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SPECIMEN

# Millenium<sup>®</sup>

Biocontrol for ground dwelling insects and certain borers  
Infective juveniles of *Steinernema carpocapsae*

**STORE IN REFRIGERATOR 41°F (5°C)**

**DO NOT FREEZE**

**DO NOT LEAVE IN BRIGHT SUNLIGHT**

**USE BEFORE EXPIRATION DATE**

**READ INSTRUCTIONS BEFORE USE**

**Keep Out of Reach of Children**

This product does not require a hazard warning in accordance with GHS criteria.

**Contents: 250 million infective juveniles of *Steinernema carpocapsae***

BASF Corporation  
26 Davis Drive, Research Triangle Park, NC 27709

**Millenium®** biocontrol is a naturally occurring, insect parasitic nematode that searches out, enters and controls the target insect pests. **Millenium** is active only against insect pests. This nematode has not been genetically modified in any way. The nematodes are formulated in a water dispersible matrix. Follow dilution, application and irrigation recommendations carefully to achieve optimum results. **Millenium** can be used on fruit, nut, vine crops, field crops, row crops, ornamental, turf, landscape, nursery, interiorscape, and greenhouse situations.

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## Directions For Use

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Read and follow all label instructions including Application Recommendations thoroughly before applying **Millenium**.

### Recommended Rates for Turf

Apply one billion nematodes per acre (approximately one tray per 10,000 ft<sup>2</sup> or 929 m<sup>2</sup>) for the pests listed. With all turf applications, be sure to follow Application Recommendations.

**Flea larvae and pupae:** **Millenium** controls flea larvae and pupae in outdoor premises (turf, sand, gravel or soil). Immature fleas occur in outdoor areas frequented by pets, including resting and sleeping areas, pathways and exercise areas. An adulticide may be added to the spray mix if desired. See "Compatibility Table" prior to mixing. Reapply in 4 weeks if needed.

### Billbugs, Annual Bluegrass Weevils (Hyperodes):

Applications should be made when larvae are small or damage is first detected. If present, billbug adults and pupae will also be controlled. For *Hyperodes*, two applications should be made. The first application should be against early instars and the second should be made 2-3 weeks later.

### Cutworms, Armyworms, Sod Webworms and Tropical Sod Webworms:

Applications should be made when larvae are small or damage is first detected. For cutworms, begin application one week before insecticide would normally be applied. Repeat applications on a 14-21 day schedule as needed. **Millenium** controls these pests within 3-7 days of application and feeding should stop within 3 days.

**Chinch bugs:** **Millenium** suppresses chinch bugs when applied with a silicone type surfactant according to label directions.

### Ornamentals

**Shore Flies:** Apply 1-4 billion nematodes per acre. Three applications must be applied at 7 day intervals. For greenhouse applications, also spray the surface of the pots, the tops, sides and undersides of benches and other areas insects can breed.

**Strawberry Root Weevil:** Apply 1 billion nematodes per 14,500 ft<sup>2</sup> or 1,347m<sup>2</sup> (approximately one tray per 3,500 ft<sup>2</sup> or 325 m<sup>2</sup>) at the time when larvae are active but before damage occurs.

**Borers (Dogwood, Peachtree, Clearwing):** Mix one tray in 2.5 gallons (9.46 liters) of water and apply as a coarse, low-pressure spray to the point of runoff on the bark areas from ground level to scaffold limbs. Applications should be made 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:** For field-grown ornamentals, apply 1 billion nematodes per 500 plants as a crown drench to the point of runoff. For containerized ornamentals, apply 1 billion nematodes per acre as a soil drench. Make three applications at 6-8 week intervals.

### Containerized Nursery Applications

In containerized ornamentals, best results are achieved by hand treating pots with a diluted **Millenium** drench followed with 0.5 - 1.0 inches (1 - 2.5 centimeters) of overhead irrigation. Please refer to following table for information on treating containers:

### One billion nematodes will treat the following number of pots

Square Pots		Rounds Pots	
125,000	4x4"	159,160	4" diameter
55,550	6x6"	70,730	8" diameter
31,250	8x8"	17,680	12" diameter
13,890	12x12"	9,940	16" diameter

### Cranberries and Mint

**Cranberry Girdler:** 2-3 billion nematodes per acre dependent upon thatch depth. For best results apply **Millenium 2** weeks after peak adult flight.

**Mint Root Borer:** 1-1.5 billion nematodes per acre. For best results apply in August and September when soil temperatures are optimal for nematode performance.

**Root Weevils, Mint Flea Beetle:** 3 billion nematodes per acre. For best results apply in August and September when soil temperatures are optimal for nematode performance. Because of the clustered infestation patterns exhibited by these pests, it is necessary to thoroughly sample all of the production areas for insect populations before spot treating. If thorough sampling is not feasible, it is recommended that **Millenium** be broadcast over the entire production area thought to be infested.

### Fruit, Nut, and Vine Crops

**Navel Orangeworm and Codling Moth:** Application should be made to the overwintering larval generation. Time the application based on favorable weather

conditions, (see Application recommendations). Apply 0.4 to 1.0 billion nematodes per acre.

