Atexzo can be applied at peak egg hatch or to target mole cricket nymphs. Repeat applications may be required with the low rate to extend residual control. Irrigate turf immediately after each application or allow rainfall to move the product into the soil.
White Grubs ^[1] (Suppression) Grubs (including Aphodius spp., Asiatic garden beetle, black turfgrass ataenius, European chafer, green June beetle, Japanese beetle, May/June beetles (Phyllophaga spp.), northern masked chafer, oriental beetle, southern masked chafer, and sugarcane grub)	6.8 – 8.2 fl oz/A 0.16 – 0.19 per 1,000 sq ft	Apply Atexzo for preventative and early curative suppression of white grub species infesting turfgrass. Initiate applications at egg hatch to 1st instar larvae. Irrigate turf immediately after application or allow rainfall to move the product into the soil.
[^[1] Not registered for use by California.]		
USE RESTRICTIONS		
<ol style="list-style-type: none"> 1) Refer to Section 5.1 for additional product use restrictions. 2) Maximum Single Application Rate: Do not exceed the maximum rate listed in the table. 3) Minimum Application Interval: 7 days 4) Maximum Annual Rate: 24.6 fl oz/A/year (equivalent to 0.32 lb ai isocycloseram). <ol style="list-style-type: none"> a) Do not apply more than 0.32 lb ai/A/year of isocycloseram containing products. 5) Do not make more than 3 applications at the highest rate (8.2 fl oz/A) per year. 6) Do not make more than 14 applications at the lowest rate (1.7 fl oz/A) per year. 7) Do not apply more than 24.6 fl. oz/A/year. 		

Annual Bluegrass Weevil: Apply Atexzo when overwintered adult annual bluegrass weevils are observed to prevent damage from first-generation larvae. An application of Atexzo at this time will also provide white grub suppression.

Later applications for control of early-stage or late-stage larvae may also be made. For best results use Atexzo as part of a program to prevent turf damage from annual bluegrass weevil larvae. Consult your local Syngenta representative, Cooperative Extension Service specialist or pest control advisor for the latest information on using Atexzo.

Apply Atexzo in a program to improve annual bluegrass weevil control and resistance management. Refer to WeevilTrak for product and program recommendations.

Billbugs: To control billbug larvae apply Atexzo several weeks after overwintering adults have been observed. An application of Atexzo at this time will also provide white grub suppression.

European and Common Crane Fly: Time Atexzo applications at crane fly oviposition. Spring applications will provide curative control of late instar larvae. Curative control of late instars may require higher rates.

Turf Caterpillars: Atexzo will provide excellent curative and residual caterpillar control in turfgrass. To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application.

White Grubs: Apply Atexzo for suppression of white grub species infesting turfgrass. The need for an application may be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Irrigate turf immediately after application or allow rainfall to move the product into the soil.

7.0 ORNAMENTALS

Apply Atexzo for the control of listed insect pests of:

- Ornamental plants; ornamental bulb, corm, and tuber crops; evergreen (including conifer) and deciduous trees, and Christmas trees
- Vegetable plants, fruit and nut trees, vines, and small fruits grown for resale to consumers

Apply Atexzo to field and container-grown plants produced in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries, forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

Apply Atexzo as a broadcast spray application. Make foliar applications in sufficient water to ensure complete coverage of the target plant for best control. Repeat applications at specified intervals.

- Caution should be taken before making applications of Atexzo to small bedding plants in the seedling/plug or liner stage. A limited quantity of plants should be tested prior to full-scale application.

Plant Safety

Plant safety has been found to be acceptable for many ornamental crops; however, not all possible plant species and varieties have been tested under all conditions. It is recommended to apply Atexzo alone and with any tank mixtures on a small portion of the crop first to ensure that a phytotoxic response will not occur.

7.1 Foliar Applications

Breeding crops	Foliage plants	Perennial plants
Bulb, corm, and tuber crops (such as tulips, calla lilies)	Ground covers	Pot and bedding plants (annual and perennial)
Christmas trees	Ornamental grasses	Shrubs
Cut flowers	Ornamental trees	Succulent plants
Evergreens, including conifers	Palms	Trees – Evergreen (including conifer) and deciduous trees
Flowering plants		
Flowers grown for seed production		

Indoor Foliar Applications – Greenhouses

Target Insect Pest	Dilution Rate (fl oz/100 gallons)	Application Timing	Use Directions
Leafminer – <i>Liriomyza</i> spp. ^[1]	4.0 – 6.0	Apply preventatively or after pest has been observed.	Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray.
Mites ^[1] (including <i>Tetranychus</i> , <i>Oligonychus</i> , <i>Polyphagotarsonemus</i> , and <i>Phyllocoptes</i> species)	4.0 – 8.0	Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases.	When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended.
Thrips ^[1] (including western flower thrips, citrus thrips chili thrips, cotton bud thrips and tobacco thrips)	6.0 – 10.3		If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.
Japanese beetle ^[1] (adults)			
Flea beetle ^[1] (including red-headed flea beetle and blue flea beetle)			
Black vine weevil ^[1] (adult)			
Psyllids ^[1] (including citrus psyllid)			
Leaf feeding caterpillars ^[1] (including bagworm, bougainvillea looper, cabbage looper, diamondback moth, fall armyworm, beet armyworm, imported cabbageworm, and tobacco budworm)	8.0 – 10.3		
Plant bugs ^[1]			
Leafhoppers ^[1] (including potato leafhopper)			
Stink bugs ^[1]			
Spotted Lantern Fly ^[1]	8.0 – 10.3	Apply preventatively or after pest has been observed.	Mix Atexzo with the required amount of water and apply as a full-coverage spray

		Repeat treatment to maintain control using the higher listed application rates as pest pressure increases.	targeted to the bark of ornamental trees. If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.
Apple maggot ^[1] (suppression) Mealybug ^[1] (suppression) Scale ^[1] (suppression)	8.0 – 10.3	Apply preventatively or after pest has been observed. Repeat treatment to maintain suppression using the higher listed application rates as pest pressure and foliage area increases.	Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray. When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended. If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.

