UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

FARMWORKER JUSTICE, PESTICIDE ACTION & AGROECOLOGY NETWORK (PAN) NORTH AMERICA, and CENTER FOR FOOD SAFETY, *Petitioners*, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, and LEE ZELDIN, in his official capacity as Administrator, *Respondents.*	**Case No.** **PETITION FOR REVIEW**

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 Farmworker Justice,

Pesticide Action & Agroecology Network (PAN) North America, and Center for Food Safety (collectively, Petitioners) petition this Court to review the orders of the United States Environmental Protection Agency (EPA) approving the registration of cyclobutrifluram as a new active ingredient and registration of one technical and four end use products containing cyclobutrifluram. *See* Exhibits A-F (the final registration decision and five product labels).

EPA signed the order approving the unconditional registration of new active ingredient cyclobutrifluram on November 3, 2025. EPA Docket No. EPA-HQ-OPP-2022-0003-0082. *See* Exhibit A. EPA also approved the labels for one technical and four end use products containing cyclobutrifluram. *See* Exhibits B-F. EPA announced the final registration decision for products containing cyclobutrifluram on November 5, 2025.[1]

Because EPA held public notice and comment, judicial review under FIFRA is properly sought through a direct petition for review to

[1] Press Release, EPA, *EPA Registers New Pesticide Active Ingredient Cyclobutrifluram* (Nov. 5, 2025), https://www.epa.gov/pesticides/epa-registers-new-pesticide-active-ingredient-cyclobutrifluram.

this Court, rather than in district court. 7 U.S.C. § 136n(b); *United Farmworkers of America v. EPA*, 592 F.3d 1080, 1082 (9th Cir. 2010); *National Family Farm Coalition (NFFC) v. EPA*, 960 F.3d 1120, 1131 (9th Cir. 2020).

Petitioners allege that EPA violated its duties under FIFRA by approving the new active ingredient cyclobutrifluram and registering the five products, and that the registration lacks substantial evidence in support as required. As such, Petitioners respectfully petition this Court to: (1) declare that EPA violated FIFRA in approving the registration; (2) set aside, or vacate, the final registration decision and product registrations; (3) grant any other relief as may be necessary and appropriate.

Respectfully submitted this 29th day of December 2025.

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Description of Document(s) *(required for all documents)*:

(1) Petition for Review (2) Ex. A_EPA Final Decision for Cyclobutrifluram (3) Ex. B_EPA-HQ-OPP-2022-0003-0008_ Technical label (4) Ex. C_EPA-HQ-OPP-2022-0003-0007_A23156 Crop (5) Ex. D_EPA-HQ-OPP-2022-0003-0009_A22011 Crop (6) Ex. E_EPA-HQ-OPP-2022-0003-0010_A22417 ST (7) Ex. F_EPA-HQ-OPP-2022-0003-0015_A22011 T&O

Signature ____*s/Amy van Saun*_____ **Date** _**12/29/2025**_____
(use "s/[typed name]" to sign electronically-filed documents)

Exhibit A

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

Approved by: Ed Messina Digitally signed by EDWARD MESSINA Date: 2025.11.03 09:05:28 -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 (referred hereafter as EPA or the Agency) to register, under Section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), cyclobutrifluram as a new active ingredient (ai) for use on turf, ornamentals, and romaine lettuce, and as cotton and soybean seed treatments.

Cyclobutrifluram, *rel-N*-[(1*R*,2*R*)-2-(2,4-dichlorophenyl)cyclobutyl]-2-(trifluoromethyl)-3-pyridinecarboxamide, CAS number 1460292-16-3, is a new contact nematicide/fungicide for the control of nematodes and select soil and seedling diseases. Cyclobutrifluram has been reviewed as a work share between the U.S. and Canada. Cyclobutrifluram belongs to the pyridine-3-carboxamide nematicide/fungicide class of chemicals and is classified as a succinate dehydrogenase inhibitor (SDHI) under the Mode of Action Group N-3 nematicide by the Insecticide Resistance Action Committee (IRAC) and Group 7 fungicide by the Fungicide Resistance Action Committee (FRAC). Intended food uses, resulting from soil-directed and seed treatment application of cyclobutrifluram, include romaine lettuce, and treatment of cotton and soybean seeds. In addition, non-food uses, including foliar application on turfgrass (golf courses, residential/commercial lawns, sod farms, sports fields, and parks) as well as soil-directed application on ornamentals (including non-bearing fruit and nut trees, vines and berries in greenhouses and nurseries), tree nurseries (including Christmas tree farms), and residential and commercial landscapes are proposed. Cyclobutrifluram is formulated as a flowable concentrate (FC) for the seed treatment uses and as a suspension concentrate (SC) for all other uses (lettuce, turf, and ornamentals). The maximum annual application rate for cotton seed is 446 grams of ai per 100 (kg) seed (0.085 pounds (lb) ai / acre (A) which assumes a planting density of 19 lb seed/A). The maximum annual application rate for soybean seed is 75 g ai/100 kg seed (0.083 lb ai/A which assumes a planting density of 57 lb seed/A). The maximum single and annual application rate for lettuce is 0.089 lb ai/A. The maximum single application rate for turf is 0.22 lb ai/A, with up to two applications per year for a maximum annual application rate of 0.45 lb ai/A. The maximum single application rate for ornamental plants and non-bearing fruit and nut trees, vines, and berries is 0.187 lb ai/A, with up to two applications per year for a maximum annual application rate of 0.375 lb ai/A.

II. REQUESTED ACTION

On September 22, 2021, the EPA received an application from Syngenta Crop Protection, LLC. to register one technical and four end use products containing cyclobutrifluram (CAS number 1460292-16-3) for use on turf, ornamentals, romaine lettuce, and cotton and soybean seed treatments. Syngenta submitted this application concurrently with an application for review by Health Canada's Pest Management Regulatory Agency (PMRA). The EPA has shared the human health risk assessments with PMRA, but the two agencies did not perform a joint review.

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 allow a 30-day comment period. The EPA published a notice of receipt on June 21, 2022, in the Federal Register for an application requesting the registration of cyclobutrifluram. In addition, on May 20, 2022, the EPA published a notice of filing in the Federal Register announcing the receipt of the initial filing of the cyclobutrifluram petition by Syngenta Crop Protection, LLC, under the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting the establishment of tolerance regulations for residues of cyclobutrifluram in/on cotton; cotton, by-products; lettuce, romaine; and soybean. The public comment period closed on June 20, 2022, for the notice of filing and July 21, 2022, for the notice of receipt. Two comments were received on the notice of receipt. On April 23, 2025, EPA published the proposed decision to register cyclobutrifluram with a 15-day public comment period. The comment period closed on May 6, 2025, with 51 comments received. For more information on the public comments refer to Section V: Public Comments.

Syngenta requested reduced risk status and provided the information necessary for EPA to determine whether it met this requirement. Pursuant to FIFRA section 3(c)(10), EPA granted reduced risk status for Cotton and Soybean Seed Treatments and use in Turfgrass.

III. USE PROFILE

Table 1 outlines the uses for cyclobutrifluram. The end-use products are flowable concentrate (FC) and suspension concentrate (SC) formulations which will be applied as a foliar spray on turf, soil drench, broadcast, and chemigation for ornamentals, soil drench for romaine lettuce, and seed treatment for cotton and soybean. Depending on the use site, maximum single application rates range from 0.089 to 0.22 lb ai/A and maximum number of applications range from 1 to 2 per year. The minimum re-treatment interval (RTI) is 14 days for turf and ornamental uses.

Table 1. Summary of Directions for Use of Cyclobutrifluram.

App. Timing, Type, and Equip.	Formulation [File Symbol]	Max. Single App. Rate	Max. No. Apps. per Year	Max. Annual App. Rate	Use Directions and Limitations[1]
		Romaine Lettuce[1,5]			▪ PPE listed on label; no RTI specified; restricted entry interval (REI) is 12 hours (for agricultural use sites). ▪ Not for residential use. ▪ Do not apply through any ultra-low volume (ULV) spray system. ▪ For chemigation, do not apply until after crop emergence in direct-seeded crops. ▪ Not for plants grown for transplanting purposes. ▪ Not for greenhouse use unless otherwise specified in the specific crop directions for use table.
Soil (Banded); Apply prior to or at planting. Ground Equipment and Chemigation	Suspension Concentrate A22011 Crop 3.76 lb ai/gallon [100-1723] A23156 Crop 2.50 lb ai/gallon [100-1725]	0.089 lb ai/A	1	0.089 lb ai/A	

Table 1. Summary of Directions for Use of Cyclobutrifluram.

App. Timing, Type, and Equip.	Formulation [File Symbol]	Max. Single App. Rate	Max. No. Apps. per Year	Max. Annual App. Rate	Use Directions and Limitations[1]
On Farm and Commercial Seed Treatment	Flowable Concentrate A22417 ST 4.17 lb ai/gallon [100-1724]	**Cotton seed[2,5]**			▪ PPE listed on label; no RTI specified; PHI not applicable; REI is 12 hours (for agricultural use sites). ▪ This product must be used only by commercial seed treatment facilities or with commercial seed treatment equipment on farm. The use of a hopper-box, planter-box, slurry-box or other seed treatment applications at or immediately before planting is not permitted. ▪ Treated seeds are for planting purposes only. Do not feed or harvest soybean hay, forage, and silage. Do not use for feed, food, or oil purposes. ▪ For cottonseed, do not exceed 0.085 lb ai/A/year of cyclobutrifluram-containing products. ▪ For soybean seed, do not exceed 0.083 lb ai/A/year of cyclobutrifluram-containing products. ▪ Cyclobutrifluram treated seed may only be planted on the same acres 1 time per year.
		0.45 mg ai/seed	1 planting	0.45 mg ai/seed)	
		Soybean seed[2,5]			
		0.075 mg ai/seed	1 planting	0.075 mg ai/seed	
Soil (Banded), Broadcast, Container Drench, and Spot Treatment; Ground Equipment and Chemigation	Suspension Concentrate A22011 T&O 3.76 lb ai/gallon [100-1722]	**Turf[3,5]**			▪ PPE listed on label; RTI is 14-21 days; PHI not specified; REI is 12 hours (for agricultural sites). ▪ 0.0051 lb ai/1,000 sq ft for spot treatments on turf. Apply in 1-5 gallons of water per 1000 sq ft for turf. ▪ 0.22 lb ai/10,000 sq ft per acre per year for spot treatments on Golf Course Greens, Tees, and Fairways. Treat no more than 10,000 sq ft per acre per year. ▪ Do not use for commercial grass seed production. ▪ Do not apply this product aerially. ▪ Do not apply by chemigation to turf. ▪ Do not apply to fruit and nut trees, vines, or berry plants that will bear harvestable fruit within 12 months.
		0.22 lb ai/A	2	0.45 lb ai/A	
		Ornamental Plants[4,5] and Non-Bearing Fruit And Nut Trees, Vines, And Berries[4,5]			
		0.187 lb ai/A	2	0.375 lb ai/A	

1 All workers are required to wear single layer clothing defined as long sleeve shirt, long pants, shoes plus socks; and the following PPE: gloves for all workers, and protective eyewear. RTI = re-treatment interval. PHI = pre-harvest interval. REI = restricted entry interval.

2 This product is to be applied as a water-based slurry through standard liquid-type seed-treatment equipment. Seed treaters with atomizers or spinning discs are highly recommended for better product coverage on the seed. Allow seed to dry before bagging.

3 Turfgrass grown on sod farms; including plants and turfgrasses intended for aesthetic or recreational purposes or climatic modification in or around home lawns, residential dwellings, business and office complexes, shopping complexes, multi-family residential complexes, institutional buildings, airports, cemeteries, wildlife plantings, parks, playgrounds, schools, day-care facilities, golf courses, athletic fields, and other landscaped areas. Not for use on plants or turfgrass being grown for sale or other commercial use, commercial seed production, or for research purposes. For spot treatments on golf course, greens, tees, and fairways apply 0.11 lb ai per 10,000 sq ft and repeat up to 4 times a year at the prescribed intervals or apply 0.22 lb ai per 10,000 sq ft and repeat up to 2 times a year at the prescribed intervals.

4 100 gallons of spray volume per acre is recommended for application to field and container grown plants produced in greenhouses and nurseries, evergreen (including conifer) and deciduous tree nurseries and forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

5 Additional mitigations to address risks identified in the Agency's environmental risk assessment were added to product labels and are discussed under section C. Label Requirements.

IV. EVALUATION

In evaluating a pesticide registration application, the EPA assesses a wide variety of exposure information (i.e., where and how the pesticide is used), 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) to determine the likelihood of adverse effects (i.e., risk) from exposures associated with the use of the pesticide. 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). In addition, a benefits assessment may be conducted. On the basis of these assessments, the EPA evaluates and approves language for each pesticide label to ensure the directions for use and safety measures are appropriate to mitigate any potential risk. 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 Section 7(a)(2) of the Endangered Species Act (ESA), EPA also assessed the potential effects of the proposed use of cyclobutrifluram 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

1. Toxicology Profile

Cyclobutrifluram is a novel pyridine-3-carboxamide nematicide/fungicide with a pesticidal mode of action that functions via inhibition of complex II succinate dehydrogenase, but the mammalian mode of action is not known at this time. Following the administration of cyclobutrifluram, the target organs include the liver (mouse) and thyroid (rat). In addition, decreased absolute body weight was observed in rats and dogs following subchronic administration of the test compound. No adverse effects were observed in the chronic/carcinogenicity toxicity study in the rats and the carcinogenicity toxicity study in mice up to the highest doses tested (23/34 mg/kg/day (M/F) and 48/54 mg/kg/day (M/F), respectively).

The thyroid is the most sensitive endpoint in the cyclobutrifluram toxicity database. Following subchronic exposure of rats to cyclobutrifluram, follicular cell hypertrophy in males and females was observed after 28- (331 mg/kg/day) and 90-day (187 mg/kg/day) exposures. Follicular cell hypertrophy and increased thyroid weights were observed in both sexes of the P generation and males of the F1 generation of the multigeneration reproductive toxicity study at 43/55 mg/kg/day (M/F). Maternal thyroid hormones levels (T3, T4, and TSH) were measured in the developmental rat toxicity study up to and including the highest dose tested (250 mg/kg/day) and no adverse changes were observed. The need for additional thyroid data for cyclobutrifluram was considered by EPA's Hazard and Science Policy Council (HASPOC) using a

weight-of-evidence (WoE) approach. The HASPOC recommended that additional thyroid data are not needed at this time (A. Turley, TXR 0058709, 11-DEC-2024).

Treatment-related effects to the liver and spleen (increased reticulocytes along with increased spleen weights and extramedullary hematopoiesis) were observed in mice following 28-day (338/334 mg/kg/day (M/F)) and 90-day (249/309 mg/kg/day (M/F)) exposures. Liver effects included liver hypertrophy, increased liver weights, increased triglycerides, and increased liver enzymes (alkaline phosphatase (ALP) and alanine transferase (ALT)) as a suite of effects. Cecum effects (increased inflammatory cell infiltration of the lamia propria) were observed in rats at 331/485 mg/kg/day (M/F) following 28-day oral exposure. Lung effects (alveolar duct wall thickening, increased alveolar macrophages, and bronchioles/alveolar wall smooth muscle cell hypertrophy) were observed following inhalation exposure for 28 days at 0.08 mg/L. Following chronic oral exposure of rats and mice to cyclobutrifluram, no adverse effects were observed up to the highest doses tested (23/34 mg/kg/day (M/F) and 48/54 mg/kg/day (M/F), respectively). Also, no dermal toxicity following 28-day exposure was identified up to and including the limit dose in the route specific study.

No quantitative or qualitative lifestage susceptibility was observed in either the developmental or reproductive toxicity studies up to the highest doses tested. Thyroid toxicity to the parental animals in both the P and F1 generations occurred at the same dose level (43/55 mg/kg/day (M/F)) as reproductive toxicity (decreased fertility in both sexes of the F1 generation). In the dose range-finding and definitive development studies for the rat and rabbit, neither maternal toxicity nor developmental toxicity was detected up to and including the highest doses tested (250 mg/kg/day (rat) and 125 mg/kg/day (rabbit)).

Additional absorption, distribution, metabolism, and excretion (ADME) data was evaluated by the EPA and used in a weight of evidence argument to determine whether the developmental studies tested high enough. The EPA concluded that the data for the rat and rabbit developmental toxicity studies are considered adequate and additional studies are not recommended at this time.

There was no evidence of neurotoxicity in the available acute neurotoxicity (ACN) study up to and including the highest dose tested (2,000 mg/kg) or throughout the database.

Cyclobutrifluram has low acute oral (Toxicity Category IV), acute dermal (Toxicity Category III), and acute inhalation (Toxicity Category IV) toxicity. Cyclobutrifluram is a mild eye (Toxicity Category IV) and skin irritant (Toxicity Category IV) but is not a dermal sensitizer. Acute toxicity studies were also conducted for SYN510260 (2-(trifluoromethyl)pyridine-3-carboxylic acid), a plant metabolite of cyclobutrifluram. While SYN510260 has low acute oral toxicity (Toxicity Category IV) and is not a skin irritant (non-corrosive, non-irritating), it is a severe eye irritant (Toxicity Category I).

