Control root feeding grubs and larvae with an application of NemaShield HB. The beneficial nematodes, *Heterorhabditis bacteriophora*, will actively seek out the grubs and larvae to colonize them. Feeding subsides and the “host” will die with a few days.

**NemaShield HB Benefits**

- Exempt from EPA regulations; 0-hour REI
- Fast, effective biological control
- Easy and safe to apply

**NemaShield HB Targets**

**White Grubs**
- Japanese Beetle (*Popillia japonica*)
- Northern Masked Chafer (*Cyclocephala borealis*)
- Southern Masked Chafer (*Cyclocephala lurida*)
- May/June Beetles (*Phyllophaga spp.*)

**Cutworms**
- Black Cutworm (*Agrotis ipsilon*)
- Bronzed Cutworm (*Nephelodes minians*)
- Variegated Cutworm (*Peridroma saucia*)

**Leatherjackets/ European Crane Fly**
- (*Tipula clemacea* and *Tipula paludosa*)

**Mode of Action**

- The nematodes in NemaShield HB actively search for insect larvae and enter through natural openings.

- As the nematodes feed on the host body, they excrete a specific bacteria which is toxic to larvae.

- The bacteria multiply very rapidly and convert the host tissue into products that the nematodes use as a food source.

- Larvae die within a few days, host turns orange-red to red-brown.

- Next generation of nematodes leave the old host and actively seek out new ones.
NemaShield® HB

Pre-Application

• Scout for early detection.

• Adequate soil moisture must be present and maintained for 2 weeks to aid nematode mobility.

• Soil temperature of 50-80°F (74°F optimum) is necessary for nematode activity.

• DO NOT FREEZE. Unopened products are to be refrigerated and used prior to the expiration date on the container. Expiration date on the box is month/day/year format (mm/dd/yy).

• To avoid blockages, all screens should be removed and the spray nozzle opening should be at least 1 mm (1,000 microns).

• Maximum sprayer pressure is 150 psi.

• Nematodes are very sensitive to UV light. DO NOT apply in direct sunlight; apply on a cloudy day or late in the afternoon.

Application

• Prepare and apply out of direct sunlight.

• Empty contents of package into a bucket containing about 1 gallon of cool (60°-75°F) water, then stir.

• Let the entire solution soak for 5 minutes. Stir again thoroughly, then transfer the contents into the spray tank and fill to desired level.

• To avoid blockages, all screens should be removed and the spray nozzle opening should be at least 1 mm (1,000 microns).

• Maximum sprayer pressure is 150 psi.

• Continuous agitation is necessary to prevent the nematodes from settling out.

• Evenly spread the solution over the ground area to be treated.

• Moderately water-in after application to move the nematodes off the foliage and into the ground. Avoid washing the nematodes through the soil.

• Keep the soil moist (not saturated) for the following 2 weeks.

Package Size & Application Rate Recommendations

• 50 million package of nematodes treats up to 2,000 sq. ft. under low to moderate infestation (500 million package size also available).

• 1 billion nematodes per acre recommended under low to moderate infestation.

• 2 billion nematodes per acre recommended under moderate to higher infestations.

Compatibility

• Not compatible with many organophosphates or carbamates.

BioWorks®
How You Grow Matters™

Nematodes enter white grub through natural openings

Nematodes leave white grub larva and search for new host

Nematodes release bacteria which kill the white grub larva

Nematodes feed and reproduce filling white grub body

1.

2.

3.

4.

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