Outdoor Foliar Applications – Nurseries, Shade houses, Lath houses

Target Insect Pest	Dilution Rate (fl oz/100 gallons)	Application Timing	Use Directions
Leafminer – <i>Liriomyza</i> spp. ^[1] Mites ^[1] (including <i>Tetranychus</i> , <i>Oligonychus</i> , <i>Polyphagotarsonemus</i> , and <i>Phyllocoptes</i> species)	4.0 – 5.0	Apply preventatively or after pest has been observed. Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases	Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray. When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended.
Thrips ^[1] [Suppression] (including western flower thrips, citrus thrips chili thrips, cotton bud thrips and tobacco thrips) Japanese beetle ^[1] adults [Suppression] Flea beetle ^[1] [Suppression] (including red-headed flea beetle and blue flea beetle) Black vine weevil ^[1] adults [Suppression]	5.0		If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.

Psyllids ^[1] [Suppression] (including citrus psyllid)			
Leaf feeding caterpillars ^[1] [Suppression] (including bagworm, bougainvillea looper, cabbage looper, diamondback moth, fall armyworm, beet armyworm, imported cabbageworm, and tobacco budworm)			
Plant bugs ^[1] [Suppression]			
Leafhoppers ^[1] [Suppression] (including potato leafhopper)			
Stink bugs ^[1] [Suppression]			
Spotted Lantern Fly ^[1] [Suppression]	5.0	<p>Apply preventatively or after pest has been observed.</p> <p>Repeat treatment to maintain control using the higher listed application rates as pest pressure increases.</p>	<p>Mix Atexzo with the required amount of water and apply as a full-coverage spray targeted to the bark of ornamental trees.</p> <p>If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.</p>
Apple maggot ^[1] [Suppression]	5.0	<p>Apply preventatively or after pest has been observed.</p> <p>Repeat treatment to maintain suppression using the higher listed application rates as pest pressure and foliage area increases.</p>	<p>Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray.</p> <p>When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended.</p> <p>If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.</p>
Mealybug ^[1] [Suppression]			
Scale ^[1] [Suppression]			

[¹Not registered for use by California.]**Resistance Management:**

1) Refer to Section 3.1 .
2) Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

USE RESTRICTIONS

1) Refer to Section 5.1 for additional product use restrictions.	
2) Maximum Single Application Rate (INDOORS): Do not apply more than 10.3 fl oz/A (equivalent to 0.134 lb ai isocycloseram/A)	a. Do not make more than 2 applications at the highest rate (10.3 fl oz/A) per crop. b. Do not make more than 6 applications at the lowest rate (4.0 fl oz/A) per crop.
3) Maximum Single Application Rate (OUTDOORS): Do not apply more than 5.0 fl (equivalent to 0.065 lb ai isocycloseram/A)	a. Do not make more than 4 applications at the highest rate (5.0 fl oz/A) per year. b. Do not make more than 6 applications at the lowest rate (4.0 fl oz/A) per year.
4) Minimum Application Interval: 7 days	
5) Maximum Annual Rate:	a. Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 4 applications per year when applying the highest labeled rate (5.0 fl oz/A) not to exceed the maximum annual rate of 24.6 fl oz/A/year (equivalent to 0.32 lb ai isocycloseram/A/year). i. Do not apply more than 0.32 lb ai/A/year of isocycloseram-containing products. b. Plants Grown Indoors – Do not make more than 2 applications per acre per crop when applying the highest listed rate (10.3 fl oz/A) or 6 applications per acre per crop when applying the lowest listed rate (4.0 fl oz/A), not to exceed the maximum annual rate of 24.6 fl oz/A/crop/year (equivalent to 0.32 lb ai isocycloseram/A/crop/year). i. Do not apply more than 0.32 lb ai/A/crop/year of isocycloseram-containing products.
6) Do not apply more than 24.6 fl. oz/A/year.	

8.0 USE DIRECTIONS-Production of Vegetable Plants and Fruit and Nut Trees for Retail Sale to Consumers

Apply Atexzo to vegetable plants grown in seedling trays and containers. DO NOT use vegetable plants treated with Atexzo for commercial vegetable production or sell those plants for use by commercial vegetable producers.

8.1 Brassica Head and Stem Vegetables, Crop Group 5-16

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Broccoli Brussel Sprouts	Cabbage Cabbage, Chinese	Cauliflower	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Diamondback moth ^[1] Leafminers (<i>Liriomyza</i> sp.) Cabbage looper ^[1] Flea beetle ^[1] Imported cabbageworm ^[1] Stink bugs ^[1]	4.0 13.6 ml/5,000 ft ²	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels. For leafminer control, apply when adult leafminer flies are first observed.	Under high pest populations apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A by ground. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
^[1] Not registered for use by California.]			
Resistance Management:			
1) Refer to Section 3.1 . 2) Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.			
USE RESTRICTIONS			
1) Refer to Section 5.1 for additional product use restrictions. 2) Maximum Single Application Rate: Do not apply more than 4 fl oz/A (equivalent to 0.052 lb ai isocycloseram/A) 3) Minimum Application Interval: 7 days 4) Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying at the labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A/year (equivalent to 0.16 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.16 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A/crop/year (equivalent to 0.16 lb ai isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.16 lb ai/A/crop/year of isocycloseram-containing products. 			
5) Pre-Harvest Interval (PHI): 1 day			