**Black Vine Weevil:** Apply 1 billion nematodes per acre at the time when larvae are active but before damage occurs.

#### **Application Recommendations**

##### **To apply by Ground Spraying - for all surface spraying equipment**

1. Apply to moist soil when soil temperatures are between 55 - 90°F (12 - 32°C). If soil temperature is higher than 90°F (32°C), irrigate with at least 0.1" (one-tenth of an inch) of water to reduce temperature before applying **Millenium**.
2. Use a minimum rate of 200 gallons (757 liters) of water per acre.
3. For optimal results, irrigation of at least 0.1" of water must be applied following the application of **Millenium** within 30 minutes under hot, dry conditions and within 2 hours under cool, wet conditions.
4. Remove all in-line and nozzle filters of 50 mesh or less. Do not exceed a 300 psi pump pressure.

##### **To apply by Ground Spraying – Airblast spraying equipment**

1. Apply when air temperatures are between 55 - 80°F (12 - 27°C).
2. Use a minimum rate of 400 gallons (1,514 liters) of water per acre.
3. For optimum results, irrigation of at least 0.1" of water must be applied prior to, and following, the application of **Millenium**. Time the irrigation to within 30 minutes under hot, dry conditions and within 2 hours under cool, wet conditions.
4. Apply as a coarse, low-pressure spray to the point of runoff on the bark areas from the ground level up into the scaffolds of the tree.
5. Remove all in-line and nozzle filters of 50 mesh or less. Do not exceed a 300 psi pump pressure.

##### **To apply Chemigation equipment (*Injection through irrigation equipment*)**

1. Lightly water area to be treated to moisten surface and cool irrigation lines.
2. Pre-mix the required amount of **Millenium** in sufficient water to uniformly inject the entire irrigation system.
3. Inject nematodes during the 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 to purge **Millenium** from irrigation system.
4. Inconsistent control will result from non-uniform distribution of irrigation system.
5. After application, immediately irrigate treated area with a minimum of 0.1" of water.

#### **Sub Surface Application**

1. Product can be soil-applied using shank, cultivator or spoke wheeled applicator.
2. Apply product in 30-100 gallons of water per acre.
3. **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.
4. **Cultivator:** Apply as a spray immediately in front of a rolling cultivator. Incorporate to a 2-4 inch (5 - 10 cm) depth.
5. **Spoke Wheel:** Double spoke-wheels should be placed at 6-8 inches apart and centered on the hill. Inject at a 2-4 inch depth.

#### **Aerial Application**

1. Minimum water volume rate is 12 gallons (45 liters) per acre.
2. Apply product close to soil surface to reduce drift.
3. Sprinkler systems must be operating during application to irrigate product into the soil.
4. After application, maintain irrigation of treated area to deliver minimum of 0.1" of water.

#### **Mixing and Dilution**

Begin by filling the spray tank 1/2 full with cool, clean water and start the agitator. Water temperature must be between 50- 90°F (12 - 32°C). The agitator will need to run throughout application.

1. In a bucket containing no less than 2.5 gallons (9.46 liters) of water, open and immediately add the entire contents of the tray.
2. Allow the contents to hydrate (approximately 5 minutes), and then stir thoroughly to disperse product.
3. Empty the bucket into the spray tank and fill the remainder of the tank with water.
4. Agitation must be provided during filling and application to ensure adequate dispersion of the nematodes.

## Compatibility Table

<p><b>Millenium</b> has been tested against and is tank mix compatible with most chemicals and fertilizers. The schedule for specific pesticides listed below must be followed to ensure proper performance of <b>Millenium</b>.</p>		
SCHEDULE	CHEMICAL NAME	TRADE NAME(S)
<p><b>DO NOT</b> use within 7 days before/after <b>Millenium</b></p>	<p><b>FUNGICIDES</b> anilazine fenarimol</p>	<p><b>Dyrene®</b> <b>Rubigan®</b></p>
	<p><b>HERBICIDES</b> 2,4,D triclopyr</p>	<p><b>Various</b> <b>Turflon®, Confront®</b></p>
	<p><b>INSECTICIDES</b> azinphosmethyl chlorpyrifos  methomyl</p>	<p><b>Guthion®</b> <b>Dursban® (non-encapsulated)</b> <b>Lannate®</b></p>
<p><b>DO NOT</b> use within 14 days before/after <b>Millenium</b></p>	<p><b>INSECTICIDES</b> carbofuran ethoprop</p>	<p><b>Furdan®</b> <b>Mocap®</b></p>
	<p><b>NEMATICIDES</b> fenamiphos oxamyl</p>	<p><b>Nemacur®</b> <b>Vydate®</b></p>

## Storage and Disposal

**Storage:** Remove from shipping package and use immediately or store in refrigerator. Ensure good air circulation around each tray. Keep away from heat. Protect from direct sunlight. Store protected against freezing. Storage temperature: 5°C (41°F).

**Waste Disposal of Substance:** Must be disposed of or incinerated in accordance with local regulations.

**Container Disposal:** Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

**Accidental Release Measures:** Segregate from foods and animal feeds. Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. For small amounts: Contain with dust binding material and dispose of. For large amounts: Sweep/shovel up. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

**EMERGENCY CONTACT: CHEMTREC 1-800-424-9300**  
**BASF Corporation 1-800-832-HELP (4357)**

**State Right To Know Description and CAS # / TRSN**  
Proprietary acrylic polymer / TRSN 161090809-5126

## Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, 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 weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer. BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above. **BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT. BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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BASF Corporation  
26 Davis Drive  
Research Triangle Park, NC 27709



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