Cyclobutrifluram has been classified as "Not Likely to be Carcinogenic to Humans;" therefore, a quantitative cancer assessment is not required (A. Turley, TXR# 0058734, 04/15/2025). The

toxicological endpoints and points of departure (PoDs) used in the human health risk assessment are summarized below in Tables 2 and 3.

EPA has determined that, based on the proposed used patterns, all relevant data requirements specified in the Title 40, Part 158 of the Code of Federal Regulations (40 CFR Part 158) have been completed.

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

Exposure/ Scenario	POD	Uncertainty/ FQPA Safety Factors	RfD, PAD, Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary (General Population, including Infants, Children, and Females 13-49 years of age)	No appropriate acute endpoint identified for any population subgroup (i.e., no toxic effect attributable to a single dose identified).			
Chronic Dietary (General Population)	NOAEL = 11 mg/kg/day	UF_A = 3X UF_H = 10X FQPA SF = 1X	Chronic RfD = 0.37 mg/kg/day cPAD = 0.37 mg/kg/day	Multigeneration Reproductive Toxicity Study (MRID 51460033) Parental LOAEL = 43/55 mg/kg/day (M/F) based on increased thyroid weights in males of the parental generation and follicular cell hypertrophy of the thyroid in both sexes of the parental generation and males of the F1 generation.
Incidental Oral / Adult Oral Short-Term (1-30 days) and Intermediate-Term (1-6 months)	NOAEL = 11 mg/kg/day	UF_A = 3X UF_H = 10X FQPA SF = 1X	Residential LOC for MOE =30	Multigeneration Reproductive Toxicity Study (MRID 51460033) Parental LOAEL = 43/55 mg/kg/day (M/F) based on increased thyroid weights in males of the parental generation and follicular cell hypertrophy of the thyroid in both sexes of the parental generation and males of the F1 generation.
Dermal Short-Term (1-30 days) and Intermediate-Term (1-6 months)	There were no adverse effects observed in the route-specific dermal toxicity study in rats, in which the target organs were examined, up to and including the limit dose (1000 mg/kg/day). Also, increased qualitative or quantitative susceptibility was not observed throughout the toxicity database at the doses tested. Thus, a dermal assessment is not needed and an endpoint to evaluate dermal exposure was not selected.			

Table 2. Summary of Toxicological Doses and Endpoints for Cyclobutrifluram for Use in Dietary and Non-Occupational Human Health Risk Assessments.				
Exposure/ Scenario	**POD**	**Uncertainty/ FQPA Safety Factors**	**RfD, PAD, Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Inhalation Short- Term (1-30 days) and Intermediate-Term	NOAEL = 11 mg/kg/day	UF_A = 3X UF_H = 10X FQPA SF = 1X	Residential LOC for MOE = 30	Multigeneration Reproductive Toxicity Study (MRID 51460033) Parental LOAEL = 43/55 mg/kg/day (M/F) based on increased thyroid weights in males of the parental generation and follicular cell hypertrophy of the thyroid in both sexes of the parental generation and males of the F1 generation.
Cancer (oral, dermal, inhalation)	"Not Likely to Be Carcinogenic to Humans" (A. Turley, TXR# 0058734, 04/15/2025)			

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 = FQPA Safety Factor. PAD = population-adjusted dose (a = acute, c = chronic). RfD = reference dose. MOE = margin of exposure. LOC = level of concern.

Table 3. Summary of Toxicological Doses and Endpoints for Cyclobutrifluram for Use in Occupational Human Health Risk Assessments.				
Exposure/ Scenario	**POD**	**Uncertainty Factors**	**Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Dermal (Adult) Short-Term (1-30 days) and Intermediate-Term (1-6 months)	There were no adverse effects observed in the route-specific dermal toxicity study in rats, in which the target organs were examined, up to and including the limit dose. Also, increased qualitative or quantitative susceptibility was not observed throughout the toxicity database at the doses tested. Thus, a dermal assessment is not needed and an endpoint to evaluate dermal exposure was not selected.			
Inhalation (Adults) Short-Term (1-30 days) and Intermediate-Term	NOAEL = 11 mg/kg/day	UF_A = 3X UF_H = 10X	Residential LOC for MOE = 30	Multigeneration Reproductive Toxicity Study (MRID 51460033) Parental LOAEL = 43/55 mg/kg/day (M/F) based on increased thyroid weights in males of the parental generation and follicular cell hypertrophy of the thyroid in both sexes of the parental generation and males of the F1 generation.

Table 3. Summary of Toxicological Doses and Endpoints for Cyclobutrifluram for Use in Occupational Human Health Risk Assessments.				
Exposure/ Scenario	**POD**	**Uncertainty Factors**	**Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Cancer (oral, dermal, inhalation)	"Not Likely to Be Carcinogenic to Humans" (A. Turley, TXR# 0058734, 04/15/2025)			

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). MOE = margin of exposure. LOC = level of concern.

2. Dietary (Food + Water) Risks

An acute dietary exposure assessment was not conducted for cyclobutrifluram as no appropriate acute endpoint was identified for any population subgroup (i.e., no toxic effect attributable to a single dose identified).

Unrefined chronic aggregate dietary food and drinking water exposure and risk assessments were 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 the U.S. Department of Agriculture's (USDA's) National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA). The chronic dietary exposure and risk assessment is based on tolerance equivalent residues, upper-bound estimated drinking water concentrations (EDWCs), 100% crop treated assumptions, and default processing factors. The exposure for the general U.S. population was 0.001930 mg/kg/day, which resulted in a chronic population-adjusted dose (% cPAD) of less than 1% (<1%). The highest exposed population subgroup to cyclobutrifluram was all infants less than 1 year (<1 year) old with an exposure of 0.007171 mg/kg/day, equivalent to 1.9% cPAD.

3. Occupational Handlers Risks

Short- and intermediate-term occupational handler inhalation risk estimates are not of concern (i.e., margins of exposure (MOEs) ≥ the level of concern (LOC) of 30) at baseline (i.e., single layer clothing and no respirator). Inhalation MOEs with baseline attire (no respirator) range from 390 to 12,000,000.

Short-term dermal occupational handler and post-application exposures were not assessed since there were no adverse effects observed in the route specific dermal toxicity study up to and including the limit dose for cyclobutrifluram. Under 40 CFR § 156.208(c)(2), active ingredients classified as Acute III or IV for acute dermal, eye irritation and primary skin irritation are assigned a 12-hour restricted entry interval (REI). Therefore, the 40 CFR Part 156, subpart K Worker Protection Statement interim REI of 12 hours is adequate to protect agricultural

workers from post-application exposures to cyclobutrifluram. This is the REI listed on the proposed labels and is considered protective of post-application exposure.

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

4. Residential Risk

All registered cyclobutrifluram product labels with residential use sites (e.g., lawns and turf) require that handlers wear specific clothing (e.g., long sleeve shirt/long pants) and/or PPE. Therefore, HED has made the assumption that these products are not for homeowner use and has not conducted a quantitative residential handler assessment. However, because there are uses in/on residential areas which are likely to be applied by professional applicators, short-term residential post-application assessments are conducted as needed. Since there were no adverse effects observed in the route-specific dermal toxicity study up to and including the limit dose, no dermal endpoint was selected for cyclobutrifluram; therefore, only residential post-application incidental oral exposures to children 1 to less than 2 years old are assessed. Using chemical-specific turf transferable residue (TTR) data, risk estimates are not of concern (i.e., MOEs ≥ the LOC of 30). Residential incidental oral post-application risk estimates range from 2,700 to 1,500,000.

5. Aggregate Risk

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, the EPA considers both the route and duration of exposure.

Acute and intermediate-term aggregate exposure assessments were not conducted for cyclobutrifluram as no appropriate acute endpoint was identified, and intermediate-term residential exposures are not expected.

The short-term aggregate risk assessment for cyclobutrifluram combines short-term residential exposures (incidental oral) and average dietary (food and drinking water) exposures. The short-term aggregate assessment results in an MOE of 1,600 for children (LOC=30); there are no short-term aggregate risk estimates of concern.

The chronic aggregate risk assessment includes exposure to food and drinking water only as chronic residential exposures are not expected; there are no chronic aggregate risk estimates of concern.

6. Cumulative Risk

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

7. Non-Occupational Spray Drift 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 with ground equipment may result in pesticide drift and deposition in non-target areas adjacent to the application site.

A quantitative spray drift assessment for cyclobutrifluram 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 0.22 lb ai/A. As a result, the residential turf post-application MOEs are protective of any potential spray-drift exposure and a specific spray drift assessment was not conducted.

B. Assessment of Environmental and Ecological Risks

Ecological risk characterization integrates the results of the exposure and ecotoxicity data to evaluate the likelihood of adverse ecological effects. The means of integrating the results of exposure and ecotoxicity data is called the risk quotient method. For this method, risk quotients (RQs) are calculated by dividing exposure estimates by ecotoxicity values, both acute and chronic (RQ = Exposure/Toxicity). RQs are then compared to the EPA's levels of concern (LOCs). The LOCs are criteria used by the EPA to indicate potential risk to non-target organisms. The criteria indicate whether a pesticide has the potential to cause adverse effects to non-target organisms. The ecological risk assessment (ERA) examines the potential for adverse effects to non-listed non-target organisms associated with uses of cyclobutrifluram. The EPA also conducted an assessment that evaluates potential effects on federally listed or proposed endangered or threatened species ("listed species") and designated or proposed critical habitats (CHs).

The taxa evaluated in the ERA includes mammals, birds (which serve as surrogates for reptiles and terrestrial-phase amphibians), honey bees (which serve as surrogates for terrestrial invertebrates), fish (where freshwater fish serve as surrogates for aquatic-phase amphibians), aquatic invertebrates, and aquatic and terrestrial plants. 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. 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, 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 cyclobutrifluram use patterns, all relevant data requirements specified in the Title 40, Part 158 of the Code of Federal Regulations (40 CFR Part 158) have been completed, waived, or were not triggered.

This section summarizes the EPA's Environmental and Ecological Risk Assessment for cyclobutrifluram. The complete assessment can be found in docket ID number EPA-HQ-OPP-2022-0003 at www.regulations.gov.

1. Environmental Fate Profile

The environmental fate dataset is complete at this time for cyclobutrifluram with only the parent chemical considered a residue of concern (ROC). There is limited information regarding the degradates due to the persistence of parent cyclobutrifluram in most environmental fate studies. Although the formation and persistence of degradates is incompletely described, the environmental persistence of the parent used to evaluate potential exposure results in conservative exposure estimates.

Cyclobutrifluram is not subject to hydrolysis and degrades with half-lives >100 days by most other exposure routes except for aqueous photolysis (estimated half-life 28 days). In aerobic soil, aerobic aquatic, and anaerobic aquatic metabolism studies, cyclobutrifluram degraded with estimated half-lives ranging from 198 to 1230 days. Cyclobutrifluram dissipated from the soil profile (via transformation or transport) in nine field dissipation studies with estimated time brackets to 50% disappearance time (DT_{50}) for each individual study ranging from 14 - 49 days to 63 - 271 days for the studies with the most rapid and least rapid dissipation, respectively. Significant carryover of cyclobutrifluram into the next year was observed in each of the field studies.

The potential for leaching to groundwater of cyclobutrifluram can occur with long term use where vulnerable aquifers are present, as indicated by K_{oc} values from 301 to 643 L/kg. The K_{oc} values are in the moderately mobile range according to the Food & Agriculture Organization of

the United Nations (FAO) classification. Cyclobutrifluram can be transported to surface waters via runoff and spray drift.

The log K_{ow} (octanol-water coefficient) of 3.2 (pH 7) for cyclobutrifluram indicates a potential concern to aquatic feeding wildlife via bioaccumulation in the aquatic food web. However, the measured bioconcentration factor (BCF; 31 L/kg-wet weight) combined with model-predictions of bioaccumulation indicate low risk to aquatic-feeding wildlife.

Many of the theoretical degradates were not analyzed for or detected in many studies. It appears that under some environmental conditions the degradates SYN510275 and possibly SYN510260 (derivatives of the trifluoromethyl pyridine ring after cleavage of the parent molecule) might form at high enough levels and persist for sufficiently long periods to become major degradates. For example, combined residues of these two compounds did exceed 10% of applied in three soil column studies. However, this is not certain to be generally the case as limited formation was confirmed in the other submitted environmental fate studies after a duration of up to 3 or 4 months. Eventually trifluoroacetic acid (TFA) is split from the pyrindyl ring. TFA is a compound formed from many xenobiotics, and which may be mobile and persistent in the environment. TFA in available studies has only shown to have effects on various classes organisms at concentrations significantly higher than those expected from the use of cyclobutrifluram. Another degradate that is a derivative of the 2,4-dichlorophenyl ring was found to be a major product in a single field dissipation study and the soil photolysis study only is 2,4-dichlorobenzoic acid.

2. Ecological Effects and Risks

The EPA has assessed the ecological effects of cyclobutrifluram based on multiple lines of evidence which includes laboratory and field studies with surrogate species representing broad taxonomic groups. The ecotoxicity data for cyclobutrifluram includes registrant-submitted acute and chronic toxicity data. Since cyclobutrifluram has not previously been in use in the U.S., no incident data nor open literature studies are available. In the following sections, the toxicity of cyclobutrifluram to various taxonomic groups is summarized. The EPA integrates effects data with exposure estimates to generate RQ values. Table 4 summarizes RQs and LOC exceedances for species associated with the use of cyclobutrifluram. Based on available data, the EPA determined that the uses of cyclobutrifluram do not pose acute or chronic risks to aquatic animals (*e.g.,* fish, amphibians, aquatic invertebrates). Similarly, no risk is expected for aquatic, wetland, or terrestrial plants. For terrestrial animals (*e.g.,* birds, mammals, terrestrial invertebrates), acute risks are not expected.

Aquatic Vertebrates

On an acute basis, cyclobutrifluram was determined to be slightly toxic to fish, but risks of concern are not indicated. On a chronic basis, significant reductions in length and growth were observed; however, risks were determined to be low for freshwater fish and estuarine/marine fish. RQ values did not exceed the LOC.

Aquatic Invertebrates

On an acute basis, RQs were not calculated due to a non-definitive end point and risks to cyclobutrifluram are expected to be low for freshwater aquatic invertebrates. Cyclobutrifluram exposure via water column was highly toxic to estuarine/marine invertebrates (oysters) on an acute basis. For subchronic sediment exposures to freshwater benthic invertebrates, significant effects to survival were observed. No significant effects to estuarine/marine benthic invertebrates were noted. For chronic exposures to freshwater invertebrates, there were decreases in length, the number of live offspring, and successful birth rate, while the time to first brood increased. For estuarine/marine invertebrates, there were significant reductions in time to first brood. Acute and chronic RQ values did not exceed the LOC.

Terrestrial Vertebrates

On an acute basis, cyclobutrifluram was determined to be practically non-toxic to birds and mammals. Chronic risk calculations are based on studies where no significant effects were detected, and the no observed adverse effect concentration (NOAEC) was set at the highest concentration/dose tested. Therefore, chronic risk predictions for birds and mammals may overestimate risk since the toxicological threshold for chronic effects (*i.e.,* the lowest observed adverse effect concentration/level (LOAEC/LOAEL)) was not achieved for these taxa.

Birds

For the uses of cyclobutrifluram, a potential for chronic risk is indicated for non-listed and listed birds (RQs <0.01 - 2.4) from consumption of treated cotton seeds but is not likely as birds would need to consume greater than 100% of their diet in cyclobutrifluram treated seeds to reach the number of seeds of concern.

Mammals

Potential for chronic risk was also indicated for non-listed and listed mammals (RQs <0.01 - 10) based on seed treatment uses for cotton and soybean via consumption of treated seed. For mammals, the percentage of diet needed to reach the number of seeds of concern ranges from 10-22% for cotton seeds and 45-98% for soybean seeds.

Terrestrial Invertebrates – Bees

On an acute basis, cyclobutrifluram was determined to be practically non-toxic to honey bees. No significant effects were detected in the chronic studies with adult honeybees, and the NOAEC was set at the highest concentration/dose tested. For larval honey bees (*Apis mellifera* L.), significant decreases in adult emergence and increases in day 15 mortality were observed at 0.428 µg a.i./larva/day. Chronic risks for adult honeybee (RQs 0.01 - 1.2) and larva (RQs 0.13 - 19) exceed the LOC. These potential chronic risks to honey bees are from cyclobutrifluram exposure through turfgrass foliar applications, but due to label language restricting applications when flowering/blooming weeds/plants are present, the potential for risk is considered low. Risks to honey bees are not expected for ornamental uses and cottonseed and soybean seed treatments. Additionally, turf itself is not considered attractive since it is not a source nectar or pollen. Although uptake of residues of cyclobutrifluram from soil may occur, the risk estimate for soil application results in chronic risks to honey bees that fall below the level of concern.

