



From Worrier to Warrior:

How to Conquer the Black Vine Weevil

August 2016

If your operation is facing the aftermath of damage from black vine weevils (*Otiorhynchus subcatus*), now is a perfect time to review your pest-management program to ensure you're targeting this worrisome pest at its most susceptible life stages.

What to look for

Adult black vine beetles are ½" long, gray-to-black in color with patches of yellowish hairs on the wing covers. Weevils have a long head that forms a snout mouthpart, which is useful in distinguishing them from other beetles. The female beetle wings are fused together and they cannot fly.

While the damage from adult beetles to foliage is strictly aesthetic, the damage from feeding larvae on roots and boring into crowns can be very destructive.

Walking limits populations and they tend to build up in specific areas. During the day, adults hide in mulch, litter debris and loose soil around pots. Placing burlap around the base of plants, laying plywood or cardboard coated with a sticky coating, or digging pitfall traps can help monitor for the adults. Check traps daily and discard adult beetles found.

Characteristic notching along leaf margins indicates high populations are in the area. Favorite plants include perennials astilbe, bergenia, heuchera, sedum, lily of the valley, hosta, toad lily, epimedium, liriopse, yews and rhododendrons.

When and how to treat adult beetles

Adult beetles emerge in the late spring/early summer, often in June. As adult weevils emerge over a 2-4 week period, they feed on foliage prior to egg laying, where they can lay over 500 eggs on soil surfaces and in pots. Adults live and lay eggs from the end of June through October.

The most vulnerable adult stage will be the newly emerged beetles just prior to egg laying. Timing of pesticides should begin then with long-residual products such as **Acephate® 97**, **Astro®**, **Avalon™**, **Decathlon®**, **Flagship®**, **Mallet®**, **Mantra®**, **Marathon®**, **Menace®** and **Scimitar®**. These products are best applied in the evening, as the adult beetle is nocturnal. Application will be needed throughout the period of adult activity at 2-3 week intervals.

Make sure to consult the pesticide labels for rates and site-specific applications. Many of these products are harmful to natural predators, so keep reading for details on how to treat for the larvae in spring and fall instead.



Black vine weevil adult

When and why treat for larvae

While the damage from adult beetles to foliage is strictly aesthetic, the damage from larvae feeding on roots and boring into crowns can be very destructive. The white, legless, C-shaped larva has a brown head capsule and is the overwintering stage. Larvae can survive 2-12 months prior to pupation, which takes roughly 20-40 days before emergence into an adult.



Black vine weevil larva

Cool temperatures trigger larvae into moving further down into pots and soil. Best applications of nematodes are when soil temperatures are above 50°F, but not higher than 85°F. Applications of entomopathogenic nematodes *Steinernema carpocapsae* and *kraussei*, as well as *Heterorhabditis bacteriophora* have been researched and trialed to be effective tools. The *Heterorhabditis* species has a greater foraging strategy and will move deeper into soil profile than the *Steinernema* species.

Nematodes have no re-entry requirements, no pest-resistance issues, don't require a pesticide license, aren't toxic to applicator or environments, and are easy to use.

Soil moisture is critical to nematode survival. Prior to drenching nematodes, make sure to irrigate the area and supply adequate moisture over next 3-4 weeks. Targeting larvae will reduce the overall number of adults emerging, and result in less injury to the plant.

How to treat with nematodes

Apply 50 million nematodes (one tray) in 20 gallons of water per 1,000 sq ft or 1 billion per acre at 2-3 week intervals. Infected larvae will turn color, from white to orange-pink.

It's not the nematode itself that kills the larvae but the toxin it releases after it enters into the larva body where it reproduces. Nematodes have no re-entry requirements, no pest-resistance issues, don't require a pesticide license, aren't toxic to applicator or environments, and are easy to use.

Applications need to be made during evening hours or on cloudy days, as nematodes are sensitive to sunlight. Applications through injectors are no problem if all screens and filters are removed. Request the GGSPRO Nematode Bubbler bulletin to maximize survival of nematodes.

Always read and follow all label instructions. Products other than those mentioned here may also be safe and effective.

Continued on page 2

Featured Products

Product	Description	Item No.
Acephate 97UP	1 lb	70-1105
Astro	1 gal	3105521
Avalon	1 gal	70-1210
Decathlon 20 WP	8 oz	70-14201
Flagship 25WG	8 oz	70-1700
Mallet 2F T&O	1 gal	70-2340
Mantra 60 WSP	5 packets (20 gm each)	70-2350
Marathon 60 WSP	5 packets (20 gm each)	70-23701
Marathon II	250 mL	70-23711
Menace (bifenthrin)	1 gal	70-2389
Scimitar GC	1 qt	70-2997
<i>Heterorhabditis bacteriophora</i>	NemaShield HB (50 million nematodes)	70-6035
	NemaShield HB (500 million nematodes)	70-6036
	Nemasys G (500 million nematodes)	70-2495
<i>Steinernema carpocapsae</i>	Millenium (1.25 billion nematodes)	70-2455
	Exhibitline sc (250 million nematodes)	SB1012-01, 30C250
<i>Steinernema kraussei</i>	Nemasys L (250 million nematodes)	70-2470
	Nemasys L (500 million nematodes)	70-2475