



# J&L Garden Center

The All Season Gift  
and Garden Center

620 North 500 West Bountiful, Utah 292-0421

[www.JLGardenCenter.com](http://www.JLGardenCenter.com)

## Root Weevil

Root weevils are seldom seen, but their damage is one of the most common complaints of gardeners in this area. The characteristic notches that mysteriously appear around the edges of the leaves are a sure sign that these unseen pests are at work. Root weevils are a major pest on some ornamental plants, and in food crops. Plants particularly attacked by root weevils include euonymus, lilac, roses, raspberries, strawberries, rhododendron, privet, melons, cabbage, etc. Root weevil in both ornamental and edible plantings can be controlled by spraying or dusting. Use registered insecticides, at the proper time, for best results. The most important part of root weevil control is persistence. Don't give up! It may take two or three years to get them under control.



Root Weevil Damage



Leaf Cutter Bee Damage

Don't mistake **Root Weevil Damage** for the **Leaf Cutter Bee** damage. Leaf cutter bees are beneficial insects. You do not need to control this insect because they do not damage your plants, they just eat leaves. They are one of the best pollinating insects in this area.

### Life History

There are many different species of root weevil. Root weevils are hard-shelled snouted beetles tan to black in color, from 1/8 to 2/5 inch long, depending upon the species. They are parthenogenic, that is, all adults are egg-laying females. Root weevils do not need to mate with another to lay eggs. Adult root weevils feed only on foliage, eating notches in the edge of leaves. The larvae stage feed only below ground on plant roots and stems.



Adult root weevils begin laying eggs about 3 weeks after emergence from the larval stage. This egg-laying period may continue for 5 months. The eggs are usually laid singly, but each root weevil can lay up to 150 eggs during its life. Root weevils are capable of laying eggs through the summer and fall, survive the winter, and lay a few more eggs early in the spring. Eggs are either laid in the soil near the base of the host plant, or are laid in the plant's leaves.



Eggs hatch a few weeks after they are laid, and young larvae work their way down into the root zone to begin feeding. Larvae are whitish or pinkish, legless, "C-shaped", brown-headed grubs, from 1/8 to 2/5 inch long when mature. Larvae feeding on roots may completely destroy small rootlets, debark larger roots, or girdle the main plant stems just below the soil level. Larvae continue to feed throughout winter and into the early spring, when they pupate for a month or two before they emerge as adults. Adult emergence may continue over a period of a couple of months for any given species of weevil.

Adult weevils don't fly, they only walk. They may move up to 500 feet during a season, but often they do not move

more than 5 to 10 feet. Their limited ability to disperse may account for the localized nature of most root weevil damage.



As many as one-fourth of the adult root weevils may survive the winter, continuing to feed during winter. The amount of winter feeding depends upon the severity of the weather. As the temperature begins to warm in March many adults begin egg-laying.

### Feeding Habits

Adult root weevils feed mostly in late evenings; after dark. It's often necessary to find them by flashlight. During the day they are under debris and in the top quarter inch of soil; under the plants on which they feed. Only during cool fall, winter, and spring temperatures are they likely to be found on the foliage during the day. Adult root weevils eating the leaves do not harm the plant at all. The damage may be unsightly, but the plant is not harmed. The real damage to the plant is caused by the larvae eating the plant's roots. Root weevil larvae damage can kill plants in one, or two, or even three years, depending on the number of insects feeding on the roots, and the size of the plant.



### Root Weevil Control

***Pesticides are only as safe as the applicator using them. Even 'safe' pesticides can be dangerous if used, or applied improperly.***

Chemical recommendations may change because of label changes made by the manufacturer, or because of changes made by the EPA. ***Always read and follow label recommendations of all chemicals you are going to***



*use. Make sure the pesticide you apply is labeled for use on the type of plants you are going to treat.*

**Orthene** is an excellent insecticide to control root weevil, and many other insects on ornamental plants. Spray every 3 to 4 weeks on the foliage, and around the base of the plant to control root weevil. Start spraying late-May and continue until September. **Orthene** must be applied as close to dark as possible for the best results. Do not spray **Orthene** in the morning or afternoon for root weevil control. **Orthene** is available in **Bonide Systemic Insect Control**.