Other Terrestrial Invertebrates
Several studies conducted with terrestrial invertebrates considered to be beneficial arthropods (parasitic wasps and predatory mites) and other terrestrial invertebrates (earthworms) suggest cyclobutrifluram has the potential to disrupt reproduction in these taxa. For listed terrestrial invertebrates, there is no identified risk from contact exposure (soil, spray droplets, or treated surfaces), but there is potential for chronic dietary exposure (from leaves and arthropod prey) and risk based on uses for turf and ornamentals (RQ range: <0.01 - 10).

Aquatic Plants
For aquatic plants, significant reductions in frond yield were seen for vascular plants, and significant reductions in the area under the curve (AUC), cell density, and growth rate were observed for non-vascular plants None of the aquatic plant RQs in the Aquatic Plant Exposure Zone (APEZ) or Wetland Plant Exposure Zone (WPEZ) exceed the level of concern (LOC) for plants set at 1.0 for non-listed and listed species. No direct effects to aquatic plants are expected from cyclobutrifluram use.

Semi-aquatic plants
RQ values could not be calculated for non-listed terrestrial plants, due to non-definitive endpoints for both seedling emergence and vegetative vigor studies. None of the RQ values representing the risk potential for semi-aquatic plants in the WPEZ exceeded the LOC. No direct effects to semi-aquatic plants are expected from cyclobutrifluram use.

Terrestrial Plants
For terrestrial plants, no effects to any species were observed in the vegetative vigor study. For seeding emergence, significant decreases to survival and emergence were observed. None of the RQ values representing the risk potential in the PAT terrestrial plant exposure zone (TPEZ) exceeded the LOC. Cyclobutrifluram is not expected to cause any direct effects to terrestrial plants from its use patterns.

The environmental fate and ecological effects suites of data for cyclobutrifluram are complete at this time. Higher tier bee studies may be needed in the future if the applicant proposes uses that would result in exposure to honey bees.

Table 4. Summary of Risk Quotients for Taxonomic Groups from Current Uses of Cyclobutrifluram

Taxa	Exposure Duration	Risk Quotient (RQ) Range[1]	RQ Exceeding the LOC		Additional Information/ Lines of Evidence
			Non-listed Species	Listed Species	
Freshwater Fish	Acute	<0.01	No	No	--
	Chronic	<0.01 - 0.01	No	No	--

Table 4. Summary of Risk Quotients for Taxonomic Groups from Current Uses of Cyclobutrifluram					
Taxa	**Exposure Duration**	**Risk Quotient (RQ) Range[1]**	**RQ Exceeding the LOC**		**Additional Information/ Lines of Evidence**
			Non-listed Species	**Listed Species**	
Estuarine/ Marine Fish	Acute	NC	No	No	Non-definitive acute endpoint.
	Chronic	<0.01 - 0.03	No	No	--
Freshwater Invertebrates (Water-Column Exposure)	Acute	NC	No	No	Non-definitive acute endpoint.
	Chronic	<0.01 - 0.02	No	No	--
Estuarine/ Marine Invertebrates (Water-Column Exposure)	Acute	0.01 - 0.05	No	No	--
	Chronic	0.01 - 0.09	No	No	--
Freshwater Invertebrates (Sediment Exposure)	Subchronic	Acute: [2] NC Chronic: <0.01 - 0.03	No	No	--
Estuarine/Marine Invertebrates (Sediment Exposure)	Subchronic	Acute: [2] 0.01 - 0.05 Chronic: <0.01	No	No	--
Birds	Acute	NC	No	No	Non-definitive acute endpoint.
	Dietary	NC	No	No	Non-definitive acute endpoint.
	Chronic	<0.01 - **2.4**	Yes	Yes	LOC exceedances based on cotton seed treatment. Non-definitive LOAEC. No effects observed up to the highest test concentrations. Risk for birds from consumption of treated seeds is expected to be low. Diets would need to consist of greater than 100% treated seeds to reach the number of seeds of concern.
Mammals	Acute	NC	No	No	Non-definitive acute endpoint.
	Chronic	<0.01 – **10**	Yes	Yes	LOC exceedances based on seed treatment applications.

Table 4. Summary of Risk Quotients for Taxonomic Groups from Current Uses of Cyclobutrifluram						
Taxa	**Exposure Duration**		**Risk Quotient (RQ) Range[1]**	**RQ Exceeding the LOC**		**Additional Information/ Lines of Evidence**
				Non-listed Species	**Listed Species**	
						Non-definitive LOAEC. No effects observed up to the highest test concentrations. Diets would need to consist of 10-98% treated seeds to reach the number of seeds of concern.
Terrestrial Invertebrates[3]	Acute Adult		NC	No	No	Non-definitive acute endpoints. Chronic LOC exceedances for adults and larvae based on turf use. Non-definitive LOAEL for adult chronic study. No effects observed up to the highest test dose. Risk to honey bees is expected to be low, due to restrictions on the label to avoid applying in the presence of blooming plants. Studies conducted with other terrestrial invertebrates suggest the potential for reproductive effects.
	Chronic Adult		0.01 – **1.2**	Yes	Yes	
	Acute Larval		NC	No	No	
	Chronic Larval		0.13 - **19**	Yes	Yes	
	Listed Species-Contact	Soil[4]	<0.01		No	
		Spray Droplets[5]	NC		No	Non-definitive endpoint. No effects observed up to the highest test dose.
		Treated Surfaces[6]	0.37		No	Representative of chronic exposure.
	Listed Species - Dietary[7]	Acute	NC		No	Non-definitive acute endpoints.
		Chronic	<0.01 - **10**		Yes	Chronic LOC exceedances for larvae, based on turf and ornamental uses, for consumption of tall grass, broadleaf plants, and arthropods.

Table 4. Summary of Risk Quotients for Taxonomic Groups from Current Uses of Cyclobutrifluram					
Taxa	**Exposure Duration**	**Risk Quotient (RQ) Range[1]**	**RQ Exceeding the LOC**		**Additional Information/ Lines of Evidence**
			Non-listed Species	**Listed Species**	
Aquatic Plants	N/A	Non-Listed: <0.01 - 0.01 Listed: <0.01 - 0.12	No	No	--
Semi-Aquatic Plants	N/A	Non-Listed: NC Listed: 0.01 - 0.16			Non-definitive endpoint for non-listed species.
Terrestrial Plants	N/A	Non-Listed: NC Listed: 0.01 - 0.43	No	No	Non-definitive endpoint for non-listed species.

Level of Concern (LOC) Definitions:
Terrestrial Vertebrates: Acute (non-listed)=0.5; Acute (listed)= 0.1; Chronic=1.0
Terrestrial Invertebrates: Acute (non-listed)=0.4; Acute (listed)= 0.1; Chronic=1.0
Aquatic Animals: Acute (non-listed)=0.5; Acute (listed)= 0.05 Chronic=1.0
Plants: 1.0
Bold values exceed the LOC for non-listed and listed species. *Italicized* values exceed the LOC for listed species.
[1] RQs reflect exposure estimates for cyclobutrifluram and maximum application rates allowed on labels.
[2] Based on water-column toxicity data compared to pore-water concentration.
[3] RQs for terrestrial invertebrates are applicable to honey bees, which are also a surrogate for other species of bees. Risks to other terrestrial invertebrates (*e.g.*, earthworms, beneficial arthropods) are only characterized when toxicity data are available.
[4] Based on earthworm (*Eisenia andrei*) sub-lethal reproduction study.
[5] Based on honey bee (*Apis mellifera*) contact exposure study.
[6] Based on parasitic wasp (*Aphidius rhopalosiphi*) mortality and reproduction study.
[7] Based on honey bee (*A. mellifera*) acute and chronic oral toxicity studies.

3. Effects Determination under the Endangered Species Act

Consistent with ESA section 7(a)(2), EPA conducted a biological evaluation (BE) to assess the potential effects of cyclobutrifluram on listed species and 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 and is based on the potential use sites associated with the uses of cyclobutrifluram. EPA conducted an overlap analysis to determine which listed species and designated CHs occur within this action area. EPA also considered life history, toxicity, and exposure information to determine if cyclobutrifluram has no effect (NE) or may affect (MA) listed species and designated CHs.

EPA made NE determinations for 1482 (out of 1726) listed species and 847 (out of 944) CHs (Table 5 and Table 6). EPA made NE determinations for all listed species and critical habitats of

fish, aquatic invertebrates, and plants, because effects to these species from direct and indirect effects are not reasonably certain to occur from this action. Although many listed plants depend on terrestrial insects such as pollinators, EPA concluded that indirect effects to listed plants are not reasonably certain to occur, both because of the pollinator protection restrictions included in this action that avoid exposures to pollinators and because listed plants are not expected to occur on the treatment sites where insect effects may occur (i.e., turf and ornamentals). EPA made NE determinations for listed species and critical habitats where effects are not reasonably certain to occur from the proposed action due to a lack of direct or indirect effects and/or no or very low (<1%) overlap with the action area. EPA made NLAA determinations for all 244 species and 97 CHs with MA determinations, because effects are extremely unlikely to occur and are therefore insignificant or exposure is discountable. In general, effects were determined to be unlikely due to dietary considerations of the individual species, general habitat information and the likelihood of concurrence with the use sites, and/or the defined physical or biological features of CHs.

EPA made NE determinations on all listed species and critical habitats that fall under the authority of the National Marine Fisheries Service (NMFS). Therefore, EPA has not sought consultation with NMFS for this action. EPA made NE and MA/NLAA determinations for listed species and critical habitats (see Tables 5 and 6) that fall under the authority of the US Fish and Wildlife Services (FWS), which triggered an informal consultation with FWS. EPA did not make any LAA determinations for any listed species or designated critical habitats; therefore, EPA is not seeking formal consultation on this action at this time. Following consideration of public comments and feedback from FWS, EPA has finalized the effects determinations in the final BE. On June 27, 2025, EPA initiated informal consultation with FWS. On August 29, 2025, FWS concurred with the Agency's NLAA determinations for the uses of cyclobutrifluram and the informal consultation was concluded.

Table 5. Summary of Effect Determinations for Federally Listed and Proposed Endangered and Threatened Species.

Taxonomic Group	# Species with Potential Direct Effects	# Species with Potential Indirect Impacts based on Impacts to:		Effects Determinations (# of Species)			Total # of Listed Species
		Mammals	Terrestrial Invertebrates	No Effect	Not Likely to Adversely Affect	Likely to Adversely Affect	
Amphibians	0	1	30	15	30	0	45
Aquatic Invertebrates	0	0	0	195	0	0	195
Birds	0	5	53	42	54	0	96
Fish	0	0	0	175	0	0	175
Mammals	2	6	40	51	45	0	96
Plants	0	0	0	944	0	0	944
Reptiles	0	4	13	41	15	0	56
Terrestrial Invertebrates	100	1	30	19	100	0	119
Total				1482	244	0	1726

Table 6. Summary of Effect Determinations for Designated and proposed Critical Habitats (CHs).

Taxonomic Group	# CHs with Potential Direct Effects	# CHs with Potential Indirect Impacts based on Impacts to:		Effects Determinations (# of CHs)			Total # of CHs
		Mammals	Terrestrial Invertebrates	No Effect	Not Likely to Adversely Affect	Likely to Adversely Affect	
Amphibians	0	1	6	22	7	0	29
Aquatic Invertebrates	0	0	0	109	0	0	109
Birds	0	2	10	25	10	0	35
Fish	0	0	0	122	0	0	122
Mammals	4	6	13	36	15	0	51
Plants	0	0	0	505	0	0	505
Reptiles	0	0	6	22	6	0	28
Terrestrial Invertebrates	59	1	24	6	59	0	65
Total				847	97	0	944

C. Benefits Assessment

Cyclobutrifluram belongs to IRAC Group N-3 (one of only two such pesticides) and FRAC Group 7 and offers a combination of nematicidal and fungicidal activity. Cyclobutrifluram will likely provide control of economically damaging nematodes and fungal pathogens in most proposed use sites as well as flexibility and ease of application methods and timing. In lettuce,

ornamentals, and turfgrass, most cyclobutrifluram alternatives are soil fumigants, which are costly and complicated to apply, as only a certified pesticide applicator may perform applications. Cyclobutrifluram can be applied with more targeted methods (banded, spot treatment), which allows applications in response to monitoring and economic thresholds in support of an integrated pest management (IPM) approach.

Cyclobutrifluram will be the first active ingredient with a succinate dehydrogenase inhibitor (SDHI) (IRAC Group N-3 and FRAC Group 7) mode of action (MOA) to list both nematodes and fungal pathogens as target pests in all of these use sites. The active ingredient fluopyram also offers nematicidal and fungicidal activity however, nematodes and fungal pathogens are not listed as target pests on all labeled use sites. Generally, there is low potential for nematicide resistance development among plant-parasitic nematodes. However, rotation of chemical nematicide MOAs is recommended to reduce the potential for enhanced microbial degradation of nematicide products due to adaptions in soil microbiota. Cyclobutrifluram will provide comparable resistance management benefits to fluopyram, which is also IRAC Group N-3.

The EPA finds that cyclobutrifluram will provide control of economically important nematode pests in lettuce, turfgrass, cotton and soybean. The EPA determined that the data submitted support cyclobutrifluram's comparative performance against Sclerotinia wilt in lettuce and against spring dead spot, dollar spot, and fairy ring in turfgrass. Cyclobutrifluram's combination of contact and systemic activity will likely provide a broader spectrum of control than any available chemical against important nematode and fungal pathogen pests in turfgrass. Submitted data showed that cyclobutrifluram may provide some benefit for foliar pathogenic nematodes and Root Knot Nematode (RKN) in ornamentals.

Cyclobutrifluram is formulated as a seed treatment for cotton and soybeans and may provide some benefit to cotton yields compared to commercial standards. In soybeans, Soybean Cyst Nematode (SCN) management relies on a multifaceted approach combining crop rotation, genetically resistant varieties, and chemical nematicides. Most resistant soybean varieties were derived from the same source, so development of resistance among SCN populations is of high concern. While there are other seed applied nematicides available to soybean growers, additional nematicides such as cyclobutrifluram can help reduce selection pressure on resistant varieties. Sudden Death Syndrome (SDS) severity is linked to SCN presence, and yield loss from SDS is much more likely when co-occurring with SCN. The data provided by the registrant support its claim that cyclobutrifluram provides superior or comparable control to current standard control methods against SCN. Cyclobutrifluram appears to reduce impacts to yield under both SCN and SDS pressure.

D. Greater than Additive Effects

Some chemical companies have made claims in U.S. patents that certain combined mixtures of pesticides elicit synergistic effects, meaning that when the chemicals are mixed the combined effect is greater than the sum of the individual effects of each chemical. In its submission, the registrant identified three patents containing keywords specific to cyclobutrifluram and greater

than additive (GTA) effects. The applicant completed an updated search in November 2024 that resulted in one additional patent being identified. All identified patents were determined not to contain data of empirically based comparative analysis of effects of cyclobutrifluram in mixture combinations. The Agency also reviewed the identified patents according to the relevancy criteria and agreed that all patents did not contain data of empirically based comparative analysis of effects of cyclobutrifluram in mixture combinations. Therefore, the EPA concludes that there are no patent data sets relevant to the ecological risk assessment for cyclobutrifluram.

V. PUBLIC COMMENTS

On June 21, 2022, the EPA published a Notice of Receipt (NOR) in the Federal Register notifying that the EPA was in receipt of an application to register pesticide products containing an active ingredient not included in any currently registered pesticide products (cyclobutrifluram) and announced a public comment period of 30 days. The EPA received two comments on the NOR from the United States Department of Agriculture and the Center for Biological Diversity. These comments will be addressed in our Final Decision document to respond to all comments on this action comprehensively, including comments received during the 15-day public process. The EPA also published a Notice of Filing (NOF) on May 20, 2022, announcing the filing of a pesticide petition to establish tolerances for cyclobutrifluram under Section 408 of the Federal Food, Drug, and Cosmetics Act (FFDCA), and provided a 30-day comment period. The EPA received no comments on the NOF.

On April 23, 2025, EPA published the Memorandum Supporting Proposed Decision to Approve Registration for the New Active Ingredient of Cyclobutrifluram. The proposed decision announced a public comment period of 15 days because it was granted reduced risk status. All comments received on this proposed decision can be found in EPA-HQ-OPP-2022-0003.

The Agency's response to comments on the NOR and proposed decision document can be found in docket ID number EPA-HQ-OPP-2022-0003. None of the comments received significantly changed the Agency's final regulatory decision to approve the registration.

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 proposed 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. Furthermore, the EPA has determined that registering these products containing cyclobutrifluram for use on turf, ornamentals, romaine lettuce, and cotton and soybean seed will not cause unreasonable adverse effects on human health or the environment, taking into account the risks and benefits of cyclobutrifluram. Therefore, considering the assessed risk to human health and the environment, the EPA concludes that cyclobutrifluram meets the regulatory standard under FIFRA.