8.2 Brassica Leafy Greens, Crop Subgroup 4-16B (except Watercress)

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Arugula	Collards	Mustard greens	
Broccoli, Chinese	Cress, garden	Radish, leaves	
Broccoli, raab	Cress, upland	Rape greens	
Cabbage, abyssinian	Hanover salad	Rocket, wild	
Cabbage, Chinese (bok choy)	Kale	Shepard's purse	
Cabbage, seakale	Maca, leaves	Turnip greens	
	Mizuna		
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Diamondback moth ^[1] Leafminers ^[1] (<i>Liriomyza</i> sp.) Cabbage looper ^[1] Flea beetle ^[1] Imported cabbageworm ^[1] Stink bugs ^[1]	4.0 13.6 ml/5,000 ft ²	Time applications to the most susceptible insect pest life-stage at locally determined action thresholds before populations reach damaging levels. For leafminer control, apply when adult leafminer flies are first observed.	Under high pest populations, apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
^[1] Not registered for use by California.]			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.1. Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product. 			
USE RESTRICTIONS			
1) Refer to Section 5.1 for additional product use restrictions. 2) Maximum Single Application Rate: Do not apply more than 4 fl oz/A (equivalent to 0.053 lb ai isocycloseram/A) 3) Minimum Application Interval: 7 days 4) Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying at the labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A/year (equivalent to 0.16 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.16 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A/crop/year (equivalent to 0.16 lb ai isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.16 lb ai/A/crop/year of isocycloseram-containing products. 5) Pre-Harvest Interval (PHI): 1 day			

8.3 Bulb Vegetable Group, Crop Group 3-07

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Chive, fresh leaves	Kurrat	Onion, green	
Chive, Chinese, fresh leaves	Lady's leek	Onion, macrostem	
Daylily, bulb	Leek	Onion, pearl	
Elegans hosta	Leek, wild	Onion, potato, bulb	
Fritillaria, bulb	Lily, bulb	Onion, tree, tops	
Fritillaria, leaves	Onion, Beltsville bunching	Onion, Welsh, tops	
Garlic, bulb	Onion, bulb	Shallot, bulb	
Garlic, great-headed, bulb	Onion, Chinese, bulb	Shallot, fresh leaves	
Garlic, serpent, bulb	Onion, fresh		
Bulb Vegetables Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers ^[1] (<i>Liriomyza</i> sp.)	4.0 – 8.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spider mites ^[1]	13.6 – 27.2ml/ 5,000 ft ²	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A.
Thrips ^[1]	6.5 – 8.0 22.2 – 27.2 ml/ 5,000 ft ²	For thrips control, begin making applications when populations are low (1-3 thrips/plant).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Bulb Vegetables Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers ^[1] (<i>Liriomyza</i> sp.)	4.0 – 5.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spider mites ^[1]	13.6 – 17.0ml/ 5,000 ft ²	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A.
Thrips ^[1] [(<i>Suppression</i>)]	5.0 16.0ml/ 5,000 ft ²	For thrips control, begin making applications when populations are low (1-3 thrips/plant).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.

		populations are low (1-3 thrips/plant).	
[¹ Not registered for use by California.]			
Resistance Management:			
<ul style="list-style-type: none"> • Refer to Section 3.1. • Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product. 			
USE RESTRICTIONS			
1) Refer to Section 5.1 for additional product use restrictions. 2) Maximum Single Application Rate (INDOORS): Do not apply more than 8 fl oz/A (equivalent to 0.104 lb ai isocycloseram/A) 3) Maximum Single Application Rate (OUTDOORS): Do not apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A) 4) Minimum Application Interval: 7 days 5) Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 4 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 6 applications per year when applying the lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 24.6 fl oz/A/year (equivalent to 0.32 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.32 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the highest listed rate (8.0 fl oz/A) or 6 applications per acre per crop when applying the lowest listed rate (4.0 fl oz/A), not to exceed the maximum annual rate of 24.6 fl oz/A/crop/year (equivalent to 0.32 lb isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.32 lb ai/A/crop/year of isocycloseram-containing products. 6) Pre-Harvest Interval (PHI): 7 days			

8.4 Citrus Fruit, Crop Group 10-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Australian desert lime	Lemon	Satsuma mandarin	
Australian finger lime	Lime	Sweet lime	
Australian round lime	Mediterranean mandarin	Tachibana orange	
Brown River finger lime	Mount White lime	Tahiti lime	
Calamondin	New Guinea wild lime	Tangelo	
Citron	Orange, sour	Tangerine (mandarin)	
Citrus hybrids	Orange, sweet	Tangor	
Grapefruit	Pummelo	Trifoliate orange	
Japanese summer grapefruit	Russell River lime	Uniq fruit	
Kumquat			
Citrus Fruit Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Asian citrus psyllid ^[1]	4.0 – 6.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Broad mite ^[1]	13.6 – 20.4 ml/5,000 ft ²	For Asian citrus psyllid and citrus leafminer control, apply to protect flush of newly expanding foliage.	Apply this product diluted in a minimum volume of 30 gal/A.
Citrus rust mite ^[1]		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Spider mites ^[1]		For citrus thrips control, apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	
Texas citrus mite ^[1]			
Citrus leafminer ^[1]			
Citrus thrips ^[1]			
Diaprepes root weevil ^[1] (adults)	4.5 – 6.0 15.4 – 20.4 ml/5,000 ft ²		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Citrus Fruit Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Asian citrus psyllid ^[1] [(<i>Suppression</i>)]	4.0 – 5.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Broad mite ^[1]	13.6 – 17.0 ml/5,000 ft ²	For Asian citrus psyllid and citrus leafminer control, apply to protect flush of newly expanding foliage.	Apply this product diluted in a minimum volume of 30 gal/A.
Citrus rust mite ^[1]			
Spider mites ^[1]			
Texas citrus mite ^[1]			
Citrus leafminer ^[1] [(<i>Suppression</i>)]		For mite control, apply when mites are first observed.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Citrus thrips ^[1] (<i>Suppression</i>)			
Diaprepes root weevil ^[1] (adults)	4.5 – 5.0		

