

# Millenium<sup>®</sup>

Beneficial Nematodes

## General Description

Millenium<sup>®</sup> is a naturally occurring, insect parasitic nematode (*Steinernema carpocapsae*) that searches out, enters and controls the target insect pests. Use Millenium on fruit, nut, vine, field and row crops as well as in ornamental, turf, landscape, nursery, interiorscape and greenhouse applications.

## Directions for Use

Read and follow all label instructions thoroughly before applying Millenium. Because of the clustered infestation patterns exhibited by these pests, it is necessary to thoroughly sample all areas for insect populations before spot treating. If thorough sampling is not feasible, it is recommended that Millenium be broadcast over the entire infested area.

## Precautions

This product contains living organisms that require special handling and application procedures.

- **DO NOT SUBDIVIDE.** Once opened, use the entire tray immediately.
- Use cool water for mixing and keep tank out of direct sunlight.
- **DO NOT STORE MIXED SUSPENSIONS.** Use nematode suspensions immediately after mixing.
- Remove filters that are 50 mesh or finer from application equipment and nozzles.
- Do not exceed 300 psi pump pressure.
- Do not use in application systems where nozzle aperture is smaller than 0.5 mm.
- Agitate nematodes constantly during application.

Millenium can be used in a rotational program with many conventional insecticides to reduce pest resistance.

(Continued)

## Application Methods and Mixing Instructions

Millenium® can be applied by using common ground spraying, chemigation and aerial application equipment.

- Fill spray vessel or stock tank with half of the required amount of cool, clean water.
- Start agitation and add the required number of Millenium trays.
- Continue agitation while mixing and fill spray tank to the required spray volume.
- Maintain sufficient agitation during application to ensure uniform dispersion of nematodes in the spray mix.
- Apply to moist soil when soil temperatures are between 55°-86°F (13°-30°C). If soil temperatures are higher than 86°F (30°C), irrigate with at least 0.1 inch (0.3 cm) of water before applying Millenium.
- Irrigate with at least 0.1 inch (0.3 cm) of water following the application of Millenium within 30 minutes under hot, dry conditions and within 2 hours under cool, wet conditions.

### Containerized Nursery Application

- Best results are achieved by applying Millenium as a soil drench.
- Apply Millenium in a sufficient volume of water to thoroughly soak the soil or growing media, but before water leaches from the pots.

### Ground Spraying Application

- **Surface spraying equipment:** Use a minimum volume of 200 gallons per acre (1,880 liters per hectare).
- **Airblast spraying equipment:** Use a minimum volume of 400 gallons per acre (3,750 liters per hectare).
  - Apply as a course, low-pressure spray to the point of runoff on the bark areas from the ground level up into the scaffolds of the tree.

### Chemigation Application (Injection Through Irrigation Equipment)

- Lightly water area to be treated to moisten surface and cool irrigation lines.
- Premix the required amount of Millenium in sufficient water to uniformly inject the entire irrigation system.
- Inject nematodes during second watering. Add Millenium to a clean feeder tank. Suspension must be continuously agitated during injection to prevent nematodes from settling. After injection, rinse feeder tank with clean water and inject into system.
- Non-uniform distribution of nematodes in the irrigation system will result in inconsistent control.

### Aerial Application

- Use a minimum water volume of 12 gallons per acre (100 liters per hectare).
- Apply product close to soil surface to reduce drift.

### Subsurface Application

- Millenium can be soil-applied using shank, cultivator or spoke-wheel applicators.
- Apply 30-100 gallons of water per acre (280-930 liters per hectare).
- **Shank:** Apply as a trickle behind each shank at a 2-4 inch (5-10 cm) depth followed by a press wheel to cover opening. Double shanks should be placed at 6-8 inches (15-20 cm) apart and centered on the hill.
- **Cultivator:** Apply as a spray immediately in front of rolling cultivator. Incorporate to a 2-4 inch (5-10 cm) depth.
- **Spoke-wheel:** Double spoke-wheels should be placed at 6-8 inches (15-20 cm) apart and centered on the hill. Inject at a 2-4 inch (5-10 cm) depth.