A. Rationale and Risk Mitigation

The EPA is issuing unconditional registrations under FIFRA section 3(c)(5) for the following products for use on turf, ornamentals, romaine lettuce, and cotton and soybean seeds:

- Cyclobutrifluram Technical (EPA Registration Number 100-1721) as a TGAI.
- A22011 T&O (EPA Registration Number 100-1722) as an end use product.
- A22011 Crop (EPA Registration Number 100-1723) as an end use product.
- A22417 ST (EPA Registration Number 100-1724) as an end use product.
- A23156 Crop (EPA Registration Number 100-1725) as an end use product.

The EPA reviewed the compositions of all products and determined that the claims made are warranted as the data and product labels support the registrations. The registered labeling, which has been revised to include additional mitigation measures to address 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 Agency 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.

The Agency has not identified any dietary, residential, aggregate, non-occupational, or occupational risks of concern for potential human health exposure from the use of cyclobutrifluram. Additionally, the EPA has not identified any acute or chronic risks to plants (aquatic, wetland, or terrestrial) and aquatic animals (*e.g.,* fish, amphibians, aquatic invertebrates), and has not identified any acute risks to terrestrial animals (*e.g.,* birds, mammals, terrestrial invertebrates). Based on level of concern exceedances in the taxon-level

assessment, the EPA identified potential chronic risks for birds, mammals, honey bees, and terrestrial invertebrates. Chronic risk for birds and mammals is based on eating treated seeds. EPA does not expect birds would eat the number of seeds needed to reach the level where risk is of concern. For mammals, daily diets would need to consist of 10-98% treated seeds to reach the number of seeds of concern. To address potential risks to birds and mammals, the Agency included mitigation language to cover and collect spilled seed to the applicable product label. The EPA identified potential risks for terrestrial invertebrates (honey bees). However, based on the initial FIFRA assessment, the registrant revised the Environmental Hazards statement, added restrictions to prevent application to blooming weeds, and clearly defined the applied droplet size (coarse). With these label changes, EPA-determined the risk to pollinators to be low. These label changes are incorporated into the current RQs summarized in Table 4 and further discussed in Section VI.C. Based on the preliminary taxon-level assessment, the EPA identified potential risks for listed aquatic and benthic invertebrates as RQ values exceeded the listed LOCs. However, the registrant reduced the maximum single and maximum yearly application rate for ornamentals from 0.22 lb ai to 0.187 lb ai and 0.45lb ai to 0.375 lb ai, respectively. As a result of reducing the use rate for ornamentals, the RQ value fell below the listed LOC.

Cyclobutrifluram offers a combination of nematicidal and fungicidal activity. The chemical will be used as a pesticide to control fungal diseases and nematodes and will likely provide control of economically damaging nematodes and fungal pathogens in most use sites. Fluopyram, an alternative to cyclobutrifluram, also offers nematicidal and fungicidal activity; however, both nematodes and fungal diseases are not listed as target pests on fluopyram labels in all use sites proposed for cyclobutrifluram. In romaine lettuce, ornamentals, and turfgrass, most cyclobutrifluram alternatives are soil fumigants, which are costly and complicated to apply. The availability of a non-fumigant nematicide would likely be highly beneficial in these use sites. Cyclobutrifluram is also likely to benefit IPM as it can be applied with targeted application methods (banded, spot treatments) in response to monitoring for pests.

Therefore, considering the assessed risks to human health and the environment, consistent with the requirements of FIFRA Section 3(c)(5), the EPA has determined that cyclobutrifluram meets the regulatory standard under FIFRA. The EPA also concludes that registering these products and the use of cyclobutrifluram as a nematicide and fungicide for control of nematodes and fungal diseases in/on turf, ornamentals, romaine lettuce, and cotton and soybean seeds would not cause unreasonable adverse effects on human health or the environment when used in accordance with the labels, and widespread and commonly recognized practices. The EPA further concludes that the benefits of these registrations outweigh the potential risks.

B. Endocrine Disruptor Screening Program

The Federal Food Drug and Cosmetic Act (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 F of the human health risk assessment, no additional data are needed at this time to support EPA's assessment of cyclobutrifluram's potential for adverse estrogen, androgen, or thyroid hormone-related effects in humans. The current PODs for human health risk assessment for cyclobutrifluram are based on potential adverse thyroid 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.

C. Labeling Requirements

The following statements are included on the end-use product labeling:

I. The following text is included in the "Personal Protective Equipment" section:
   a. Applicators and other handlers must wear:
      i. Long-sleeved shirt and long pants
      ii. Shoes plus socks
      iii. Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils or Viton™ ≥ 14 mils
   b. In addition, mixer, loaders, and applicators of handgun sprayers in greenhouses must wear:
      i. A minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter (e.g., R95 or P95); OR a NIOSH-approved elastomeric particulate respirator with any R or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter.

II. The following text is included in the "Engineering Controls" section:
   a. 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.
   b. IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

III. The following text is included in the "Environmental Hazards" statement on EPA Registration Numbers 100-1722, 100-1723, and 100-1725 for turfgrass/ornamentals and romaine lettuce uses:
    a. This pesticide is toxic to oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. 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.

IV. The following text is included in the "Environmental Hazards" statement on EPA Registration Number 100-1724 for cotton and soybean seed treatment uses:
    a. Cyclobutrifluram is toxic to oysters. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

V. The following text is included in the "Surface Water Advisory" statement:
    a. This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water 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 cyclobutrifluram from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

VI. The following text is included in the "Groundwater Advisory" statement:
    a. This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

VII. The following new section and text is included per the Product Chemistry review titled "Physical and Chemical Hazards":
    a. Do not use with or store near any oxidizing agents.

The following text are included in the "Spray Drift Management" section on EPA Registration Numbers 100-1723 and 100-1725 for romaine lettuce uses:

I. Spray Drift Management
    a. Mandatory Spray Drift management - Ground Boom Applications
        i. During application, the Sustained Wind Speed, as defined by the National Weather Service, must register between 3 and 10 miles per hour.
        ii. Do not release spray at a height greater than 3 feet above the ground or crop canopy. Applicators must select nozzle and pressure that deliver medium or coarse droplets in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572).
        iii. Do not apply during temperature inversions.
    b. Mandatory Spray Drift Management - Boomless Ground Applications

i. Do not apply when wind speeds exceed 10 miles per hour at the application site.
ii. Do not apply during temperature inversions.

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

a. Importance of Droplet Size: An effective way to reduce spray drift is to apply large droplets. 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.
   i. Controlling Droplet Size – Ground boom
      1. 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.
      2. Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
      3. Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage.
      4. Spray Nozzle –Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.
   ii. Application Height
      1. Applications must be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.
   iii. Hooded (or Shielded) Sprayers
      1. 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.
   iv. Temperature and Humidity
      1. When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.
   v. Wind
      1. Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed.
      2. Note: Local terrain can influence wind patterns. Leave a 25-foot buffer downwind of the application to avoid drift to non-target areas.
      3. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
      4. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

vi. Measuring Wind Speed and Wind Direction: Best Management Practices for measuring wind speed and direction of wind. Measuring wind speed and direction can be done by:
    1. Relying on equipment on the application equipment that measures wind speed (e.g., aerial equipment).
    2. 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.
    3. Checking behind the spray rig at least every 15 minutes to see if the spray has changed direction from when the application started.

vii. Temperature Inversions
    1. Avoid applying this product during a temperature inversion as drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions.
    2. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning.
    3. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

Labeling language to address risks identified in the Agency's environmental risk assessment:

I. The following text is included on EPA Registration Number 100-1722 for container drench and soil (broadcast) applications to ornamental plants and non-bearing (juvenile) fruit and nut trees, vines, and berries to protect aquatic and benthic invertebrates:
    a. Maximum single application was reduced from 7.6 fl oz (0.22 lbs AI) per acre to 6.4 fl oz (0.187 lbs AI) per acre.
    b. Maximum annual application rate was reduced from 15.2 fl oz (0.45 lbs AI) per acre to 12.8 fl oz (0.375 lbs AI) per acre.

II. The following text is included in the "Environmental Hazards" statement on EPA Registration Number 100-1722 for turf uses to protect pollinators:
    a. For Residential Turf: This product is not acutely toxic to pollinators; however, chronic exposure to the product through pollen and nectar may cause risk to pollinators. Protect pollinators by following label directions intended to limit exposure.

III. The following text is included in the "Use Restrictions" section on EPA Registration Number 100-1722 for turf uses to protect pollinators:
   a. Applications must use a coarse droplet size.
   b. DO NOT apply A22011 T&O when lawn weeds are flowering.
   c. DO NOT allow A22011 T&O to drift to plants that are flowering.

Labeling language for EPA Registration Numbers 100-1723 and 100-1725 to address harvesting concerns for romaine lettuce labels:

I. The following text is necessary:
   a. Pre-harvest Interval (PHI): DO NOT apply A22011 Crop after BBCH16 (6th true leaf stage)

Labeling language for EPA Registration Number 100-1724 related to seed treatment language:

I. The following dye statement is included in the Directions for Use Section of the FIFRA pesticide label:
   a. 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, Section 2.25. Any colorant or dye added to treated seed must be cleared for use in accordance with 40 CFR § 153.155(c).

II. The following language is on the seed treatment label (EPA Registration Number 100-1724) under the section titled "Use of On-Farm Treated Seed (when treated seeds are not for sale or distribution)":
   a. 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.
   b. Store treated seed away from food and feedstuffs.
   c. Do not allow children, pets, or livestock to have access to treated seeds.
   d. Treated seeds are for planting purposes only. Do not use for food, feed, or oil purposes. Do not use for fuel or ethanol production purposes.
   e. 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.
   f. 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.
   g. Manage excess treated seeds (e.g., spilled, unused, or expired treated seeds) by one or more of the following methods:
      i. Collect excess treated seeds for reuse for planting.
      ii. 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.
      iii. Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.

iv. Excess treated seeds may be returned to the supplier if permitted by the state.

h. Do not contaminate bodies of water when disposing of equipment wash water.

i. ADVISORY DUST-REDUCING TECHNIQUE: 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.

II. The following language is on the seed treatment label (EPA Registration Number 100-1724) under the section titled "Use of Seeds Treated in Commercial Facilities Or On Farm and Are Intended to be Sold or Distributed After Treatment - Seed Bag Labeling Requirements":

a. Bags containing treated seeds shall be labeled with the following statements listed in Section 6.3. Any seed treated with A22417 ST that is sold or distributed without the statements listed in Section 6.3 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 such seed would be sale or distribution of an unregistered pesticide, pursuant to FIFRA section 12(a)(1)(A).

III. The following instructions are included on the Seed Treatment label (EPA Registration Number 100-1724) under the section titled "Treated Seed Product – Required Seed Bag Labeling Instructions that Go on the Seed Bag Tag":

a. This seed has been treated with cyclobutrifluram.

b. Do not use for food, feed, or oil purposes.

c. This seed has been treated with A22417 ST (100-1724) containing cyclobutrifluram. Any seed treated with A22417 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).

d. 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.

e. Store treated seed away from food and feedstuffs.

f. Do not allow children, pets, or livestock to have access to treated seeds.

g. 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.

h. 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).

i. Manage excess treated seeds (e.g., spilled, unused, or expired treated seeds) by one or more of the following methods:

i. Collect excess treated seeds for reuse for planting.

ii. 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.

iii. Dispose of excess treated seed by placing them in a landfill in accordance with applicable laws in your state.
iv. Excess treated seeds may be returned to the supplier if permitted by the state.

j. Do not contaminate bodies of water when disposing of equipment wash water.
k. Dispose of seed packaging or containers in accordance with local requirements.
l. ADVISORY DUST-REDUCING TECHNIQUE: 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."

IV. The following text is included in the "Engineering Controls" section on product labels for liquid pesticide products for which suction/extraction systems are applicable (EPA Registration Numbers 100-1722, 100-, 100-1724, 100-1725):
a. Users must rinse extraction probes within the pesticide container prior to removal of the probes.

VII. SUPPORTING DOCUMENTS

All supporting documents can be found in docket ID number EPA-HQ-OPP-2022-0003 at regulations.gov.

Exhibit B

{Note to reviewer: Text appearing in braces { } will not appear on the final label. Text appearing in parentheses ( ) will appear on the final label in parentheses. Text appearing in brackets [ ] is optional and may or may not appear on the final label.}

[Master Label]

Cyclobutrifluram Technical

TYMIRIUM® technology*

Active Ingredient:

Cyclobutrifluram**.....	85.0%
Other Ingredients:	15.0%
Total:	100.0%

**TYMIRIUM® technology denotes the Syngenta trademark for the active ingredient cyclobutrifluram*

**CAS No. 1460292-16-3

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.

EPA Reg. No. 100-RTER

EPA Est.

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Net Contents

1.0 FIRST AID

FIRST AID	
If on skin or clothing	• 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.
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

CAUTION

Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. 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 Environmental Hazards

This pesticide is toxic to oysters.

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 into an end-use nematicide and/or fungicide.

3.0 PRODUCT INFORMATION

This product may be used to formulate products for specific use(s) not listed on the manufacturing use product 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).

Only for formulation into a fungicide and/or nematicide for the following

Terrestrial food uses:

- romaine lettuce
- cotton (Seed Treatment only)
- soybean (Seed Treatment only)

Terrestrial Nonfood uses:

- Turfgrass, including golf courses; institutional, commercial, and residential lawns; sod farms; sports fields; parks; and municipal grounds
- Ornamental plants and non-bearing (juvenile) fruit and nut trees, vines, and berries produced and grown in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries and forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

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. Store in original containers only. Keep container closed when not in use. 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 [(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.

TYMIRIUM® is a trademark of a Syngenta Group Company.

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

CYCLOBUTRIFLURAM TECHNICAL 1721 NEW-D 0921-CL – jvb – 4/9/2025
000100-01721.20210920D.CYCLOBUTRIFLURAM_TECH.NEW-SEPT2021-CL.pdf

Exhibit C

{Note to reviewer: Text appearing in braces { } will not appear on the final label. Text appearing in parentheses ( ) will appear on the final label in parentheses. Text appearing in brackets [ ] is optional and may or may not appear on the final label.}

{MASTER}

CYCLOBUTRIFLURAM	GROUP GROUP	N-3 7	NEMATICIDE FUNGICIDE

A23156 Crop

NEMATICIDE/FUNGICIDE

TYMIRUIM® technology*

Active Ingredient:	
Cyclobutrifluram**	25.6%
Other Ingredients:	74.4%
Total:	**100.0%**

**TYMIRIUM® technology denotes the Syngenta trademark for the active ingredient cyclobutrifluram*
**CAS No. 1460292-16-3

A23156 Crop is formulated as a suspension concentrate (SC) and contains 2.50 lb of cyclobutrifluram per gallon.

KEEP OUT OF REACH OF CHILDREN.

WARNING / AVISO

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-RTEL

EPA Est.

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TABLE OF CONTENTS

1.0 FIRST AID

FIRST AID	
If in eyes	• 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.
If swallowed	• 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 a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	• 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.
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

WARNING / AVISO

Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if absorbed through skin. **DO NOT** get in eyes, on skin, or on clothing. Wear protective eyewear, long-sleeved shirt and long pants, shoes plus socks, and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove and wash contaminated clothing before reuse.

2.2 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

2.3 User Safety Requirements

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.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

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

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

This pesticide is toxic to oysters. **DO NOT** apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites.

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 Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a high potential for reaching surface water 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 cyclobutrifluram from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

2.6.2 Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

2.7 Physical or Chemical Hazards

DO NOT mix or allow to come in 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.

A23156 Crop 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.

Notify state and/or federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

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

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.

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:

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

3.0 PRODUCT INFORMATION

- A23156 Crop is not for residential use.
- Read all label directions before use. All applications must be made according to the use directions that follow.
- A23156 Crop is a broad-spectrum, preventative nematicide and fungicide for use in the control of many important nematodes and plant diseases.
- A23156 Crop is formulated as a suspension concentrate (SC).

CROP TOLERANCE

Plant tolerance has been found to be acceptable for the crop on the label; however, not all possible tank-mix combinations have been tested under all conditions. When possible, test your tank-mix combination(s) on a small portion of the crop to ensure that a phytotoxic response will not occur as a result of application.

PEST SUPPRESSION

If a use indicates suppression, it refers to control which can range from fair to good, or consistent control at a level below that obtained with products registered for control.

3.1 Integrated Pest Management (IPM)

A23156 Crop should be integrated into an overall disease and pest management strategy whenever the use of a nematicide or fungicide is required. Cultural practices known to reduce disease development should be followed. For nematodes this includes, but is not limited to, cultural practices such as crop rotations or fallow periods, solarization, and nematode resistant or tolerant varieties. For diseases, this should include selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult your local agricultural authorities for additional IPM strategies established for your area. A23156 Crop may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

3.2 Resistance Management Recommendations

For resistance management, A23156 Crop contains a Group N-3 nematicide. Any nematode population may contain individuals naturally resistant to A23156 Crop and other group N-3 nematicides. Repeated exclusive use of any product may select for resistant individuals, facilitate resistance development, and/or lead to a reduction in control due to other causes (e.g., enhanced microbial degradation). Rotation of nematicides with different modes of action is recommended. IPM programs using cultural practices, sanitation, planting of nematode resistant or tolerant varieties, scouting or other detection methods, proper pest identification, and rotation of nematicides with different modes of action will help prevent economic nematode damage.