[(Suppression)]	15.4 – 17.0 ml/5,000 ft ²	For citrus thrips control, apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
[¹ Not registered for use by California.]			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.1. Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 5.1 for additional product use restrictions. Do not apply 3 days prior to flowering until the end of the flowering period. In areas where the authorities provide a declaration or definition of the flowering period, observe defined flowering periods as established by local university extension offices, County Agricultural Commissions, or other state/tribal lead agencies. Maximum Single Application Rate (INDOORS): Do not apply more than 6 fl oz/A (equivalent to 0.078 lb ai isocycloseram/A) Maximum Single Application Rate (OUTDOORS): Do not apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A) Minimum Application Interval: 7 days Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 4 applications per year when applying the lowest rate (4.0 fl oz/A), not to exceed the maximum annual rate of 16.4 fl oz/A (equivalent to 0.21 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.21 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 2 applications per acre per crop when applying the highest labeled rate (6.0 fl oz/A) or 4 applications per acre per crop when applying the lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 16.4 fl oz/A/crop/year (equivalent to 0.21 lb ai isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.21 lb ai/A/crop/year of isocycloseram-containing products. Pre-Harvest Interval (PHI): 1 day 			

8.5 Cucurbit Vegetables, Crop Group 9

Crops (Including all cultivars, varieties, and/or hybrids of these)		
Chayote (fruit)	Muskmelon (<i>Cucumis melo</i>)	Pumpkin
Chinese waxgourd (Chinese preserving melon)	Cantaloupe	Squash, summer
Citron melon	Casaba	Crookneck squash
Cucumber	Crenshaw melon	Scallop squash
Gherkin	Golden pershaw melon	Straightneck squash
Gourd, edible	Honeydew melon	Vegetable marrow
Chinese okra	Honey balls	Zucchini
Cucuzza	Mango melon	Squash, winter
Hechima	Persian melon	Acorn squash
Hyotan	Pineapple melon	Butternut squash
Momordica spp.	Santa Claus melon	Calabaza
Balsam apple	Snake melon	Hubbard squash
Balsam pear	True cantaloupe	Spaghetti squash
Bitter melon		Watermelon (<i>Citrullus lanatus</i>)
Chinese cucumber		

Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Leafminers ^[1] (<i>Liriomyza</i> sp.) Potato leafhopper ^[1] Spider mites ^[1] Leaffooted bug ^[1] Melonworm ^[1] Pickleworm ^[1] Squash bug ^[1] Thrips ^[1]	4.0 13.6 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed. For thrips control, begin making applications when populations are low.	Under high pest populations apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.

^[1]Not registered for use by California.]

Resistance Management:

- Refer to **Section 3.1**.
- Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

USE RESTRICTIONS

- Refer to **Section 5.1** for additional product use restrictions.
- Foliar application of this product is prohibited from onset of flowering until flowering is complete unless; (i) the application is being made between 2 hours prior to sunset and 2 hours after the following sunrise OR, (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- Maximum Single Application Rate:** Do not apply more than 4 fl oz/A (equivalent to 0.052 lb ai isocycloseram/A).
- Minimum Application Interval:** 7 days
- Maximum Annual Rate:**
 - Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying the labeled rate of 4.0 fl oz/A, not to exceed the maximum annual rate of 12.0 fl oz/A/year (equivalent to 0.16 lb ai isocycloseram/A/year).
 - Do not apply more than 0.16 lb ai/A/year of isocycloseram-containing products.
 - Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the

labeled rate of 4.0 fl oz/A, not to exceed the maximum annual rate of 12.0 fl oz/A/crop/year (equivalent to 0.16 lb ai isocycloseram/A/crop/year).

i. Do not apply more than 0.16 lb ai/A/crop/year of isocycloseram-containing products.

6) Pre-Harvest Interval (PHI): 3 days

8.6 Fruiting Vegetables, Crop Group 8-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
African eggplant	Goji berry	Nonbell pepper	
Bush tomato	Groundcherry	Roselle	
Bell pepper	Martynia	Scarlet eggplant	
Cocona	Naranjilla	Sunberry	
Currant tomato	Okra	Tomatillo	
Eggplant	Pea eggplant	Tomato	
Garden huckleberry	Pepino	Tree tomato	
Fruiting Vegetables Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Broad mite ^[1] Colorado potato beetle ^[1] Leafminers ^[1] (<i>Liriomyza</i> sp.) Potato leafhopper ^[1] Spider mites ^[1] Flea beetle ^[1] Pepper Weevil ^[1] Thrips ^[1]	4.0 – 8.0 13.6 – 27.2 ml/5,000ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For mite and leafminer control, apply when mites or adult leafminer flies are first observed. For pepper weevil control, begin making applications when populations are low.	Under high pest populations apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 10 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Armyworms ^[1] Cabbage looper ^[1] Tomato fruitworm ^[1]	5.5 – 8.0 18.7 – 27.2 ml/5,000 ft ²	Apply foliarly soon after emergence or transplant to control thrips which may vector the tomato spotted wilt virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	
Fruiting Vegetables Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Broad mite ^[1] Spider mites ^[1] Leafminers ^[1] (<i>Liriomyza</i> sp.)	4.0 – 5.0 13.6 – 17.0 ml/5,000ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action	Under high pest populations apply a higher rate within the labeled rate range.