*Do not apply Orthene to any fruits or vegetables: it is only for use on non-edible plants.*

**Imidacloprid (Merit)** is a fairly new product that controls many 'leaf feeding' beetles, such as Black Vine Weevil larvae, and many other common insect pests. **Merit may not be used in the vegetable garden, but it is listed for use on most ornamental trees and shrubs.**



Some of the products that contain **Merit** are; **Bonide Annual Tree and Shrub Insect Control, Bonide Systemic Rose Drench, Bayer Tree and Shrub Insect Control, and Bayer Systemic Rose and Flower Care.**

**Merit** is a product that you can mix and pour around the root system of your plants for long term control and prevention. **Merit** is also available in a product that you can mix and spray on the leaves for quick control of many leaf-feeding insects. Both of these methods provide fairly good success in controlling the troublesome Root Weevil Problem.



**Bonide Spinosad** and **Bayer Lawn & Garden Multi-Insect Killer** are two insecticides that can be used both on vegetables and in flowers. These two products do not specifically list the root weevil, but they do list 'leaf feeding beetles', which describes the adult root weevil eating habits. Unfortunately neither of these products are listed for use on all berry crops. Spray these products as close to dark as possible. You want to have the chemical active when the 'leaf feeding beetles' are eating the leaves during the night.



Root weevil infestations in strawberries, and in most other edible crops, are much more difficult to control than in non-edible plants. You must apply an insecticide that is labeled for use on edible plants that will kill 'leaf feeding' beetles. **Sevin, Eight, Permethrin, Spinosad, and Malathion** are labeled for use on most edible plants. They are labeled to control many leaf eating beetles and other insect pests. Again, spray these products as close to dark as possible, to have the chemical active when the 'leaf feeding beetles' are actively eating the leaves during the night.



**Remember, you cannot use Orthene, or Merit, to control insects on edible plants.**

**Corry's Bug Bait** is labeled for use around edible plants. It is not specifically labeled to control root weevil. However, this bait attracts and kills many troublesome insects that eat leaves in the garden. **Corry's Bug Bait** also control slugs, snails, and many other unwanted insect pests in the garden.



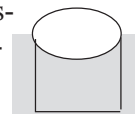
**Diatomaceous earth** is an organic pesticide. It is a safe product that kills many unwanted insect pests. It can be applied to both edible and nonedible plants. It is very safe, but it must be re-applied often if sprinklers wash the dust off the leaves. It is not specifically recommended for Root Weevil control, but it does kill leaf eating insects.



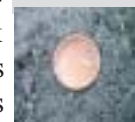
## Non-Chemical Control

It is sometimes easier to remove the infected plants (strawberry plants in particular) and plant new shrubs (or strawberries in a different location) than trying to chemically control the root weevil. However, spraying an insecticide, at regular intervals, and according to label recommendations, will help control root weevil, to a certain degree.

A non-chemical control for root weevil is using **Beneficial Nematodes**. These microscopic insects feed on most root dwelling insects. Beneficial nematodes are not a quick control for root weevil, but they do offer a long term control. Beneficial nematodes may be used around all ornamental and edible plants. For more information about using beneficial nematodes please ask for an information sheet about beneficial nematodes.



Another non-chemical control for root weevil is a trap. Bury a straight-sided glass or a slick plastic tumbler so that the top rim of the glass is even with the soil line. When the adult insects fall into these traps they cannot crawl out. Put a small amount of sticky material, such as vegetable oil, or motor oil, in the glass to increase the effectiveness of the trap, and to kill these pests.



## Don't Give Up!

If the notched leaves mysteriously re-appear, it is a certain sign that the pests are back. **Remember**, the feeding on the leaves is not the most serious damage to the plant. The larvae cause damage to the roots, sometimes even before the leaf damage appears. Root weevils will continue to plague you as long as you garden. The best you should hope for is to keep them under control, so that they don't damage your plants too severely.

Many insecticides that are labeled for use to control specific weevils, or control 'leaf feeding beetles', may also control root weevil if they are sprayed at the right time and in the correct location. Use a combination of pesticides and biological controls to outsmart and manage this difficult and persistent problem in your garden.

For more information about root weevil.  
<http://ohioline.osu.edu/hyg-fact/2000/2016.html>  
<http://www.ext.colostate.edu/pubs/insect/05551.html>  
<http://www.entomology.umn.edu/cues/blackvw/blackvg.html>