To delay nematicide resistance, take the following steps:

- Rotate the use of A23156 Crop or other Group N-3 nematicides within a growing season or the same field over several cycles with different groups that control the same pathogens.
- Use tank mixtures with nematicides from a different group that are effective on the target pathogen when such use is permitted.
- Nematicide use should be based on an integrated pest management program that includes scouting, historical information related to pesticide use and crop rotation, and considers host plant resistance, impact of environmental conditions on disease development, nematode thresholds, as well as cultural, biological, and other chemical control practices.
- Take soil samples regularly to monitor nematode species present, population density, and for signs of resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information or to report suspected resistance, contact Syngenta Crop Protection at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

For resistance management, A23156 Crop contains a Group 7 fungicide. Any fungal population may contain individuals naturally resistant to A23156 Crop and other Group 7 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take the following steps:

- Rotate the use of A23156 Crop or other Group 7 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological, and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information or to report suspected resistance, contact Syngenta Crop Protection at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

As part of a resistance management strategy:

- Do not apply more than 1 application per year.
- Follow the crop-specific resistance management recommendations in **Section 7.0**.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Apply A23156 Crop at rates specified in the crop table (**Section 7.0**). Thorough coverage will provide best results. Where permitted, applications can be made by ground and via chemigation as specified in **Section 7.0**. Refer to **Section 4.5** for details of application by chemigation.

4.1.1 Soil Applications (Banded)

Surface Banded Application

- Apply in a 7- to 10-inch band.
- Follow application with cultivation or irrigation (0.25 – 0.50 inch) to move A23156 Crop to the target zone.
- Application of A23156 Crop with a soil penetrating surfactant may improve control.

4.2 Application Equipment

A23156 Crop may be applied with all types of spray equipment commonly used for making ground applications. Proper adjustments and calibration of spray equipment are needed to provide penetration and coverage essential for good pest control.

4.2.1 Nozzles

- Equip sprayers with nozzles that provide uniform application and desired spray quality.
- Use screens to protect the pump and to prevent nozzles from clogging.

4.2.2 Pump

- Use a pump with capacity to:
  1. Maintain 35-40 psi at nozzles
  2. Provide sufficient agitation in the tank to keep the tank-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.
- Screens placed on suction side of pump should be 16-mesh or coarser.
- **DO NOT** place a screen in the recirculation line.
- Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles.

For more information on spray equipment and calibration, consult sprayer manufacturers and state recommendations. For specific local directions and spray schedules, consult the current state agricultural recommendations.

4.3 Application Volume and Spray Coverage

See **Crop Use Directions (Section 7.0)** for additional application volume information.

- Thorough coverage is necessary to provide good pest control.
- Avoid spray overlap, as crop injury may occur.
- For ground application, apply in a sufficient volume of water to ensure thorough and uniform coverage for pest control.
- Avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur.

4.4 Mixing Directions

- Prepare no more spray mixture than is required for the immediate operation.
- Thoroughly clean spray application equipment before using this product.
- Thoroughly agitate the spray solution before and during application.
- Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

4.4.1 A23156 Crop Alone

- Add ½-⅔ of the required amount of water to the spray or mixing tank.
- With the agitator running, add A23156 Crop to the tank.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after A23156 Crop has completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.
- {*Optional language:*} [Add tank-mix defoamer if needed.]
- {*Optional language:*} [Add a tank-mix compatibility agent and buffering agents when using with fertilizer suspensions.]

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 A23156 Crop with other pesticides, fertilizers, or any other additives not specifically labelled for use with A23156 Crop 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 Test

A jar compatibility test is recommended prior to tank mixing with other pesticides and/or adjuvants/additives in order to ensure the compatibility of A23156 Crop with other products, adjuvants, or fertilizers. The recommended procedure for conducting a jar tank-mix compatibility test is as follows:

Compatibility Test: Always perform a tank-mix compatibility test before mixing with new or unknown tank-mix partners. Use compatibility agents or buffering agents per manufacturer label recommendations when using fertilizer suspensions as carrier. 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:

1. Add 1 pt of carrier (either the water or liquid fertilizer to be used in the spray operation) to each of two clear 1-qt jars with tight lids.

2. To **one** of the jars, add ¼ tsp or 1.2 ml of a commercially available tank-mix compatibility agent approved for this use (¼ tsp is equivalent to 2 pt/100 gallons of spray solution). Close the lid, invert the jar, then shake or stir gently to ensure thorough mixing of the compatibility agent.

3. To **both** jars, add the appropriate amount of each tank-mix partner. If more than one tank-mix partner is to be used, follow this 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 then 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.

4. 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 good 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 A23156 Crop in Tank Mixtures

- Add ½-⅔ of the required amount of water to the spray or mixing tank.
- Start the agitator before adding any tank-mix partners.
- When using in a tank-mix, add different formulation types in the sequence indicated below.
  1. products packaged in water-soluble packaging
  2. wettable powders
  3. wettable granules (dry flowables)
  4. liquid flowables such as A23156 Crop
  5. capsule suspensions
  6. soluble liquids
  7. emulsifiable concentrates
  8. surfactants / adjuvants

- Allow each product to completely dissolve and disperse into the mix water before adding the next product. Continue agitation while the next product is added.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after all products have completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.
- {*Optional language:*} [Add tank-mix defoamer if needed.]

4.4.5 Spray Additives

- When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Council of Producers and Distributors of Agrotechnology (CPDA) certification program is recommended.

4.5 Application through Irrigation Systems (Chemigation)

4.5.1 Chemigation Restrictions

- Apply A23156 Crop only through drip (trickle) or strip tubing irrigation systems.
- **DO NOT** connect any irrigation system (including greenhouse systems) used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices for public water systems (**Section 4.5.4**) are in place. 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 at least 60 days out of the year.
- The irrigation system used for application of A23156 Crop must provide for uniform distribution of A23156 Crop-treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 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.

4.5.2 Application Directions for Irrigation Systems

- **Preparation:** A pesticide tank is recommended for the application of A23156 Crop in chemigation systems. 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. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of A23156 Crop and add it to the tank. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. **Note:** Always add the A23156 Crop to water; never put A23156 Crop into a dry tank or other mixing equipment without first adding water. See **Section 4.4.4** for tank-mixing sequence. Continue to agitate the mixture throughout the application process. Good agitation is required in the injection tank. Use mechanical or hydraulic agitation; **DO NOT** use air agitation.

- **Injection into Chemigation Systems:** Inject the proper amount of A23156 Crop into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water.
  - Mix the amount of A23156 Crop needed for acreage to be treated into the quantity of water determined during prior calibration. Inject into system for the time established during calibration.
- **Uniform Water Distribution:** Non-uniform distribution can result in crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop being treated. Ensure the chemigation system is operating properly to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent, or other experts if you have questions about achieving uniform distribution of the application.
- **Monitoring of Chemigation Applications:** A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when A23156 Crop is in the irrigation water.
- **Operation:** Start the water pump and let the system achieve the desired pressure before starting the injector. Start the injector. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all A23156 Crop is flushed from system.
- **Cleaning the System:** 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.

DRIP (TRICKLE) IRRIGATION INSTRUCTIONS

- A23156 Crop must be applied in a manner that ensures the product is in the root zone.
- A23156 Crop must be in the root zone to provide effective control of target pests.
- A23156 Crop is most effective when it is applied so that the roots are at or near the site of application; manage irrigation so that significant quantities of A23156 Crop remain in the root zone.
- **DO NOT** begin applications until after crop emergence in direct-seeded crops.
- **DO NOT** make applications if soil moisture is below the level required for active plant growth.
- This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone.
- A23156 Crop must not be applied at the same time that a drip irrigation line clean-out product is being used as performance may be reduced.
- The drip system must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field.
- In most situations, this product should be applied during the first 1/3 of the irrigation cycle, starting just after the system has come up to pressure.

- The minimum injection period is the time that it takes water to move from the injection point to the furthest emitter in the irrigation zone (propagation time). If this time is not known, it can be calculated by measuring the time for a soluble dye to move from the injection point to the farthest emitter. A longer injection period improves uniformity throughout the zone, but requires at least an equal period for water to flush the system and move the product through the soil.

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.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

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 (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.
7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

5.0 ROTATIONAL CROP RESTRICTIONS

Soybeans, cotton, and romaine lettuce may be planted on a 0-day interval following application of A23156 Crop. Crop Group 15-22 (cereal grains group) may be planted on a 120-day interval following application of A23156 Crop. All other crops may be planted on a 365-day interval following application of A23156 Crop.

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- A23156 Crop is not for residential use.
- Do not apply more than 1 application per year.
- **DO NOT** apply through any ultra-low volume (ULV) spray system.
- **DO NOT** apply to plants grown for transplanting purposes.
- Not for greenhouse use unless otherwise specified in the specific crop directions for use table.

6.2 Use Precautions

- Under certain conditions conducive to extended infection or feeding periods, use another registered fungicide or nematicide for additional applications if maximum amount of A23156 Crop has been used.
- If isolates resistant to Group 7 fungicides are present, efficacy can be reduced for certain diseases.
- If nematodes resistant to Group N-3 nematicides are present, efficacy can be reduced.

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.
- **DO NOT** apply when conditions favor drift beyond the target area.
- The interaction of many equipment- and weather-related factors determines the potential for spray drift.
- **DO NOT** apply when the wind speed is greater than 10 mph or during periods of temperature inversions.
- **DO NOT** apply when weather conditions favor drift from treated areas to non-target aquatic habitat.

6.3.1 Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators must select nozzle and pressure that deliver medium or coarse droplets as indicated in nozzle manufacturer's catalogues and in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S-572).

6.3.2 Importance of Droplet Size

- An effective way to reduce spray drift is to apply large droplets. 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.

6.3.3 Controlling Droplet Size

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Spray Nozzle** –Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

6.3.4 Application Height

- Applications must be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind.

6.3.5 Shielded Sprayers

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

6.3.6 Temperature and Humidity

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

6.3.7 Wind

- Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed.
- **Note:** Local terrain can influence wind patterns. Leave a 25-foot buffer downwind of the application to avoid drift to non-target areas.
- AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.
- Wind speed and direction must be measured on location using a windsock or anemometer (including systems to measure wind speed or velocity using application equipment).
- 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.
- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 10 miles per hour.

6.3.8 Temperature Inversions

- **DO NOT** apply this product during a temperature inversion as drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions.
- Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning.
- Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

6.3.9 Non-Target Areas

- **DO NOT** apply this pesticide when the product may drift to non-target areas (i.e., residential areas, bodies of water, known habitat for threatened or endangered species, or non-target crops).

7.0 CROP USE DIRECTIONS

7.1 Romaine Lettuce

Crops (Including all cultivars, varieties, and/or hybrids of these) [Not registered for use by California]
Lettuce, romaine

Pest Suppression	Rate fl oz/A (lb ai/A)	Application Timing	Use Directions
Fusarium wilt[*] (*Fusarium oxysporum*) Sclerotinia rot[*] (*Sclerotinia spp.*) **Plant Parasitic Nematodes:** Root-knot nematode[*] (*Meloidogyne spp.*) [*Not registered for use in California]	4.56 (0.089)	**Soil Application:** Apply prior to or at planting.	Apply using one of the following application methods: in furrow, drench, shank, drip, or banded soil application prior to transplant. A wetting agent may be added at recommended rates. See **Section 4.1.1** for directions on banded surface application. See **Section 4.5.2** for drip irrigation instructions.

Resistance Management Recommendations:

- Refer to **Section 3.2**.

USE RESTRICTIONS

1) Refer to **Section 6.1** for additional product use restrictions.
2) **Maximum Single Application Rate: DO NOT** exceed 4.56 fl oz/A (0.089 lb ai/A) per application.
3) **Minimum Application Interval:** NA
4) **Maximum Annual Application Rate: DO NOT** apply more than 4.56 fl oz/A/year.
   a. **DO NOT** exceed 0.089 lb ai/A/year of cyclobutrifluram-containing products.
5) **DO NOT** make more than 1 application of A23156 Crop per year (0.089 lb ai/A/year).
6) **Pre-harvest Interval (PHI): DO NOT** apply A23156 Crop after BBCH16 (6th true leaf stage).

8.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage
Keep this product in its tightly closed original container when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

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 of 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and 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 ¼ 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 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 a 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.

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

A23156 Crop 1725 NEW-D 0921-CL – jvb – 4/9/2025
000100-01725.20210920D.A23156_CROP.NEW-0921-CL.pdf

Exhibit D

{Note to reviewer: Text appearing in braces { } will not appear on the final label. Text appearing in parentheses ( ) will appear on the final label in parentheses. Text appearing in brackets [ ] is optional and may or may not appear on the final label.}

(MASTER)

CYCLOBUTRIFLURAM	GROUP GROUP	N-3 7	NEMATICIDE FUNGICIDE

A22011 Crop

NEMATICIDE/FUNGICIDE

TYMIRIUM® technology*

Active Ingredient:	
Cyclobutrifluram**	38.5%
Other Ingredients:	61.5%
Total:	**100.0%**

**TYMIRIUM® technology denotes the Syngenta trademark for the active ingredient cyclobutrifluram*
**CAS No. 1460292-16-3

A22011 Crop is formulated as a suspension concentrate (SC) and contains 3.76 lb of cyclobutrifluram 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-RTEG
EPA Est.

_____
Net Contents

TABLE OF CONTENTS

1.0 FIRST AID

FIRST AID	
If on skin or clothing	• 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	• 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.
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

CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. 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)

Applicators and other handlers must wear:

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

2.3 User Safety Requirements

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.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

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

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

This pesticide is toxic to oysters. **DO NOT** apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites.

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 Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a high potential for reaching surface water 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 cyclobutrifluram from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

2.6.2 Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

DIRECTIONS FOR USE

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

A22011 Crop 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.

Notify state and/or federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

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

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.

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
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils or Viton™ ≥ 14 mils
- Shoes plus socks

3.0 PRODUCT INFORMATION

- A22011 Crop is not for residential use.
- Read all label directions before use. All applications must be made according to the use directions that follow.
- A22011 Crop is a broad-spectrum, preventative nematicide and fungicide for use in the control of many important nematodes and plant diseases.
- A22011 Crop is formulated as a suspension concentrate (SC).

CROP TOLERANCE

Plant tolerance has been found to be acceptable for the crop on the label; however, not all possible tank-mix combinations have been tested under all conditions. When possible, test your tank-mix combination(s) on a small portion of the crop to ensure that a phytotoxic response will not occur as a result of application.

PEST SUPPRESSION

If a use indicates suppression, it refers to control which can range from fair to good, or consistent control at a level below that obtained with products registered for control.

3.1 Integrated Pest Management (IPM)

A22011 Crop should be integrated into an overall disease and pest management strategy whenever the use of a nematicide or fungicide is required. Cultural practices known to reduce disease development should be followed. For nematodes this includes, but is not limited to, cultural practices such as crop rotations or fallow periods, solarization, and nematode resistant or tolerant varieties. For diseases, this should include selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult your local agricultural authorities for additional IPM strategies established for your area. A22011 Crop may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

3.2 Resistance Management Recommendations

For resistance management, A22011 Crop contains a Group N-3 nematicide. Any nematode population may contain individuals naturally resistant to A22011 Crop and other Group N-3 nematicides. Repeated exclusive use of any product may select for resistant individuals, facilitate resistance development, and/or lead to a reduction in control due to other causes (e.g., enhanced microbial degradation). Rotation of nematicides with different modes of action is recommended. IPM programs using cultural practices, sanitation, planting of nematode resistant or tolerant varieties, scouting or other detection methods, proper pest identification, and rotation of nematicides with different modes of action will help prevent economic nematode damage.

To delay nematicide resistance, take the following steps:

- Rotate the use of A22011 Crop or other Group N-3 nematicides within a growing season or the same field over several cycles with different groups that control the same pathogens.
- Use tank mixtures with nematicides from a different group that are effective on the target pathogen when such use is permitted.
- Nematicide use should be based on an integrated pest management program that includes scouting, historical information related to pesticide use and crop rotation, and considers host plant resistance, impact of environmental conditions on disease development, nematode thresholds, as well as cultural, biological, and other chemical control practices.
- Take soil samples regularly to monitor nematode species present, population density, and for signs of resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information or to report suspected resistance, contact Syngenta Crop Protection at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

For resistance management, A22011 Crop contains a Group 7 fungicide. Any fungal population may contain individuals naturally resistant to A22011 Crop and other Group 7 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take the following steps:

- Rotate the use of A22011 Crop or other Group 7 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological, and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information or to report suspected resistance, contact Syngenta Crop Protection at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

As part of a resistance management strategy:

- Do not apply more than 1 application per year.
- Follow the crop-specific resistance management recommendations in **Section 7.0**.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Apply A22011 Crop at rates specified in the crop table (**Section 7.0**). Thorough coverage will provide best results. Where permitted, applications can be made by ground and via chemigation as specified in **Section 7.0**. Refer to **Section 4.5** for details of application by chemigation.

