2-23-81

Topical Discussion

Effect of Naphthalene Acetic Acid on Algae (163.122-2)

No studies were received concerning the effect of NAA on algae.

Effect of Naphthalene Acetic Acid on Aquatic Macrophytes (163.122-2)

No studies were received concerning the effect of NAA on aquatic macrophytes.

Effect of Naphthalene Acetic Acid on Terrestrial Macrophytes (163.122-1)

- Vegetative Vigor

Studies reviewed: Acceptable 5 Unacceptable 2

NAA at 620 ppb caused a 50% reduction in root growth of soaked pea roots. However, if it was applied to the hypocotyl or young stem at 500 ppb there was only a 10% reduction in root growth. The NOEL for cucumber seedling growth is 98 ppb.

Species	Formulation	Level/Effect	Reference
Cucumber (Seedling)	ai	98 ppb NOEL	Hilton & Nomura (1964) MRID 05007255
Pea (Roots)	ai	620 ppb 50% reduction	Eliasson (1961 MRID 05007254

- Germination

Lettuce, tomato, sugarbeet, or dwarf bean were unaffected in their yields when the seeds were treated with 100,000 ppm NAA applied in talc. However, concentrations of 0.1 ppm in a seed soak delayed or inhibited germination of cotton. With 100 ppm NAA, germination was inhibited 10-14 days, however, the cotton yield/plant was not effected.

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Species	Formulation	Level/Effect	Reference
Lettuce	ai in talc	100000 ppm NOEL	Croxall & Ogilvie (1949) MRID 05012526
Tomato	"	" "	"
Sugarbeet	"	" "	"
Bean,dwarf	"	" "	"
Cotton	ai liquid	0.1 ppm inhibition	Coats (1966) MRID 05010399

Disciplinary Review

Profile

The effects of NAA to nontarget aquatic plants is not known. NAA at 620 ppb caused a 50% reduction in root growth of soaked pea roots. If NAA was applied to the hypocotyl or young stem at 500 ppb, there was only a 10% reduction in root growth. The NOEL for cucumbers is 98 ppb. The germination of lettuce, tomato, sugarbeet or dwarf bean were unaffected in their yields when the seeds were treated with 100000 ppm NAA applied in talc. Concentrations of 0.1 ppm in a seed soak, however, delayed or inhibited germination of cotton. NAA at 100 ppm inhibited germination of cotton for 10-14 days without affecting yields.

Hazard

The concentration of spray for application is 25 to 50 ppm. The extent of exposure to nontarget terrestrial plants is minimal given the low concentration and would, therefore, not be considered a hazard.

Section	Test	Use	Required	Have	Need
163.122-1	Seed Germination	Fruit Tree Spray	Yes	Adequate	No
"	Vegetative Vigor	Fruit Tree Spray	Yes	No	Yes
163.122-2	*Lemna* (Aquatic Macrophyte)	Fruit Tree Spray	Yes	No	Yes
"	Algae	Fruit Tree Spray	Yes	No	Yes