Colorado potato beetle ^[1] [(<i>Suppression</i>)] Potato leafhopper ^[1] [(<i>Suppression</i>)] Flea beetle ^[1] [(<i>Suppression</i>)] Pepper Weevil ^[1] [(<i>Suppression</i>)] Thrips ^[1] [(<i>Suppression</i>)]		thresholds before populations reach damaging levels. For mite and leafminer control, apply when mites or adult leafminer flies are first observed. For pepper weevil control, begin making applications when populations are low. Apply foliarly soon after emergence or transplant to control thrips which may vector the tomato spotted wilt virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	Apply this product diluted in a minimum volume of 10 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Armyworms ^[1] [(<i>Suppression</i>)] Cabbage looper ^[1] [(<i>Suppression</i>)] Tomato fruitworm ^[1] [(<i>Suppression</i>)]	5.0 17.0 ml/5,000 ft ²		

^[1]Not registered for use by California.]

Resistance Management:

- Refer to **Section 3.1**.
- Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

USE RESTRICTIONS

- 1) Refer to **Section 5.1** for additional product use restrictions.
- 2) Foliar application of this product is prohibited from onset of flowering until flowering is complete unless; (i) the application is being made between 2 hours prior to sunset and 2 hours after the following sunrise OR, (ii) the application is being made at a time when the temperature at the application site is 50°F or less.
- 3) **Maximum Single Application Rate (INDOORS):** Do not apply more than 8 fl oz/A (equivalent to 0.104 lb ai isocycloseram/A)
- 4) **Maximum Single Application Rate (OUTDOORS):** Do not apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A)
- 5) **Minimum Application Interval:** 7 days
- 6) **Maximum Annual Rate:**
 - a. Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 4 applications per year when applying the highest labeled rate of 5.0 fl oz/A or 6 applications per year when applying the lowest listed rate of 4.0 fl oz/A, not to exceed the maximum annual rate of 24.6 fl oz/A/year (equivalent to 0.32 lb ai isocycloseram/A/year).
 - i. Do not apply more than 0.32 lb ai/A/year of isocycloseram-containing products.
 - b. Plants Grown Indoors– Do not make more than 3 applications per acre per crop when applying the highest labeled rate of 8.0 fl oz/A or 6 applications per acre per crop when applying the lowest labeled rate of 4.0 fl oz/A, not to exceed the maximum annual rate of 24.6 fl oz/A/crop/year (equivalent to 0.32 lb ai isocycloseram/A/crop/year).
 - i. Do not apply more than 0.32 lb ai/A/crop/year of isocycloseram-containing products.
- 7) **Pre-Harvest Interval (PHI):** 1 day

8.7 Leafy Greens, Crop Subgroup 4-16A

Crops (Including all cultivars, varieties, and/or hybrids of these)		
Amaranth, Chinese	Dang-gwi, leaves	Lettuce, leaf
Amaranth, leafy	Dillweed	Orach
Aster, Indian	Dock	Parsley, fresh leaves
Blackjack	Dol-nam-mul	Plantain, buckhorn
Cat's whiskers	Ebolo	Primrose, English
Cham-chwi	Endive	Purslane, garden
Cham-na-mul	Escarole	Purslane, winter
Chervil, fresh leaves	Fameflower	Radicchio
Chipilin	Feather cockscomb	Spinach
Chrysanthemum, garland	Good King Henry	Spinach, Malabar
Cilantro, fresh leaves	Huauzontle	Spinach, New Zealand
Corn salad	Jute, leaves	Spinach, tanier
Cosmos	Lettuce, bitter	Swiss chard
Dandelion, leaves	Lettuce, head	Violet, Chinese, leaves

Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Diamondback moth ^[1] Leafminers ^[1] (<i>Liriomyza</i> sp.) Potato leafhopper ^[1] Spider mites ^[1]	4.0 13.6 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Cabbage looper ^[1] Flea beetle ^[1] Imported cabbageworm ^[1]		For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed.	Apply this product diluted in a minimum volume of 10 gal/A.
Thrips ^[1]		For thrips control, begin making applications when populations are low.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.

[¹Not registered for use by California.]

Resistance Management:

- Refer to **Section 3.1**.
- Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

USE RESTRICTIONS

- 1) Refer to **Section 5.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** Do not apply more than 4 fl oz/A (equivalent to 0.052 lb ai isocycloseram/A)
- 3) **Minimum Application Interval:** 7 days
- 4) **Maximum Annual Rate:**
 - a. Plants Grown Outdoor and Outdoor Containerized Production – Do not make more than 3 applications per year when applying the labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A (equivalent to 0.16 lb ai isocycloseram/A/year).
 - i. Do not apply more than 0.16 lb ai/A/year of isocycloseram-containing products.
 - b. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the listed rate (4.0 fl oz/A), not to exceed the maximum annual rate of 12.0 fl oz/A/crop/year (equivalent to 0.16 lb ai isocycloseram/A/crop/year).
 - i. Do not apply more than 0.16 lb ai/A/crop/year of isocycloseram-containing products.
- 5) **Pre-Harvest Interval (PHI):** 1 day

8.8 Pome Fruit, Crop Group 11-10

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Apple	Mayhaw	Quince	
Azarole	Medlar	Quince, Chinese	
Crabapple	Pear	Quince, Japanese	
Loquat	Pear, Asian	Tejocote	
Pome Fruit Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
European red mite ^[1] Twospotted spider mite ^[1]	4.0 – 6.0 13.6 – 20.4 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth ^[1] Obliquebanded leafroller ^[1] Oriental fruit moth ^[1] Plum curculio ^[1] Red banded leafroller ^[1] Thrips ^[1]		Use local pheromone trap catches and degree day models to help time applications for codling moth and Oriental fruit moth . For thrips control, begin making applications when populations are low.	Apply this product diluted in a minimum volume of 30 gal/A. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Pear psylla ^[1] Apple maggot ^[1] [(<i>Suppression</i>)]	4.5 – 6.0 15.4 – 20.4 ml/5,000 ft ²	For apple maggot suppression, begin making applications when pest populations are at or below threshold.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Pome Fruit Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
European red mite ^[1] Twospotted spider mite ^[1]	4.0 – 5.0 13.6 – 17.0 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Codling moth ^[1] [(<i>Suppression</i>)] Obliquebanded leafroller ^[1] [(<i>Suppression</i>)] Oriental fruit moth ^[1] [(<i>Suppression</i>)] Plum curculio ^[1] [(<i>Suppression</i>)] Red banded leafroller ^[1] [(<i>Suppression</i>)] Thrips ^[1] [(<i>Suppression</i>)]		Use local pheromone trap catches and degree day models to help time applications for codling moth and Oriental fruit moth .	Apply this product diluted in a minimum volume of 30 gal/A. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Pear psylla ^[1]	4.5 – 5.0		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high