4.1.1 Soil Applications (Banded)

Surface Banded Application

- Apply in a 7- to 10-inch band.
- Follow application with cultivation or irrigation (0.25 – 0.50 inch) to move A22011 Crop to the target zone.
- Application of A22011 Crop with a soil penetrating surfactant may improve control.

4.2 Application Equipment

A22011 Crop may be applied with all types of spray equipment commonly used for making ground applications. Proper adjustments and calibration of spray equipment are needed to provide penetration and coverage essential for good pest control.

4.2.1 Nozzles

- Equip sprayers with nozzles that provide uniform application and desired spray quality.
- Use screens to protect the pump and to prevent nozzles from clogging.

4.2.2 Pump

- Use a pump with capacity to:
  1. Maintain 35-40 psi at nozzles
  2. Provide sufficient agitation in the tank to keep the tank 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.
- Screens placed on suction side of pump should be 16-mesh or coarser.
- **DO NOT** place a screen in the recirculation line.
- Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles.

For more information on spray equipment and calibration, consult sprayer manufacturers and state recommendations. For specific local directions and spray schedules, consult the current state agricultural recommendations.

4.3 Application Volume and Spray Coverage

See **Crop Use Directions (Section 7.0)** for additional application volume information.

- Thorough coverage is necessary to provide good pest control.
- Avoid spray overlap, as crop injury may occur.
- For ground application, apply in a sufficient volume of water to ensure thorough and uniform coverage for pest control.
- Avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur.

4.4 Mixing Directions

- Prepare no more spray mixture than is required for the immediate operation.
- Thoroughly clean spray application equipment before using this product.
- Thoroughly agitate the spray solution before and during application.
- Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

4.4.1 A22011 Crop Alone

- Add ½-⅔ of the required amount of water to the spray or mixing tank.
- With the agitator running, add A22011 Crop to the tank.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after A22011 Crop has completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.
- {*Optional language:*} [Add tank-mix defoamer if needed.]
- {*Optional language:*} [Add a tank-mix compatibility agent and buffering agents when using with fertilizer suspensions.]

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 A22011 Crop with other pesticides, fertilizers, or any other additives not specifically labelled for use with A22011 Crop 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 Test

A jar compatibility test is recommended prior to tank mixing with other pesticides and/or adjuvants/additives in order to ensure the compatibility of A22011 Crop with other products, adjuvants, or fertilizers. The recommended procedure for conducting a jar tank-mix compatibility test is as follows:

Compatibility Test: Always perform a tank-mix compatibility test before mixing with new or unknown tank-mix partners. Use compatibility agents or buffering agents per manufacturer label recommendations when using fertilizer suspensions as the carrier. 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:

1. Add 1 pt of carrier (either the water or liquid fertilizer to be used in the spray operation) to each of two clear 1-qt jars with tight lids.

2. To **one** of the jars, add ¼ tsp or 1.2 ml of a commercially available tank-mix compatibility agent approved for this use (¼ tsp is equivalent to 2 pt/100 gallons of spray solution). Close the lid, invert the jar, then shake or stir gently to ensure thorough mixing of the compatibility agent.

3. To **both** jars, add the appropriate amount of each tank-mix partner. If more than one tank-mix partner is to be used, follow this 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 then 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.

4. 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 good 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 A22011 Crop in Tank Mixtures

- Add ½-⅔ of the required amount of water to the spray or mixing tank.
- Start the agitator before adding any tank-mix partners.
- When using in a tank-mix, add different formulation types in the sequence indicated below:
    1. products packaged in water-soluble packaging
    2. wettable powders
    3. wettable granules (dry flowables)
    4. liquid flowables such as A22011 Crop
    5. capsule suspensions
    6. soluble liquids
    7. emulsifiable concentrates
    8. surfactants / adjuvants
- Allow each product to completely dissolve and disperse into the mix water before adding the next product. Continue agitation while the next product is added.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after all products have completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.
- {*Optional language:*} [Add tank-mix defoamer if needed.]

4.4.5 Spray Additives

- When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Council of Producers and Distributors of Agrotechnology (CPDA) certification program is recommended.

4.5 Application through Irrigation Systems (Chemigation)

4.5.1 Chemigation Restrictions

- Apply A22011 Crop only through drip (trickle) or strip tubing irrigation systems.
- **DO NOT** connect any irrigation system (including greenhouse systems) used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices for public water systems (**Section 4.5.4**) are in place. 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 at least 60 days out of the year.
- The irrigation system used for application of A22011 Crop must provide for uniform distribution of A22011 Crop-treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 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.

4.5.2 Application Directions for Irrigation Systems

- **Preparation:** A pesticide tank is recommended for the application of A22011 Crop in chemigation systems. 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. With the mix tank 1/4 to 1/2 full of water and the agitator running, measure the required amount of A22011 Crop and add it to the tank. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. **Note:** Always add the A22011 Crop to water; never put A22011 Crop into a dry tank or other mixing equipment without first adding water. See **Section 4.4.4** for tank-mixing sequence. Continue to agitate the mixture throughout the application process. Good agitation is required in the injection tank. Use mechanical or hydraulic agitation; **DO NOT** use air agitation.
- **Injection into Chemigation Systems:** Inject the proper amount of A22011 Crop into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water.
  - Mix the amount of A22011 Crop needed for acreage to be treated into the quantity of water determined during prior calibration. Inject into system for the time established during calibration.
- **Uniform Water Distribution:** Non-uniform distribution can result in crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop being treated. Ensure the chemigation system is operating properly to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent, or other experts if you have questions about achieving uniform distribution of the application.
- **Monitoring of Chemigation Applications:** A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when A22011 Crop is in the irrigation water.
- **Operation:** Start the water pump and let the system achieve the desired pressure before starting the injector. Start the injector. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all A22011 Crop is flushed from system.
- **Cleaning the System:** 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.

DRIP (TRICKLE) IRRIGATION INSTRUCTIONS

- A22011 Crop must be applied in a manner that ensures the product is in the root zone.
- A22011 Crop must be in the root zone to provide effective control of target pests.
- A22011 Crop is most effective when it is applied so that the roots are at or near the site of application; manage irrigation so that significant quantities of A22011 Crop remain in the root zone.
- **DO NOT** begin applications until after crop emergence in direct-seeded crops.
- **DO NOT** make applications if soil moisture is below the level required for active plant growth.
- This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone.
- A22011 Crop must not be applied at the same time that a drip irrigation line clean-out product is being used as performance may be reduced.
- The drip system must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field.
- In most situations, this product should be applied during the first 1/3 of the irrigation cycle, starting just after the system has come up to pressure.
- The minimum injection period is the time that it takes water to move from the injection point to the furthest emitter in the irrigation zone (propagation time). If this time is not known, it can be calculated by measuring the time for a soluble dye to move from the injection point to the farthest emitter. A longer injection period improves uniformity throughout the zone, but requires at least an equal period for water to flush the system and move the product through the soil.

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.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

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 (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.
7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

5.0 ROTATIONAL CROP RESTRICTIONS

Soybeans, cotton, and romaine lettuce may be planted on a 0-day interval following application of A22011 Crop. Crop Group 15-22 (cereal grains group) may be planted on a 120-day interval following application of A22011 Crop. All other crops may be planted on a 365-day interval following application of A22011 Crop.

6.0 RESTRICTIONS AND PRECAUTIONS

6.1 Use Restrictions

- A22011 Crop is not for residential use.
- Do not apply more than 1 application per year.
- **DO NOT** apply through any ultra-low volume (ULV) spray system.
- **DO NOT** apply to plants grown for transplanting purposes.
- Not for greenhouse use unless otherwise specified in the specific crop directions for use table.

6.2 Use Precautions

- Under certain conditions conducive to extended infection or feeding periods, use another registered fungicide or nematicide for additional applications if maximum amount of A22011 Crop has been used.
- If isolates resistant to Group 7 fungicides are present, efficacy can be reduced for certain diseases.
- If nematodes resistant to Group N-3 nematicides are present, efficacy can be reduced.

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.
- **DO NOT** apply when conditions favor drift beyond the target area.
- The interaction of many equipment- and weather-related factors determines the potential for spray drift.
- **DO NOT** apply when the wind speed is greater than 10 mph or during periods of temperature inversions.
- **DO NOT** apply when weather conditions favor drift from treated areas to non-target aquatic habitats.

6.3.1 Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators must select nozzle and pressure that deliver medium or coarse droplets as indicated in nozzle manufacturer's catalogues and in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S-572).

6.3.2 Importance of Droplet Size

- An effective way to reduce spray drift is to apply large droplets. 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.

6.3.3 Controlling Droplet Size

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Spray Nozzle** –Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

6.3.4 Application Height

- Applications must be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind.

6.3.5 Shielded Sprayers

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

6.3.6 Temperature and Humidity

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

6.3.7 Wind

- Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed.
- **Note:** Local terrain can influence wind patterns. Leave a 25-foot buffer downwind of the application to avoid drift to non-target areas.
- AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.
- Wind speed and direction must be measured on location using a windsock or anemometer (including systems to measure wind speed or velocity using application equipment).
- 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.
- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 10 miles per hour.

6.3.8 Temperature Inversions

- **DO NOT** apply this product during a temperature inversion as drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions.
- Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning.
- Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

6.3.9 Non-Target Areas

- **DO NOT** apply this pesticide when the product may drift to non-target areas (i.e., residential areas, bodies of water, known habitat for threatened or endangered species, or non-target crops).

7.0 CROP USE DIRECTIONS

7.1 Romaine Lettuce

Crops (Including all cultivars, varieties, and/or hybrids of these) [Not registered for use by California]			
Lettuce, romaine			
Pest Suppression	**Rate fl oz/A (lb ai/A)**	**Application Timing**	**Use Directions**
Fusarium wilt[*] (*Fusarium oxysporum*) Sclerotinia rot[*] (*Sclerotinia spp.*) **Plant Parasitic Nematodes:** Root-knot nematode[*] (*Meloidogyne spp.*) [*Not registered for use by California]	3.04 (0.089)	**Soil Application:** Apply prior to or at planting.	Apply using one of the following application methods: in furrow, drench, shank, drip, or banded soil application prior to transplant. A wetting agent may be added at recommended rates. See **Section 4.1.1** for directions on banded surface application. See **Section 4.5.2** for drip irrigation instructions.
Resistance Management Recommendations: • Refer to **Section 3.2**.			
USE RESTRICTIONS			
1) Refer to **Section 6.1** for additional product use restrictions. 2) **Maximum Single Application Rate: DO NOT** exceed 3.04 fl oz/A (0.089 lb ai/A) per application. 3) **Minimum Application Interval:** NA 4) **Maximum Annual Application Rate: DO NOT** apply more than 3.04 fl oz/A/year. a. **DO NOT** exceed 0.089 lb ai/A/year of cyclobutrifluram-containing products. 5) **DO NOT** make more than 1 application of A22011 Crop per year (0.089 lb ai/A/year). 6) **Pre-harvest Interval (PHI): DO NOT** apply A22011 Crop after BBCH16 (6th true leaf stage).			

8.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage
Keep this product in its tightly closed original container when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

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 of 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and 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 ¼ 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 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 a 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.

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

A22011 Crop 1723 NEW-D 0921-CL – jvb – 4/9/2025
000100-01723.20210920D.A22011_CROP.NEW-0921-CL.pdf

Exhibit E

{Note to reviewer: Text appearing in braces { } will not appear on the final label. Text appearing in parentheses ( ) will appear on the final label in parentheses. Text appearing in brackets [ ] is optional and may or may not appear on the final label.}

{Master Label}

CYCLOBUTRIFLURAM	**GROUP**	**N-3**	**NEMATICIDE**
	GROUP	**7**	**FUNGICIDE**

A22417 ST

[Alternate Brand Name: Victrato®]

Nematicide/Fungicide

TYMIRIUM® Technology*

Active Ingredient:

Cyclobutrifluram**	41.7%
Other Ingredients:	58.3%
Total:	100.0%

**TYMIRIUM® technology denotes the Syngenta trademark for the active ingredient cyclobutrifluram*
**CAS No. 1460292-16-3

A22417 ST is a flowable concentrate for seed treatment containing 4.17 lb cyclobutrifluram per gallon.

KEEP OUT OF REACH OF CHILDREN.

CAUTION/PRECAUCIÓN

Si usted no entiende la etiquete, 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 inside booklet.

EPA Reg. No. 100-RTEU
EPA Est.

_____
Net Contents

TABLE OF CONTENTS

DIRECTIONS FOR USE

1.0 FIRST AID

FIRST AID	
If on skin or clothing	• 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.
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

CAUTION

Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. 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)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves: barrier laminate, butyl rubber ≥14 mils, neoprene rubber ≥14 mils, nitrile rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, or Viton™ ≥14 mils
- Shoes plus socks

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, 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. IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other

handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown. Users must rinse extraction probes within the pesticide container prior to removal of the probes.

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

Cyclobutrifluram is toxic to oysters. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

2.6.1 Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

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 high potential for reaching surface water via runoff 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 cyclobutrifluram from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

2.7 Physical or Chemical Hazards

DO NOT mix or allow 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.

This product must be used only by commercial seed-treatment facilities or with commercial seed-treatment equipment on farm. DO NOT use in hopper-box, planter-box, slurry-box, or other seed-treatment applications at or immediately before planting.

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. Notify state and/or federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY; POOR DISEASE AND/OR NEMATODE 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 (WPS).

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the seed is treated with the product and the treated seed is soil-injected 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.

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
- Chemical-resistant gloves: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, or Viton ≥14 mils
- Shoes plus socks

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 A22417 ST.

3.0 PRODUCT INFORMATION

A22417 ST is a seed treatment nematicide/fungicide which provides protection from listed seed- and soil-borne diseases of cotton and soybean. In soybean, A22417 ST is effective against listed plant parasitic nematodes as well as seed and seedling blight or damping-off caused by listed seed- and soil-borne *Fusarium* spp., including *Fusarium virguliforme*, the causal organism of Sudden Death Syndrome (SDS). A22417 ST also provides early-season suppression of Septoria Brown Spot (*Septoria glycines*), Frogeye Leaf Spot (*Cercospora sojina*) and Target Spot (*Corynespora cassiicola*), and suppression of Red Crown Rot (*Calonectria iliciocola*). When used as part of an Integrated Pest Management system that includes tolerant cultivars and foliar fungicide application, A22417 ST suppresses White Mold (Sclerotinia stem rot) caused by *Sclerotinia sclerotiorum.*

In cotton, A22417 ST is effective against listed plant parasitic nematodes as well as cotton root rot (*Phymatotrichopsis omnivorum*) in cotton (suppression only). Where rate ranges are shown, use the higher listed rate when disease pressure is expected to be severe.

This product is to be applied as a water-based slurry through standard liquid-type seed-treatment equipment.

Read all label directions for use. All applications must be made according to the use directions that follow.

3.1 Resistance Management

For nematode resistance management, A22417 ST contains a Group N-3 nematicide. Any nematode population may contain individuals naturally resistant to A22417 ST and other Group N-3 nematicides. The resistant individuals may dominate the nematode population if this group of nematicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay resistance:

- Rotate the use of A22417 ST or other Group N-3 nematicides within a growing season or the same field over several cycles with different groups that control the same pathogens.
- Use tank mixtures with nematicides from a different group that is effective on the target pathogen when such use is permitted.
- Nematicide use should be based on an integrated pest management (IPM) program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, nematode thresholds, as well as 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 specific crops and pathogens.
- For further information or to report suspected resistance contact Syngenta at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

For disease resistance management, A22417 ST contains a Group 7 fungicide. Any fungal population may contain individuals naturally resistant to A22417 ST and other Group 7 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

When using TYMIRIUM technology as a seed treatment, apply a subsequent foliar application between R1 and R4 for full season disease control and resistance management. The subsequent foliar application should contain at least one fungicide mode of action from outside of group 7.

Cyclobutrifluram belongs to the carboxamide class of chemistry and is a succinate dehydrogenase inhibitor (SDHI) which disrupts cellular respiration and energy generation.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of A22417 ST or other Group 7 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance contact Syngenta Crop Protection at 1-866-796-4368. You can also contact your university extension specialist to report resistance.

4.0 APPLICATION DIRECTIONS

Important: Re-circulate A22417 ST thoroughly before using.

The typical density of A22417 ST is 10.00 pounds per gallon. Consult the manufacturer of the application equipment you plan to use for suitability for this application and for instructions on operation and calibration of the equipment. Follow the manufacturer application instructions for the seed treatment equipment being used. Seed treaters with atomizers or spinning discs are highly recommended for better product coverage on the seed.