(Continued)

| Crop/Use Site                                | Pest   | Rate  | Special Instructions  |
|--|--|---|---|
| <b>Cranberries and mint</b>                  | Cranberry Girdler  | 2-3 bil./acre<br>(5-7.4 billion/hectare)  | Rate based on thatch depth. Apply 2 weeks after egg laying when larvae are present.   |
|  | Mint Root Borer  | 1-1.5 billion/acre<br>(2.5-3.7 billion/hectare)   | Apply in August and September when soil temperatures are between 55°-86°F (13°-30°C) at application and at least 2 weeks after application.   |
|  | Root Weevils,<br>Mint Flea Beetle                          | 3 billion/acre<br>(7.4 billion/hectare)   | Apply to over-wintering larval generation. Time application based on favorable weather conditions.  |
| <b>Fruit, nut and vine</b>                   | Navel Orangeworm,<br>Codling Moth                          | 0.4 to 1.0 billion/acre<br>(1-2.5 billion/hectare)  | Apply to over-wintering larval generation. Time application based on favorable weather conditions.  |
| <b>Greenhouse</b>                            | Shore Flies  | 250 million / 2,750-5,400 ft <sup>2</sup><br>(250 million / 255-500 m <sup>2</sup> )  | Three applications must be made at 7 day intervals. Spray the surface of the pots, the top, sides and undersides of benches and other areas where algae is growing.   |
| <b>Containerized Nursery and Ornamentals</b> | Strawberry Root Weevil                                     | 1 billion/14,500 ft <sup>2</sup><br>(1 billion/1,350 m <sup>2</sup> )   | Apply when larvae are active, before damage occurs.   |
|  | Black Vine Weevil  | 1 billion/acre<br>(2.5 billion/hectare)   | Apply in spring when larvae and pupae are present in the soil/media.  |
|  | Dogwood Borer,<br>Peachtree Borer,<br>Clearwing Borer      | One 250 million tray in 250 gallons of water will treat 250 trees or 2.5 acres (1 hectare) based on 100 trees per acre (250 trees per hectare). | Apply as a coarse, low-pressure spray to the point of runoff on the bark areas from ground level to scaffold limbs. Apply during May through September when signs of larvae are apparent. Apply before insect entry hole has become plugged with pitch or other debris.       |
|  | Banana Moth, Giant Palmetto Weevil, Rotten Sugarcane Borer | <b>Field-grown Ornamentals:</b><br>1 billion/500 plants   | Apply as a crown drench to the point of runoff. Make 3 applications at 6-8 week intervals.  |
|  |  | <b>Containerized ornamentals:</b><br>1 billion/acre   | Apply as a soil drench. Make 3 applications at 6-8 week intervals.  |
| <b>Turf</b>                                  | Flea larvae and pupae                                      |   | Controls outdoor flea larvae and pupae. Apply to areas frequented by pets. A compatible adulticide may be added to the spray mix if desired. Reapply in 4 weeks if needed.  |
|  | Billbugs, Annual Bluegrass Weevils                         | 1 billion/acre or 250 million/10,000 ft <sup>2</sup><br>(2.5 billion/hectare or 250 million/930 m <sup>2</sup> )                                | Apply when larvae are small or damage is first detected. Billbug adults and pupae will also be controlled. Make 2 applications for <i>Hyperodes</i> (first against early instars, second 2-3 weeks later).  |
|  | Cutworms, Armyworms, Sod Webworms, Tropical Sod Webworms   |   | Apply when larvae are small or damage is first detected. For cutworms, apply 1 week before insecticide would normally be applied. Repeat applications on a 14-21 day schedule as needed. Controls pests within 3-7 days of application and feeding should stop within 3 days. |
|  | Chinch bugs  |   | Suppresses chinch bugs when tank-mixed with a silicone type surfactant.   |

(Continued)

## Packaging

Millenium is available in trays of 250 million nematodes.

## Storage and Disposal

### Storage

Upon receipt of product, remove from shipping packaging and use immediately or store in a refrigerator at 40°F (5°C). **DO NOT FREEZE.** Ensure good air circulation around each tray. Do not use if past expiration date or incorrectly stored.

### Disposal

Product and packaging waste resulting from the use of this product, or unused, outdated product, may be disposed of on site or at any approved waste disposal facility in accordance with federal and local regulations.

Always read and follow label directions.

Millenium is a registered trademark of BASF. © 2013 BASF Corporation. All rights reserved.

**Millenium**<sup>®</sup>  
Beneficial Nematodes