[(Suppression)] Apple maggot ^[1] [(Suppression)]	15.4 – 17.0 ml/5,000 ft ²	For thrips control, begin making applications when populations are low. For apple maggot suppression, begin making applications when pest populations are at or below threshold.	temperatures), use a greater volume of water to ensure adequate coverage.
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[¹Not registered for use by California.]

Resistance Management:

- Refer to **Section 3.1**.
- Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

USE RESTRICTIONS

- 1) Refer to **Section 5.1** for additional product use restrictions.
- 2) **Do not** apply 3 days prior to flowering until the end of the flowering period.
- 3) **Maximum Single Application Rate (INDOORS):** **Do not** apply more than 6 fl oz/A (equivalent to 0.078 lb ai isocycloseram/A)
- 4) **Maximum Single Application Rate (OUTDOORS):** **Do not** apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A)
- 5) **Minimum Application Interval:** 7 days
- 6) **Maximum Annual Rate:**
 - a. Plants Grown Outdoors and Outdoor Containerized Production – **Do not** make more than 3 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 4 applications per year when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A (equivalent to 0.24 lb ai isocycloseram/A/year).
 - i. **Do not** apply more than 0.24 lb ai/A/year of isocycloseram-containing products.
 - b. Plants Grown Indoors – **Do not** make more than 3 applications per acre per crop when applying the highest labeled rate (6.0 fl oz/A) or 4 applications per acre per crop when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A/crop/year (equivalent to 0.24 lb ai isocycloseram/A/crop/year).
 - i. **Do not** apply more than 0.24 lb ai/A/crop/year of isocycloseram-containing products.
- 7) **Pre-Harvest Interval (PHI):** 14 days

8.9 Stone Fruit, Crop Group 12-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Apricot	Nectarine	Plum, Chickasaw	
Apricot, Japanese	Peach	Plum, Damson	
Capulin	Plum	Plum, Japanese	
Cherry, black	Plum, American	Plum, Klamath	
Cherry, Nanking	Plum, beach	Plum, prune (fresh)	
Cherry, sweet	Plum, Canada	Plumcot	
Cherry, tart	Plum, cherry	Sloe	
Jujube, Chinese			
Stone Fruit Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites ^[1]	4.0 – 6.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spotted wing drosophila ^[1]	13.6 – 20.4 ml/5,000 ft ²	For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 30 gal/A.
Codling moth ^[1] Obliquebanded leafroller ^[1] Oriental fruit moth ^[1] Plant bugs ^[1] Plum curculio ^[1] Stink bugs ^[1] Thrips ^[1]		For thrips control, begin making applications when populations are low.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
			Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Stone Fruit Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites ^[1]	4.0 – 5.0	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels.	Under high pest populations apply a higher rate within the labeled rate range.
Spotted wing drosophila ^[1] [(Suppression)]	13.6 – 17.0 ml/5,000 ft ²	For spider mite control, apply when spider mites are first observed.	Apply this product diluted in a minimum volume of 30 gal/A.
Codling moth ^[1] [(Suppression)] Obliquebanded leafroller ^[1] [(Suppression)] Oriental fruit moth ^[1] [(Suppression)] Plant bugs ^[1] [(Suppression)] Plum curculio ^[1] [(Suppression)] Stink bugs ^[1] [(Suppression)] Thrips ^[1]		For thrips control, begin making applications when populations are low.	Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
			Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater

[(Suppression)]			volume of water to ensure adequate coverage.
[¹ Not registered for use by California.]			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.1. Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 5.1 for additional product use restrictions. Do not apply 3 days prior to flowering until the end of the flowering period. Maximum Single Application Rate (INDOORS): Do not apply more than 6 fl oz/A (equivalent to 0.078 lb ai isocycloseram/A) Maximum Single Application Rate (OUTDOORS): Do not apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A) Minimum Application Interval: 7 days Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 4 applications per year when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A (equivalent to 0.24 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.24 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the highest labeled rate (6.0 fl oz/A) or 4 applications per acre per crop when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A/crop/year (equivalent to 0.24 lb ai isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.24 lb ai/A/crop/year of isocycloseram-containing products. Pre-Harvest Interval (PHI): 14 days 			