Certain crops require addition of inoculants when the seed is treated or planted. A22417 ST is compatible with several liquid inoculant products. Consult the manufacturer of the inoculant product and a Syngenta representative for directions before applying A22417 ST with inoculants.

Apply A22417 ST as a water-based slurry utilizing standard liquid-type commercial 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 disease control. A22417 ST does not control diseases caused by *Pythium* spp., *Phytophthora* spp. or *Rhizoctonia* spp. If these diseases are expected to be a problem, apply A22417 ST with other seed treatment products that contain picarbutrazox, sedaxane, mefenoxam and/or fludioxonil as active ingredients.

This product must be used only by commercial seed treatment facilities or with commercial seed treatment equipment on farm. DO NOT use in hopper-box, planter-box, slurry-box or other seed treatment applications at or immediately before planting.

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 Treatment 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).

Allow seed to dry before bagging.

Follow planter manufacturer's specifications for use of talc or other hopper box additives at planting. Seed must be completely dry before adding to planter.

4.1 Tank Mixtures

When mixing A22417 ST with other seed treatment products, test the compatibility prior to use by conducting a jar test: mix all intended seed treatments with the appropriate amount of water in a clear glass container. Mix well and allow mixture to sit for one hour. Remix and observe for incompatibility.

Mixing A22417 ST with tank-mix partners: Add 1/2 of the required water to the mix tank and turn on the agitation.

Mechanical agitation is preferred. Follow WALES method for mixing order of seed treatment 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.

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.

Cotton: For additional control of certain seed- and soil-borne diseases, A22417 ST may be combined with a seed treatment product containing azoxystrobin, fludioxonil, mefenoxam, and sedaxane (e.g., Vibrance® CST). For additional Pythium protection, A22417 ST may be combined with picarbutrazox (Vayantis®).

Soybean: Additional protection from common seed-borne and soil-borne pathogens may be achieved by adding seed treatment products containing picarbutrazox, sedaxane, mefenoxam, azoxystrobin, fludioxonil and/or thiabendazole. A22417 ST may also be mixed with CruiserMaxx® APX (EPA Reg. No. 100-1690) fungicide/insecticide premix for protection from additional early-season diseases and insect pests.

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 RESTRICTIONS

- **DO NOT** allow children, pets, or livestock to have access to treated seeds.
- Wear long-sleeved shirt, long pants, and chemical-resistant gloves when handling treated seed.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- **DO NOT** feed or harvest soybean hay, forage, and silage.
- For Cotton, **DO NOT** exceed 0.085 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications.
- For Soybean, **DO NOT** exceed 0.083 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications.
- Cyclobutrifluram treated seed may only be planted on the same acres once per year.
- **Groundwater Advisory:** Cyclobutrifluram has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.
- **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 high potential for reaching surface water via runoff several months or more after application.
- **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 cyclobutrifluram treated seed, crops may be replanted according to the following schedule:

ROTATIONAL CROP PLANT BACK INTERVALS		
Immediate Plant Back	**Minimum 120-Day Plant Back**	**Minimum 365-Day Plant Back**
Cotton Romaine Lettuce Soybean	Cereal Grains (Crop Group 15-22)	All other crops

- This product must be used only by commercial seed treatment facilities or with commercial seed treatment equipment on farm. **DO NOT** use in hopper-box, planter-box, slurry-box or other seed treatment applications at or immediately before planting.
- **Advisory dust-reducing technique:** 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.

6.0 SEED TREATMENT IN COMMERCIAL FACILITIES OR SEED TREATMENT ON FARM (when treated seed are to be sold or distributed) – SEED CONTAINER LABELING REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with cyclobutrifluram nematicide/fungicide.
- **DO NOT** use for feed, food, 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 A22417 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 A22417 ST (EPA File Symbol 100-RTEU), containing cyclobutrifluram. Any seed treated with A22417 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 away from feed and foodstuffs.
- **DO NOT** allow children, pets, or livestock to have access to treated seeds.
- Wear long-sleeved shirt, long pants, and chemical-resistant gloves when handling treated seed.
- Treated seed must be planted into the soil at a depth of at least 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 seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting, including in row ends.
- **DO NOT** contaminate water bodies when disposing of planting equipment washwaters.
- **DO NOT** feed or harvest soybean hay, forage, and silage.
- Dispose of seed packaging or containers in accordance with local requirements.
- 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 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; or excess treated seeds may be returned to the supplier if permitted by the state
- **Advisory dust-reducing technique:** 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.

- For Cotton, **DO NOT** exceed 0.085 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications.
- For Soybean, **DO NOT** exceed 0.083 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications.
- Cyclobutrifluram treated seed may only be planted on the same acres once per year.
- **Groundwater Advisory:** Cyclobutrifluram has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.
- **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 high potential for reaching surface water via runoff several months or more after application.
- **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 cyclobutrifluram treated seed, crops may be replanted according to the following schedule:

ROTATIONAL CROP PLANT BACK INTERVALS		
Immediate Plant Back	**Minimum 120-Day Plant Back**	**Minimum 365-Day Plant Back**
Cotton Romaine Lettuce Soybean	Cereal Grains (Crop Group 15-22)	All other crops

6.1 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).

6.2 ADVISORY DUST-REDUCING TECHNIQUE

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.

6.3 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 including 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.

ADVISORY DUST-REDUCING TECHNIQUE

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.

6.4 Treated Seed Product – Required Seed Bag Labeling Instructions that Go on the Seed Bag Tag

- This seed has been treated with cyclobutrifluram nematicide/fungicide.
- Do not use for food, feed, or oil purposes.

This seed has been treated with A22417 ST (100-RTEU) containing cyclobutrifluram. **Any seed treated with A22417 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 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 (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.
Dispose of seed packaging or containers in accordance with local requirements.

ADVISORY DUST-REDUCING TECHNIQUE
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.

7.0 Seed Treatment Directions

7.1 Cotton [Not Registered for Use by California] [Not Registered for Use by New York]

Crops			
Cotton			
Target Disease/Pest	**Use Rate***		**Notes**
	fl oz product /100 lb seed	**mg ai/seed**	
Suppression only: Cotton Root Rot (*Phymatotrichopsis omnivorum*) Plant-parasitic Nematodes: Root Knot (*Meloidogyne incognita*) Reniform (*Rotylenchulus reniformis*) Lesion (*Pratylenchus* spp.) Lance (*Hoplolaimus* spp.) Sting (*Belonolaimus* spp.)	7.67-13.80	0.25-0.45	For additional fungicidal control on Cotton, A22417 ST may be mixed with Vibrance CST
*Based on an average seed weight of 4,500 cotton seeds/lb			
Resistance Management: Refer to Section 3.1.			
USE RESTRICTIONS			
• **Maximum Annual Plantings:** 1 • **Maximum Annual Use Rate: DO NOT** exceed 2.62 fl oz of A22417 ST/A/year (0.085 lb ai/A/year) as a seed treatment. • **DO NOT** exceed 0.085 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications. • **Sections 4.0, 4.1, 5.0, and 6.0** contain additional product use restrictions.			

7.2 Soybean [Not Registered for Use by California]

Crops		
Soybean		
Target Disease/Pest	**Use Rate***	
	fl oz product	**mg ai/seed**
Sudden Death Syndrome (*Fusarium virguliforme*) *Early Season Suppression only:* Septoria Brown Spot (*Septoria glycines*) Frogeye Leaf Spot (*Cercospora sojina*) Target Spot (*Corynespora cassiicola*) *Suppression only:* Red Crown Rot (*Calonectria iliciocola*) Plant-Parasitic Nematodes: Soybean Cyst (*Heterodera glycines*) Root Knot (*Meloidogyne incognita*) Reniform (*Rotylenchulus reniformis*) Lesion (*Pratylenchus* spp.) Lance (*Hoplolaimus* spp.)	1.52 fl oz/ 100 lbs soybean 0.714 fl oz/ 140,000 soybean seeds	0.075

*Based on an average seed weight of 3,000 soybeans/lb

Resistance Management:

- Refer to Section 3.1.

ADDITIONAL INFORMATION

- When used as part of an Integrated Pest Management system that includes tolerant cultivars and foliar fungicide application, A22417 ST suppresses White Mold (Sclerotinia stem rot) caused by *Sclerotinia sclerotiorum*.

USE RESTRICTIONS

- **Maximum Annual Plantings: 1**
- **Maximum Annual Use Rate: DO NOT** exceed 2.54 fl oz of A22417 ST/A/year (0.083 lb ai/A/year).
- **DO NOT** exceed 0.083 lb ai/A/year of cyclobutrifluram-containing products through any combination of seed and foliar applications.
- **DO NOT feed or harvest soybean hay, forage, and silage.**
- **Sections 4.0, 4.1, 5.0, and 6.0** contain additional product use restrictions.

8.0 STORAGE AND DISPOSAL

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

Pesticide Storage
Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

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 of 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. Add water – at least 2% of the container volume, and up to 1/3 of the volume of water needed to make the proper slurry composition with a maximum of 1/4 of the container volume – and recap. Shake for 30 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. If used in application equipment, adjust the slurry volume application rate to account for any added rinsate water. 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. Add water – at least 2% of the container volume, and up to 1/3 of the volume of water needed to make the proper slurry composition with a maximum of 1/4 of the container volume. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 60 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. If used in application equipment, adjust the slurry volume application rate to account for any added rinsate water. 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 the 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 container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Add water – at least 2% of the container volume, and up to 1/3 of the volume of water needed to make the proper slurry composition with a maximum of 1/4 of the container volume. Replace and tighten closure. Agitate vigorously or recirculate the rinsate with a pump for at least 2 minutes, ensuring that the rinsate rinses the walls of the container. Empty the rinsate into application equipment or rinsate collection system, for later use or disposal. Repeat this procedure two more times. If used in application equipment, adjust the slurry volume application rate to account for any added rinsate water. 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.

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.

Victrato®, TYMIRIUM®, CruiserMaxx®, Vayantis®, Vibrance®, 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

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

A22417 ST XXXX NEW-D 0921-CL – jeb – 04/09/2025
000100-XXXXX.20210920D.A22417_ST_NEW_SEPT2021-CL.pdf

Exhibit F

{Note to reviewer: Text appearing in braces { } will not appear on the final label. Text appearing in parentheses ( ) will appear on the final label in parentheses. Text appearing in brackets [ ] is optional and may or may not appear on the final label.}

{Master Label}

[Not registered for Sale, Sale Into, Distribution and/or Use by [Nassau,] [Suffolk,] [Kings,] and [Queens] Counties of New York State unless permitted under FIFRA Section 24(c) Special Local Need Registration.]

CYCLOBUTRIFLURAM	**GROUP**	**N-3**	**NEMATICIDE**
	GROUP	**7**	**FUNGICIDE**

A22011 T&O
[Alternate Brand Names: Trefinti®, Trefinti® Flora, Trefinti® TL]

NEMATICIDE/FUNGICIDE

For systemic control of listed nematode pests and diseases in turfgrass (including golf courses; institutional, commercial, and residential lawns; sod farms; athletic fields; parks; and municipal grounds).

For control of listed plant pathogenic nematodes and diseases of ornamental plants and non-bearing (juvenile) fruit and nut trees, vines, and berries produced and grown in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries and forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

TYMIRIUM® technology*

Active Ingredients:

Cyclobutrifluram**:	38.5%
Other Ingredients	61.5%
Total:	**100.0%**

**TYMIRIUM® technology denotes the Syngenta trademark for the active ingredient cyclobutrifluram*
***CAS No.1460292-16-3*

A22011 T&O is formulated as a suspension concentrate (SC) and contains 3.76 lb of cyclobutrifluram 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, first aid, and directions for use [on label] [inside booklet].

EPA Reg. No. 100-RTEE
EPA Est. No.

_____
Net Contents

TABLE OF CONTENTS

1.0 FIRST AID

FIRST AID	
If on skin or clothing	• 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	• 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.
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

CAUTION/PRECAUCIÓN

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. 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)

Applicators and other handlers must wear:

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

2.3 User Safety Requirements

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, 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.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

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

2.5 User Safety Recommendations

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

This pesticide is toxic to oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites.

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.

For Residential Turf:
This product is not acutely toxic to pollinators; however, chronic exposure to the product through pollen and nectar may cause risk to pollinators. Protect pollinators by following label directions intended to limit exposure.

2.6.1 Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water 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 cyclobutrifluram from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

2.6.2 Groundwater Advisory

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

DIRECTIONS FOR USE

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

Read all label directions before use. All applications must be made according to the use directions that follow or exemptions under FIFRA (Supplemental Labels, Special Local Need Registration, FIFRA Section 18 exemptions).

For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

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.

Notify state and/or federal authorities and Syngenta immediately if you observe any adverse effects due to use of this product.

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

ENDANGERED AND THREATED 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.

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 (sod farms included), 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 the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

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

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.

For early entry into 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, wear:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils or Viton ≥ 14 mils
- Shoes plus socks

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, sod farms, forests, nurseries, or greenhouses.

Applications to golf courses, residential, industrial, and commercial lawns and athletic fields are not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter the treated area until sprays have dried.

3.0 PRODUCT INFORMATION

A22011 T&O is formulated as a suspension concentrate having both nematicidal and fungicidal activity. A22011 T&O controls nematodes by either contact or ingestion. A22011 T&O is absorbed by both plant foliage and roots. It is a systemic product that is translocated upward into the plant from the roots when applied to the soil to control listed nematodes and diseases. To be effective, apply A22011 T&O where the root system of the target plant can readily absorb the active ingredient.

3.1 Use Sites

A22011 T&O may be applied to control the listed nematode pests and diseases that infest turfgrass, ornamental plants, and non-bearing (juvenile) fruit and nut trees, vines, and berries listed on the label. A22011 T&O may be applied to the following:

- Ornamental plants produced in greenhouses and nurseries (including shade houses, lath houses and other outdoor growing structures), evergreen (including conifer) and deciduous tree nurseries and forest nurseries and Christmas tree farms.
- Outdoor landscape ornamentals in or around residential, commercial, recreational, and institutional properties and interior plantscapes.
- Turfgrass grown for sod.
- Turfgrasses grown for aesthetic or recreational purposes or climatic modification around residential dwellings, business and office complexes, shopping complexes, multi-family residential complexes, institutional buildings, airports, cemeteries, wildlife plantings, parks, playgrounds, schools, day-care facilities, golf courses, athletic fields, and other landscaped areas.

3.2 Plant Safety

Certain plant species or cultivars may be sensitive to the final application solution. If local experience is not available, treat a small number of plants and observe for phytotoxicity for at least one week before treating the entire planting to ensure plant safety.

3.3 Integrated Pest Management (IPM)

A22011 T&O should be integrated into an overall disease and pest management strategy whenever the use of a nematicide or fungicide is required. Cultural practices known to reduce pest development should be followed. For nematodes this includes, but is not limited to cultural practices such as, solarization and use of nematode resistant or tolerant plant varieties. For diseases this should include selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult your local agricultural authorities for additional IPM strategies established for your area. A22011 T&O may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

3.4 Resistance Management Recommendations

For resistance management, A22011 T&O contains a Group N-3 nematicide. Any nematode population may contain individuals naturally resistant to A220011 T&O and other Group N-3 nematicides. The resistant individuals may dominate the nematode population if this group of nematicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay nematicide resistance, take the following steps:

- Rotate the use of A22011 T&O or other Group N-3 nematicides with different groups that control the same species.
- Use tank mixtures with nematicides from a different group that is effective on the target species when such use is permitted.
- Nematicide use should be based on an integrated pest management program that includes scouting, historical information related to pesticide use, and considers host plant resistance, impact of environmental conditions on nematode populations, nematode thresholds, as well as 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 Syngenta representative for any additional pesticide resistance management and/or IPM recommendations for the specific site and nematode problems in your area.

For further information or to report suspected resistance contact Syngenta at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

For plant pathogen resistance management, A22011 T&O contains a Group 7 fungicide. Any fungal population may contain individuals naturally resistant to A22011 T&O and other Group 7 fungicides. A gradual or total loss of disease control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay fungicide resistance, take the following steps:

- Rotate the use of A22011 T&O or other Group 7 fungicides within a growing season with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pathogen when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological, and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or Syngenta representative for any additional pesticide resistance management and/or IPM recommendations for the specific site and pathogen problems in your area.

For further information or to report suspected resistance contact Syngenta Crop Protection at 1-866-796-4368. You can also contact your university extension specialist to report resistance.

Syngenta encourages responsible product stewardship to ensure effective long-term control of the nematode species and diseases on this label.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Apply A22011 T&O at rates specified in the use tables (**Sections 6.0 and 7.0**) by ground [or irrigation] equipment only. Where permitted, applications can be made via chemigation as specified. Refer to **Section 4.5** for details of application by chemigation.

