Why Use Beneficial Nematodes?

- Rapid curative control of vine weevil larvae
- Control at all times when the pest larvae are active
- No pest resistance problems
- No re-entry interval
- Simply applied as a drench or through irrigation systems
- No requirement for protective clothing
- No disposal restrictions

Photo: Cheryl Moorehead, individual, Bugwood.org

TRUST IN PERFORMANCE

Our beneficial nematodes are proven to have the highest and most consistent infection and kill rate of nuisance pests compared to other beneficial nematode products. Visit our website for resources and information related to compatibility and application tips.

Application Rates Continued

Irrigation Line Application

As with all pesticides, accurate application is paramount for effective control. Therefore, the use of equipment specifically designed for pesticide application is usually the best method. However, many growers prefer to make applications through irrigation lines (t-tape and dripper systems).

When using irrigation lines it is important to remember that they are designed to deliver water and not a measured dose of control agents, so there is the possibility of uneven applications. Using nematodes in these systems is safe since overdosing is of no concern. However, underdosing may result in inadequate plant protection.

Here are some guidelines to minimize this risk:

- Apply the label rate twice to compensate for variability of distribution (wait two weeks for second application).
- All systems must be in good repair, free of tears, leaks and blockages.
- Remove all filters of 18 mesh or finer.
- Prior to application, irrigate the crop to flush the system clean and to ensure moist soil.
- Minimum pressure at application should be 2bar/30psi/2kPa to ensure nematodes don't settle in the lines.
- Ensure the tape emitter/dripper is close to plant roots to deliver nematodes (use double t-tape lines).
- After application, pass water through the system to ensure all nematodes have been flushed through.
- Use 6bar pressure with injectors (i.e. Dosatron).

Contact your local distributor or Becker Underwood representative to learn more about our greenhouse and nursery solutions.

www.beckerunderwood.com

800-232-5907

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NEMASYS® L

Insect-Parasitic Nematodes for Controlling Black Vine Weevil

www.beckerunderwood.com

Photo: Grub photo by: Peggy Greb, USDA Agricultural Research Service, Bugwood.org.

ADVANCED BIOCONTROL FOR BLACK VINE WEEVIL



The Problem

With an extensive geographic range, black vine weevil (*Otiorhynchus sulcatus*) is a pest of many economically important plants and crops. While adult feeding produces characteristic notches around leaf edges, most economic damage is caused when larvae feed on roots. This results in reduced vigor, growth and often times death. Many growers are using beneficial nematodes as a solution to this pest.

The Solution

Beneficial nematodes are natural insect-parasitic worms. Applied as a drench or through irrigation systems, they provide an effective, rapid and safe solution to control black vine weevil.

Nemasys® L is *Steinernema kraussei* beneficial nematodes in their vigorously infective stage. These aggressive organisms actively seek out vine weevil larvae and enter them through natural openings. Once inside they release symbiotic bacteria, quickly killing the insect pest, then the nematodes reproduce inside the insect and release a new generation of infective juveniles which disperse in search of further prey.

Control Options

Becker Underwood, in conjunction with Horticulture Research International (HRI), has conducted extensive research to provide growers with the most effective biological control of vine weevil for all growing situations.

NEMASYS® L

Species: *Steinernema kraussel*

Features of Nemays L:

- Effective against larvae at warm and low temperatures (41-86 °F, 5-30 °C).
- Application window: February to late November when larvae are present.
- Very robust, able to utilize reserves very efficiently.
- Can withstand harsh conditions.
- Infected larvae turn yellow.

Nemasys L, based on, provides rapid curative control and has the added benefit of being cold temperature tolerant. It will work in soil temperatures as low as 41 °F (5 °C), so it will infect and kill vine weevil larvae whenever the pests are active in the soil.

This is important when a vine weevil infestation is identified late in the autumn or early in the spring and a control strategy is required.

Late autumn applications can be more effective at controlling vine weevil populations since all vine weevil eggs will have hatched, and summer applications usually require a repeat application the late autumn.

The longer application window for Nemasys L allows for better targeted application timings.

Application Rates

Soil temperature range: 41-86 °F (5-30 °C)

Pack Size (million)	Pot/Container Stock Rate	Strawberry Rate
50	1075 ft^2 (100 m^2)	2,000 plants
250	5500 ft^2 (500 m^2)	10,000 plants
RATE	2 billion/acre (0.5 million/m^2)	25,000/plant

Drench/Spray Application
Nemasys L can be applied with standard spray applicators. An application volume of 90 gallons per 1,000 ft^2 (4 liters/m^2) is recommended. Lower volumes can be used when immediately followed with additional irrigation to the equivalent volume. For strawberries where an individual dose per plant can be made (25,000 nematodes), apply at 3.38 fluid ounces (100 mL) per plant.

(Please see back for irrigation line application.)

Plant damage caused by black vine weevil.