8.10 Tree Nuts, Crop Group 14-12

Crops (Including all cultivars, varieties, and/or hybrids of these)			
African nut-tree	Coconut	Okari nut	
Almond	Coquito nut	Pachira nut	
Beech nut	Dika nut	Peach palm nut	
Brazil nut	Ginkgo	Pecan	
Brazilian pine	Guiana chestnut	Pequi	
Bunya	Hazelnut (filbert)	Pili nut	
Bur oak	Heartnut	Pine nut	
Butternut	Hickory nut	Pistachio	
Cajou nut	Japanese horse-chestnut	Sapucaia nut	
Candlenut	Macadamia nut	Tropical almond	
Cashew	Mongongo nut	Walnut, black	
Chestnut	Monkey-pot	Walnut, English	
Chinquapin	Monkey puzzle nut	Yellowhorn	
Tree Nuts Grown INDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Scorch mite ^[1] Spider ^[1] Leaffooted bug ^[1]	4.0 – 6.0 13.6 – 20.4 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For mite control, apply when mites are first observed.	Under high pest populations apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 30 gal/A. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Codling moth ^[1] Hickory shuckworm ^[1] Oriental fruit moth ^[1] Pecan nutcasebearer ^[1] Navel orangeworm ^[1] [(<i>Suppression</i>)] Peach twig borer ^[1] [(<i>Suppression</i>)]	5.0 – 6.0 18.7 – 20.4 ml/5,000 ft ²		
Tree Nuts Grown OUTDOORS			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Scorch mite ^[1] Spider ^[1] Leaffooted bug ^[1]	4.0 – 5.0 13.6 – 17.0 ml/5,000 ft ²	Time applications to the most susceptible insect or mite pest life-stage at locally determined action thresholds before populations reach damaging levels. For mite control, apply when mites are first observed.	Under high pest populations apply a higher rate within the labeled rate range. Apply this product diluted in a minimum volume of 30 gal/A. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Codling moth ^[1] [(<i>Suppression</i>)] Hickory shuckworm ^[1] [(<i>Suppression</i>)] Oriental fruit moth ^[1] [(<i>Suppression</i>)] Pecan nutcasebearer ^[1]	5.0 17.0 ml/5,000 ft ²		

[(Suppression)] Navel orangeworm ^[1] [(Suppression)] Peach twig borer ^[1] [(Suppression)]			Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
[¹ Not registered for use by California.]			
Resistance Management:			
<ul style="list-style-type: none"> Refer to Section 3.1. Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 5.1 for additional product use restrictions. Do not apply 3 days prior to flowering until the end of the flowering period. Maximum Single Application Rate (INDOORS): Do not apply more than 6 fl oz/A (equivalent to 0.078 lb ai isocycloseram/A) Maximum Single Application Rate (OUTDOORS): Do not apply more than 5 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A) Minimum Application Interval: 7 days Maximum Annual Rate: <ol style="list-style-type: none"> Plants Grown Outdoors and Outdoor Containerized Production – Do not make more than 3 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 4 applications per year when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A (equivalent to 0.24 lb ai isocycloseram/A/year). <ol style="list-style-type: none"> Do not apply more than 0.24 lb ai/A/year of isocycloseram-containing products. Plants Grown Indoors – Do not make more than 3 applications per acre per crop when applying the highest labeled rate (6.0 fl oz/A) or 4 applications per acre per crop when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 18.0 fl oz/A/crop/year (equivalent to 0.24 lb isocycloseram/A/crop/year). <ol style="list-style-type: none"> Do not apply more than 0.24 lb ai/A/crop/year of isocycloseram-containing products. Pre-Harvest Interval (PHI): 14 days 			

9.0 USE DIRECTIONS-Production of Juvenile Berry, Fruits and Vines for Retail Sale¹

9.1 Foliar Applications

Berry and Small Fruit Crop Group: Crop Group 13-07 – Including, but not limited to:²

Common blackberry; blueberry, highbush; currant, black; currant, red; gooseberry; grape; huckleberry; kiwifruit, fuzzy; native currant; raspberry, black and red; strawberry; cultivars, varieties, and hybrids of these commodities.

Tropical and Subtropical Fruit, Edible Peel Group: Crop Group 23 – Including, but not limited to:²

Acai; breadnut; cambuca; cashew apple; feijoa; fig; gooseberry, Abyssinian; gooseberry, Ceylon; gooseberry, Indian; guava, cattley; guava, strawberry; olive; papaya, mountain; persimmon, black; persimmon, Japanese; Surinam cherry; tamarind; cultivars, varieties, and hybrids of these commodities.

Tropical and Subtropical Fruit, Inedible Peel Group: Crop Group 24 – Including, but not limited to:²

Atemoya; avocado; banana; custard apple; dragon fruit; longan; lychee; mango; monkey-bread-tree; papaya; passionflower, persimmon, American; pineapple; plantain; pomegranate; cultivars, varieties, and hybrids of these commodities.

Production INDOORS			
Target Insect Pest	Dilution Rate (fl oz/100 gallons)	Application Timing	Use Directions
Mites ^[3]	4.0 – 8.0	Apply preventatively or after the pest has been observed.	Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray.
Leafminer ^[3]	4.0 – 6.0	Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases.	When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended.
Thrips ^[3]	4.0 – 8.0		
Japanese beetle ^[3] (adults)	6.0 – 10.3		If concentrate or mist-type spray equipment is used, apply an equivalent amount of product as would be used in a dilute application.
Flea Beetle ^[3]			
Leaf feeding caterpillars ^[3]	8.0 – 10.3		
Production OUTDOORS			
Target Insect Pest	Dilution Rate (fl oz/100 gallons)	Application Timing	Use Directions
Mites ^[3]	4.0 – 5.0	Apply preventatively or after the pest has been observed.	Mix Atexzo with the required amount of water and apply as a full-coverage foliar spray.
Leafminer ^[3]			
Thrips ^[3] [(Suppression)]		Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases.	When applying to hard-to-wet foliage, such as holly, pine, or ivy, the addition of a spreader/sticker is recommended.
Japanese beetle ^[3] (adults) [(Suppression)]	5.0		
Flea Beetle ^[3] [(Suppression)]			
Leaf feeding caterpillars ^[3] [(Suppression)]			

¹Atexzo may be applied to listed juvenile (or non-bearing) fruit, nut, vine, brambles, and bushberry plants in commercial greenhouse and nursery production. Immature or inedible fruit and nuts may be present on the plant at the time of application but are not intended for immediate harvest and/or consumption.

²A complete list of crops for Groups 13-07, 23 and 24 can be found in Appendix 12.0.

³Not registered for use by California.]

USE RESTRICTIONS

Resistance Management:

- Refer to **Section 3.1**.
- Do not make more than two sequential applications of Atexzo or any other foliar applied isocycloseram-containing product.

1) Refer to **Section 5.1** for additional product use restrictions.