Applications to soil can be made by container drenches and broadcast, banded, and directed sprays using application equipment typically used for ground applications, such as, but not limited to:

- Hydraulic boom sprayers
- Mechanically pressurized hand-guns
- Hand-pressurized hand-wand sprayers
- Backpack sprayers
- Irrigation for soil applications (Ornamentals only)

4.2 Application Equipment

4.2.1 Cleaning of Application Equipment

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all application equipment to reduce the risk of forming hardened deposits that can become difficult to remove. Drain application equipment. Thoroughly rinse application equipment and flush hoses, boom, and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. **DO NOT** clean equipment near wells, water sources, or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

4.2.2 Calibration of Application Equipment

Proper maintenance and calibration of spraying equipment are essential for optimal nematode and disease control. If you have questions about calibration, contact a State Extension Service specialist, the equipment manufacturer, or other experts.

4.2.3 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 16-mesh or coarser.
- Do not place a screen in the recirculation line.
- Check nozzle manufacturer's recommendations.

4.3 Application Volume and Spray Coverage

A22011 T&O must be diluted with water before application. Apply in a volume of water that provides good coverage of the foliage or soil, but does not result in run-off or leaching, as specified in the Directions for Use in **Sections 6.0 and 7.0**.

4.4 Mixing Directions

4.4.1 A22011 T&O alone

1. Fill sprayer tank 1/4 to 1/2 full of water.
2. Always shake container well before use.
3. Add the required amount of A22011 T&O directly to the sprayer tank.
4. Mix thoroughly to fully disperse and continue agitation to keep the product in suspension. Use mechanical or hydraulic agitation. Do not use air agitation.
5. It is recommended that the mixture is not stored in the spray or mix tank overnight.

4.4.2 Tank-Mix Precautions

A22011 T&O may be tank-mixed with other pesticides. 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. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Confirm the safety of all A22011 T&O tank mixes to the target plants to ensure against plant injury.

4.4.3 Tank-Mix Compatibility

The physical compatibility of A22011 T&O 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 A22011 T&O 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. A22011 T&O 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

When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Council of Producers and Distributors of Agrotechnology (CPDA) adjuvant certification is recommended.

When making applications to turf, a soil-wetting agent may be used.

4.5 Application through Irrigation Systems (Chemigation)

4.5.1 Application Directions for Irrigation Systems

- Use only on plants for which chemigation is specified on this label.
- Apply this product through [overhead], [hand-held], [micro-irrigation systems], [motorized calibrated irrigation systems], or other methods which apply the product directly to the soil or growing media surface 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 disease 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 10 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.
- A22011 T&O has not been sufficiently tested via irrigation systems to determine product efficacy.

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 towards 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.
7. **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.
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.
7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

5.0 USE RESTRICTIONS

See **Sections 6.0** and **7.0** for use-specific restrictions.

- Applications must use a coarse or larger droplet size.
- **DO NOT** use for commercial grass seed production.
- **DO NOT** apply this product aerially.
- **DO NOT** apply by chemigation to turf.
- **DO NOT** apply to fruit trees, nut trees, or vines that will bear harvestable fruit within 12 months.
- **DO NOT** apply A22011 T&O when lawn weeds are flowering.
- **DO NOT** allow A22011 T&O to drift to plants that are flowering.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

5.1.1 For Residential Turf:

- **DO NOT** apply A22011 T&O when lawn weeds are flowering.
- **DO NOT** allow A22011 T&O to drift to plants that are flowering.

[The following restrictions are required to permit use of A22011 T&O 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).
- **Other Outdoor Use Sites: DO NOT** apply this product within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).]

6.0 GOLF COURSES, SOD FARMS AND LAWNS

Apply A22011 T&O to control listed pests of turf grown on golf courses, sod farms, lawns and turf areas around residential, institutional, public, commercial, and industrial buildings, parks, recreational areas, and athletic fields.

See **Section 10.1** for Tank-Mix Partner Table and Other Referenced Products.

6.1 Broadcast Applications for Nematode Control

Turfgrass (including all cultivars, varieties and/or hybrids)			
Turfgrass grown on golf courses, sod farms, athletic fields, lawns on residential or commercial properties, and other recreational areas			
Target Pests	**Use Rate**	**Application Interval**	**Use Directions**
Turf-Parasitic Nematodes (including sting[**], lance[**], root-knot[**], ring[**], spiral[**], dagger[**], stubby root[**], awl[**], stunt[**], needle[**], pin[**], sheath[**], and sheathoid[**])	3.8 – 7.6 fl oz per acre* 0.087 – 0.174 fl oz per 1,000 sq ft	Apply on a 14 – 28-day schedule.	Apply in 1-5 gallons of water per 1,000 square feet of turf. Irrigate with 0.1 to 0.5 inches of water within 24 hours of application. Irrigate to the depth of the turf root zone to be protected. Tank-mixing A22011 T&O with a soil wetting agent at prescribed use rates may improve infiltration of A22011 T&O into the root zone and improve performance. Consider applying A22011 T&O with a soil wetting agent if a soil wetting agent has not recently been applied. On golf courses and athletic fields (professional and collegiate only), rotate A22011 T&O with Divanem® nematicide for season long nematode control. Combination treatments of A22011 T&O and a fungicide, such as Briskway®, Heritage® Action™, Heritage, or Heritage TL, are recommended to reduce fungal infections following nematode feeding. Briskway, Heritage Action,

			Heritage, or Heritage TL should be watered in with A22011 T&O.
Anguina stem gall nematode	[3.8 –]7.6 fl oz per acre* [0.87 –]0.174 fl oz per 1,000 sq ft	Apply on a 14 – 28-day schedule.	Apply in 1-5 gallons of water per 1,000 square feet of turf. Irrigate within 24 hours of application. Irrigate with 0.125 inches of water. Irrigate to the depth of the turf root zone to be protected. On golf courses and athletic fields (professional and collegiate only), rotate A22011 T&O with Divanem nematicide for season long nematode control. Combination treatments of A22011 T&O and a fungicide, such as Briskway, Heritage Action, Heritage, or Heritage TL, are recommended to reduce fungal infections following nematode feeding. Briskway, Heritage Action, Heritage, or Heritage TL should be watered in with A22011 T&O.

*3.8 fl oz product is equivalent to 0.11 lb ai cyclobutrifluram.
7.6 fl oz product is equivalent to 0.22 lb ai cyclobutrifluram.
[**Not registered for use by California]

USE RESTRICTIONS

1) Refer to **Section 5.0** for additional product use restrictions.
2) **Maximum Single Application Rate:**
   - **DO NOT** apply more than 7.6 fl oz of A22011 T&O per acre (equivalent to 0.22 lb ai cyclobutrifluram/A).
3) **Minimum Application Interval**: 14 days
4) **Maximum Annual Application Rate:**
   - **DO NOT** apply more than 15.2 fl oz of A22011 T&O per acre per calendar year (0.45 lb ai per acre per calendar year of cyclobutrifluram-containing products).

6.2 Curative Spot Treatments for Nematode Control on Golf Course Greens, Tees, and Fairways

Curative spot treatments are prescribed for controlling nematodes over smaller areas where outbreaks are severe or expected to become severe. To make a curative spot treatment, apply 3.8 fl oz of A22011 T&O per 10,000 sq ft and repeat up to 4 times a year at the prescribed intervals or apply 7.6 fl oz per 10,000 sq ft and repeat up to 2 times a year at the prescribed intervals. For curative spot treatments, treat no more than 10,000 sq ft per acre per year.

6.3 Broadcast Applications for Disease Control

Turfgrass grown on golf courses, sod farms, athletic fields, lawns on residential or commercial properties, and other recreational areas			
Target Pests	**Product Use Rate**	**Application Interval**	**Use Directions**
Dollar Spot [**] (*Clarireedia* spp.)	3.8 – 7.6 fl oz per acre* 0.087 – 0.174 fl oz per 1,000 sq ft	Apply on a 14 – 21-day schedule.	Apply preventatively on a 14 to 21-day schedule when conditions are favorable for disease development. Apply the highest labeled rate under heavy disease pressure or if longer intervals of control are desired.
Spring Dead Spot [**] (*Ophiosphaerella korrae*) or (*Ophiosphaerella narmari)* or (*Ophiosphaerella herpotricha)*	3.8 – 7.6 fl oz per acre* 0.087 – 0.174 fl oz per 1,000 sq ft	Apply on a 14 – 28-day schedule.	Apply preventatively when conditions are favorable for disease development. Watering in with 0.125 to 0.250 inches of irrigation directly after application is recommended.
Mini-Ring or Leaf & Sheath Spot [**] (*Waitea zeae*)			
Take-all Root Rot [**] (*Gaeumannomyces* spp.)			
Fairy Ring [**] (*Lycoperdon* spp., *Arachnion* spp., *Bovista* spp., *Vascellum* spp., and *Agrocybe pediades*)	7.6 fl oz per acre* 0.174 fl oz per 1,000 sq ft	Apply on a 14 – 28-day schedule.	For preventative control of fairy ring, apply early in the spring prior to the development of symptoms. Apply in 2-5 gallons water per 1,000 sq ft. Irrigate into the thatch prior to the spray drying. Repeat the application within 14 to 28 days after first application. For curative control, apply as soon as possible after fairy ring symptoms develop. Apply

			in 2 – 5 gallons water per 1,000 sq. ft. Irrigate lightly after application. Add the recommended rate of a wetting agent to the final spray. Fairy ring symptoms may take 2 to 3 weeks to disappear following application. If the area is hydrophobic, use wetting agents and irrigate prior to application(s) of A22011 T&O. Repeat application on a 14 to 28-day interval.

*3.8 fl oz product is equivalent to 0.11 lb ai cyclobutrifluram.
7.6 fl oz product is equivalent to 0.22 lb ai cyclobutrifluram.
[**Not registered for use by California]

USE RESTRICTIONS

1) Refer to **Section 5.0** for additional product use restrictions.
2) **Maximum Single Application Rate:**
   - **DO NOT** apply more than 7.6 fl oz of A22011 T&O per acre (equivalent to 0.22 lb ai cyclobutrifluram/A).
3) **Minimum Application Interval**: 14 days
4) **Maximum Annual Application Rate:**
   - **DO NOT** apply more than 15.2 fl oz of A22011 T&O per acre per calendar year (0.45 lb ai per acre per calendar year of cyclobutrifluram-containing products).

7.0 ORNAMENTAL PLANTS AND NON-BEARING (JUVENILE) FRUIT AND NUT TREES, VINES, AND BERRIES

- Apply A22011 T&O as a container drench, broadcast, or banded treatment to soil/growing substrate. See **Section 4.0** for methods of application and **Tables 7.1.1 to 7.1.2** for specific Directions for Use.
- For maximum residual control, apply at highest listed application rate.
- For broadcast or banded applications, apply in a volume of water sufficient to reach the root zone where soil pests are feeding and for systemic uptake.
- Apply A22011 T&O to moist soil to achieve even distribution throughout the soil profile or water in the product after application.
- Use properly calibrated application equipment that will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off-target drift.

7.1.1 Container and Soil Drench Applications

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 and forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

Breeding crops	Foliage plants	Perennial plants
Bulb, corm, and tuber crops (such as tulips, calla lilies)	Ground covers	Pot and bedding plants
Evergreens, including conifers	Fruit and Nut Trees - Non-bearing (juvenile)*	Shrubs
Flowering plants	Ornamental grasses	Succulents
Flowers grown for seed production	Ornamental trees	Vines and Berries - Non-bearing (juvenile)*
	Palms	

Target Pests	Product Dilution	Application Timing	Use Directions
Root Knot Nematode [***]	1.5 – 6.4 fl oz** per 100 gallons	Apply preventatively or immediately after plant damage is observed. Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases.	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Foliar Nematode (suppression) [***]	3.8 – 6.4 fl oz** per 100 gallons		
Fusarium spp. [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1

			– 2 pints of solution per square foot of growing substrate surface.
Alternaria spp. [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Sclerotinia sclerotiorum [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Cercospora spp. [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Powdery Mildew (*Golovinomyces, Erysiphe, Podosphaera*) [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Corynespora spp. [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of

			water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Rose Black Spot (*Diplocardon rosae*) [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Botrytis (Foliar supression only) [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.
Septoria spp. [***]	3.8 – 6.4 fl oz** per 100 gallons	Apply preventatively prior to disease symptoms	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a container drench at 1 – 2 pints of solution per square foot of growing substrate surface.

*A22011 T&O may be applied to juvenile (or non-bearing) fruit and nut trees, vines, and berry plants in commercial greenhouse and nursery production grown for retail sale. **DO NOT** make applications to plants that will bear harvestable fruit within 12 months.
**1.5 fl oz product is equivalent to 0.04 lb ai cyclobutrifluram.
3.8 fl oz product is equivalent to 0.11 lb ai cyclobutrifluram.
6.4 fl oz product is equivalent to 0.187 lb ai cyclobutrifluram.

USE RESTRICTIONS

1) Refer to **Section 5.0** for additional product use restrictions.
2) **Maximum Single Application Rate:**
   - **DO NOT** apply more than 6.4 fl oz of A22011 T&O per acre (0.73 fl oz of A22011 T&O per 5000 sq ft) or 0.187 lb ai per acre per crop from any cyclobutrifluram-containing products.
3) **Maximum Annual Application Rate:**

- For ornamental production in structures such as greenhouses, shade houses, and lath houses and outdoor containerized production, **DO NOT** apply more than 12.8 fl oz of A22011 T&O per acre (1.47 fl oz of A22011 T&O per 5000 sq ft) per crop or 0.375 lb ai per acre per crop from any cyclobutrifluram-containing products.
- For outdoor, field-grown production, **DO NOT** apply more than 12.8 fl oz of A22011 T&O per acre (or 0.375 lb ai per acre from any cyclobutrifluram-containing products) per calendar year. **DO NOT** apply more than 2 applications of A22011 T&O at the highest labeled rate (6.4 fl oz per acre) per calendar year.

4) **DO NOT** apply more than once every 14 days.
5) **DO NOT** apply to fruit and nut trees, vines, or berry plants that will bear harvestable fruit within 12 months.
6) [*** Not registered for use by California]

7.1.2 Soil Applications (Broadcast or Chemigation)

For broadcast soil surface 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 and forest nurseries, Christmas tree farms, residential and commercial landscapes, parks, and interior plantscapes.

Breeding crops	Foliage plants	Perennial plants
Bulb, corm, and tuber crops (such as tulips, calla lilies)	Ground covers	Pot and bedding plants
Evergreens, including conifers	Fruit and Nut Trees - Non-bearing (juvenile)*	Shrubs
Flowering plants	Ornamental grasses	Succulents
Flowers grown for seed production	Ornamental trees	Vines and Berries - Non-bearing (juvenile)*
	Palms	

Target Pests	Product Rate	Application Timing	Use Directions
Root Knot Nematode [***] Foliar Nematode (suppression) [***]	3.8 – 6.4 fl oz per acre**	Apply preventatively or immediately after plant damage is observed. Repeat treatment to maintain control using the higher listed application rates as pest pressure and foliage area increases.	Apply via chemigation or ground equipment. Mix A22011 T&O with the required amount of water and apply as a broadcast or banded application.

*A22011 T&O may be applied to juvenile (or non-bearing) fruit and nut trees, vines, and berry plants in commercial greenhouse and nursery production grown for retail sale. **DO NOT** make applications to plants that will bear harvestable fruit within 12 months.

**3.8 fl oz product is equivalent to 0.11 lb ai cyclobutrifluram.
6.4 fl oz product is equivalent to 0.187 lb ai cyclobutrifluram.

USE RESTRICTIONS

1) Refer to **Section 5.0** for additional product use restrictions.
2) **Maximum Single Application Rate:**
   - **DO NOT** apply more than 6.4 fl oz of A22011 T&O per acre (0.73 fl oz of A22011 T&O per 5000 sq ft).
3) **Maximum Annual Application Rate:**

- For ornamental production in structures such as greenhouses, shade houses, and lath houses and outdoor containerized production, **DO NOT** apply more than 12.8 fl oz of A22011 T&O per acre (1.47 fl oz of A22011 T&O per 5000 sq ft) per crop or 0.375 lb ai per acre per crop from any cyclobutrifluram-containing products.
- For outdoor, field-grown production, **DO NOT** apply more than 12.8 fl oz of A22011 T&O per acre (or 0.375 lb ai per acre from any cyclobutrifluram-containing products) per calendar year. **DO NOT** apply more than 2 applications of A22011 T&O at the highest labeled rate (6.4 fl oz per acre) per calendar year.

4) **DO NOT** apply more than once every 14 days.
5) [*** Not registered for use by California]

8.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

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

Pesticide Storage

Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

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 of 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and 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 ¼ 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 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, 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 of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

10.0 APPENDIX

10.1 Tank-Mix Partner Table and Other Referenced Products

Product Name	EPA Registration Number	Active Ingredient(s)
Briskway	100-1433	azoxystrobin/difenoconazole
Divanem	100-1611	abamectin
Heritage	100-1093	azoxystrobin
Heritage Action	100-1550	azoxystrobin/acibenzolar-S-methyl
Heritage TL	100-1191	azoxystrobin

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

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