

## Insect/Disease Information

### SMALL FRUITS

#### Strawberries

##### Root Weevil Management on Strawberry

-Diane Alston, Extension Entomologist



Whitney Cranshaw, CSU

The strawberry root weevil, rough strawberry root weevil, black vine weevil, and lilac weevil are the most common root weevils found in Utah. The adults are snout beetles (mouthparts are at the end of a small snout), ½ inch or slightly less in length, black or dark brown, and have hard wing covers that are ridged or smooth. Adults are primarily nocturnal and will notch the edges of leaves with their chewing mouthparts (shown above right) and can be a nuisance when they enter buildings to seek protection. Root weevils spend the winter as larvae on the roots or crowns of host



plants and as adults in protected places. They have a wide host range including strawberry and raspberry. Non-food plants can generally withstand substantial leaf notching and root feeding without significant harm. Population thresholds are lower for food plants.

Management on strawberry should begin in the late spring to early summer when first leaf notching is observed. This timing corresponds to when adults will be active, mating, and laying eggs near the crowns of plants at the soil surface. Eggs hatch into small legless larvae (called grubs), and larvae burrow into the soil to feed on plant crowns and roots. Treatment with an insecticide or entomopathogen (pathogen such as nematode or fungus that kills insects) should begin at this time.

Insecticides that are registered for strawberries in the home garden and control root weevils include azadirachtin (Neemix, Aza-Direct, Azatin, Bioneem), carbaryl (Sevin), esfenvalerate (Bug-B-Gone), and malathion (Malathion).

Entomopathogenic nematodes (*Steinernema* spp., *Bacteriophora* spp.) and fungi (Botanigard, Naturalis, Mycotrol-0) can be ordered from garden supply catalogs, such as Gardens Alive and Peaceful Valley, and can be applied from the early summer to early fall to target larvae feeding on roots in the soil. After a treatment is applied, check the plants weekly for signs of new leaf notching and plant decline and reapply a treatment following the insecticide label recommendations if necessary.

Good integrated pest management practices rely on keeping plants healthy:

- proper planting site selection
- adding organic matter to soil before planting
- optimal fertilization and irrigation
- rouging out plants when beds become over-crowded.

#### Brambles

##### Raspberry crown borer

Raspberry crown borer is a “thorn in the side” of many raspberry growers! But with proper care, it can be managed to a reasonable level to minimize damage. This insect has a

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two year life cycle, spending much of its time in the crown and roots of raspberry plants. Adults are seen flying in mid-summer.

Feeding causes spindly canes, uneven bud break, and overall decline. A hole at the base of the cane with sawdust-like frass indicates crown borer. Examine lower canes and deep in the crown area for this insect now. Focus on areas of the field with a history of poor or weak growth. Remove and destroy plants that are doing poorly.

We recommend chemical treatment (a soil drench with bifenthrin) to be done in the fall, as that is the time when larvae are exposed and moving about in the soil.

In the meantime, maintain plant health, and when starting new plantings, make sure plants are not already infested.

## Currants/Gooseberries

### Imported Currantworm



Has anyone seen this pest? The imported currantworm is actually a sawfly. Adults lay eggs within a tiny slit in the plant

stem, and eggs start hatching as currant leaves expand. The larvae feed in groups on red currant and gooseberry foliage. They rarely occur on black currants.

They are usually not noticed early on, as they start at the base of canes and work their way up. They eat a lot very quickly, and can defoliate plants where populations are high. The larvae strip the leaves, leaving the veins and stems. There are at least two generations per year in northern Utah.

Examine your currants this spring as the leaves expand. Since the sawflies feed in groups, they can easily be picked or sprayed off with water. If using an insecticide, they are best controlled when young. Neem oil, pyrethrum (Pyganic), or malathion are all options.

## SOIL TESTING

Spring is a great time to have your garden soil tested for nutrient deficiencies. It is best to know the nutrient status of your soil before adding any unnecessary amendments. If fertilizers or other amendments are needed, you may not know unless you have a soil analysis.

The Utah Analytical Lab at USU Logan, UT will analyze a wide variety of soil elements. For \$25, you can get the full analysis, or you can pick and choose different chemical parameters. The soil test determines fertility problems, and for an additional charge, physical parameters. It does not provide information on soil borne diseases or insects, or chemical contaminants or damage.

You will need to submit a total of two cups of soil. The soil must be representative of your entire vegetable garden. Collecting soil from only one location may give you results that are not useful for the entire site. Begin by taking random samples from 8-10 locations that represent the entire site. From each location, collect soil from a range of depths: the surface, down to 12 inches.

Mix all samples together thoroughly in a clean container and select about 2 cups for the final submission sample.

Mail or deliver the sample to the USU Analytical Lab as soon as possible after collection. All forms, pricing, and contact information can be found on their Web site: <http://www.usual.usu.edu/index.html>.

**Precautionary Statement:** Utah State University Extension and its employees are not responsible for the use, misuse, or damage caused by application or misapplication of products or information mentioned in this document. All pesticides are labeled with ingredients, instructions, and risks. The pesticide applicator is legally responsible for proper use. USU makes no endorsement of the products listed herein.

### Small Fruits & Vegetables IPM Advisory

is published weekly by Utah State University Extension

Editor: Marion Murray, [marion.murray@usu.edu](mailto:marion.murray@usu.edu)

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