2) **Do not** apply 3 days prior to flowering until the end of the flowering period.

3) **Maximum Single Application Rate (INDOORS):** **Do not** apply more than 10.3 fl oz/A (equivalent to 0.134 lb ai isocycloseram/A)

4) **Maximum Single Application Rate (OUTDOORS):** **Do not** apply more than 5.0 fl oz/A (equivalent to 0.065 lb ai isocycloseram/A)

5) **Minimum Application Interval:** 7 days

6) **Maximum Annual Rate:**

a. Plants Grown Outdoors and Outdoor Containerized Production – **Do not** make more than 4 applications per year when applying the highest labeled rate (5.0 fl oz/A) or 6 applications per year when applying lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 24.6 fl oz/A (equivalent to 0.32 lb ai isocycloseram/A/year).

i. **Do not** apply more than 0.32 lb ai/A/year of isocycloseram-containing products.

b. Plants Grown Indoors– **Do not** make more than 2 applications per acre per crop when applying the highest labeled rate (10.3 fl oz/A) or 6 applications per acre per crop when applying the lowest labeled rate (4.0 fl oz/A), not to exceed the maximum annual rate of 24.6 fl oz/A/crop/year (equivalent to 0.32 lb ai isocycloseram/A/crop/year).

i. **Do not** apply more than 0.32 lb ai/A/crop/year of isocycloseram-containing products.

10.0 STORAGE AND DISPOSAL

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Store in the original container. Store in a cool, dry and well-ventilated place. Protect from extreme heat. Do not store near food or feed.

Pesticide Disposal

Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling – [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling – [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

11.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential, or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

12.0 [APPENDIX – Complete Crop Group Listings]

[Complete Crop Group Listings]

Berry and Small Fruit Crop Group: Crop Group 13-07

Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Orgeon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); blueberry, highbush; blueberry, lowbush; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cloudberry; cranberry; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; grape; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, fuzzy; kiwifruit, hardy; lingonberry; maypop; mountain pepper berries; mulberry; muntries; native currant; partridgeberry; phalsa; pincherry; raspberry, black and red; riberry; salal; schisandra berry; sea buckthorn; serviceberry; strawberry; wild raspberry; cultivars, varieties, and/or hybrids of these

Tropical and Subtropical Fruit, Edible Peel Group: New Crop Group 23:

Acai; acerola; achachairu; African plum; agritos; almondette; ambarella; apak palm; appleberry; araza; arbutus berry; babaco; bacaba palm; bacaba-de-leque; bayberry, red; bignay; bilimbi; borojo; breadnut; cabeluda; cajou, fruit; cambuca; carandas-plum; carob; cashew apple; Ceylon iron wood; Ceylon olive; cherry-of-the-Rio-Grande; Chinese olive, black; Chinese olive, white; chirauli-nut; ciruela verde; cocoplum; date; Davidson's plum; desert-date; doum palm coconut; false sandalwood; feijoa; fig; fragrant manjack; gooseberry, Abyssinian; gooseberry, Ceylon; gooseberry, Indian; gooseberry, otaheite; governor's plum; grumichama; guabiroba; guava; guava berry; guava, Brazilian; guava, cattley; guava, Costa Rican; guava, para; guava, purple strawberry; guava, strawberry; guava, yellow strawberry; guayabillo; illawarra plum; imbe; imbu; Indian-plum; jaboticaba; Jamaica-cherry; jambolan; jelly palm; jujube, Indian; kaffir-plum; kakadu plum; kapundung; karanda; kwai muk; lemon aspen; mangaba; Marian plum; mombin, Malayan; mombin, purple; mombin, yellow; monkeyfruit; monos plum; mountain cherry; nance; natal plum; noni; olive; papaya, mountain; pataua; peach palm, fruit; persimmon, black; persimmon, Japanese; pitomba; plum-of-Martinique; pomerac; rambai; rose apple; rukam; rumberry; sea grape; sentul; sete-capotes; silver aspen; starfruit; Surinam cherry; tamarind; uvalha; water apple; water pear; water berry; wax jambu; cultivars, varieties, and hybrids of these commodities

Tropical and Subtropical Fruit, Inedible Peel Group: New Crop Group 24:

Abiu; aisen; akee apple; atemoya; avocado; avocado, Guatemalan; avocado, Mexican; avocado, West Indian; bacury; bael fruit; banana; banana, dwarf; binjai; biriba; breadfruit; Burmese grape; canistel; cat's-eyes; champedak; cherimoya; cupuacu; custard apple; dragon fruit; durian; elephant-apple; etambe; granadilla; granadilla, giant; ilama; inga; jackfruit; jatoba; karuka; kei apple; langsat; lanjut; longan; lucuma; lychee; mabolo; madras-thorn; mammy-apple; manduro; mango; mango, horse; mango, Saipan; mangosteen; marang; marmaladebox; matisia; mesquite; mongongo, fruit; monkey-bread-tree; monstera; nicobar-breadfruit; paho; pandanus; papaya; passionflower, winged-stem; passionfruit; passionfruit, banana; passionfruit, purple; passionfruit, yellow; pawpaw, common; pawpaw, small-flower; pelipisan; pequi; pequia; persimmon, American; pineapple; pitahaya; pitaya; pitaya, amarillo; pitaya, roja; pitaya, yellow; plantain; pomegranate; poshte; prickly pear, fruit; prickly pear, Texas, fruit; pulasan; quandong; rambutan; saguaro; sapodilla; sapote, black; sapote, green; sapote, mamey; sapote, white; sataw; satinleaf; screw-pine; Sierra Leone-tamarind; soncoya; soursop; Spanish lime; star apple; sugar apple; sun sapote; tamarind-of-the-Indies; velvet tamarind; wampi; white star apple; wild loquat; cultivars, varieties, and hybrids of these commodities]

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Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

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