

Insect/Disease Information

VEGETABLES

Cutworms



Clemson Extension Slide Series

Cutworms have been reported causing damage to young seedlings, either cutting the plant at the stem, or feeding on the leaves. They are commonly found in weedy fields, winter annuals, or cover crops, so vegetable fields adjacent to these sites may have more problems than usual. They are especially attracted to sweet corn.

The species of cutworm responsible for eating leaves is the variegated cutworm, a climbing cutworm that feeds on tomato, radishes, rutabaga, and lettuces. It feeds at night, by chewing irregular holes on the interior or edges of leaves. There are several generations, so it is active all season.

Often natural insect predators and birds will control the cutworm population. You may choose to be adventurous and remove insects at night, if you have a small garden. During the day, larvae can be found resting near the base of the plant, or hidden in the soil. Insecticides should only be applied after consistent monitoring.

Treatment is recommended when 3% of plants are cut or 10% of leaves have feeding holes.

Treatment: Bt (Dipel[®]), spinosad (Success, Green Light[®]), spinetoram (Radiant), indoxacarb (Avaunt), permethrin (Pounce), esfenvalerate (Asana), bifenthrin (Ortho Bug-G-Gone[®]), and others.

Imported cabbageworm



a single, football-shaped cabbageworm egg on broccoli

Look for the creamy white butterfly, imported cabbageworm, in the warmer areas of northern Utah. This insect overwinters as pupae, and the fast-moving adults emerge in spring. They fly quickly from plant to plant laying single eggs on any variety of cole crop. Eggs hatch within 3-5 days.

The larvae are hairy-green and have a yellow stripe along their backs. As you scout your plantings, look for these larvae. If present, treat when 10% of plants have active larvae.

Treatment: See treatment options for cutworms.

Spider mites



OK, so it's a little early for spider mites, but it's not too early to get prepared, and learn a little about how to control these pests. We often get calls about spider mite problems on a variety of vegetable crops, in particular melons and other cucurbits.

Spider mites overwinter as red-colored, mated females in ground debris. They seek out groundcover plantings, including many vegetables in spring for feeding and egg-laying on the undersides of leaves. They feed by piercing the plant tissue and sucking out the juices, leaving a stippled pattern of dam-

Insect/Disease Activity continued from previous page

age on the leaf surface. They may be present right now, but they are reproducing very slowly in this cool weather, so colonies may be hard to find. But just wait: they love hot, dry, and dusty conditions, and can quickly multiply before your eyes.

Certain insecticides can exacerbate spider mite problems. Carbaryl (Sevin) has been known to actually "speed up" spider mite production. Broad-spectrum insecticides such as pyrethroids can be a problem because they kill predatory mites that often keep spider mite populations in check.

To scout for spider mites, look under the lowest leaves first. Either examine the leaves themselves with a 10-20x hand lens, or shake some leaves over a white cloth tray or paper and watch for tiny moving bugs. The threshold for mites in commercial fields is 20-30% infested crowns with 1-2 mites per leaf.

Treatment: Acramite, Agri-Mek, Kelthane, Oberon, Envidor, Zeal, insecticidal soap^H, horticultural oil^H

Thrips on Peas



Western flower thrips feed on melons, cabbage, cucumbers, lettuce, tomatoes, and will soon start to build in numbers, in particular on peas. These tiny insects are hard to spot (a hand lens is necessary for identification), and are usually not noticed until significant damage has occurred.



They feed by scratching the leaf tissue and sucking up the cell contents. As a result, they are removing chlorophyll and leaving the plant with a shiny, silvery cast. On cucurbits, thrips feeding causes a white stippling on the leaves. On peas, leaves look as if something toxic has been dripping on the leaves.

Thrips overwinter in grains, clover, alfalfa crops, and weedy areas. They will migrate to vegetable crops in early summer when cereal crops or weeds are cut or begin to dry.

To monitor, look at the undersides of vine crop leaves, or in protected sites to determine presence. No threshold for treatment has been determined for vegetable crops, but in general, it is a good idea to treat when you see more than 5-6 nymphs per leaflet. The best option is to monitor the crop and treat before the population builds to damaging levels.

Treatment: azadirachtin (Azatin), spinosad (Conserve, Entrust, Green Light^H, FertiLome^H), Beauveria bassiana (Botanigaurd), lambda-cyhalothrin (Warrior)

Alternaria leaf spot on cole crops



Howard F. Schwartz, CSU

All growers should watch cool season crops this spring for signs and symptoms of diseases. Alternaria is a fungal-caused disease that starts as small black spots that may enlarge to broad lesions. Usually the lesions will have concentric rings, and may leave holes in the leaves as the disease progresses. Seedlings that are infected may wilt and die.

Treatment: fungicides should be used preventively, as registered products will not cure an existing infection. Apply three applications every 7-10 days: azoxystrobin (Quadris) chlorothalonil (Bravo, Daconil^H), pyraclostrobin (Cabrio) boscalid (Endura), maneb, Ridomil Gold, cyprodinil (Switch)

SMALL FRUITS

Brambles

Potato leafhopper

Look for leafhoppers on raspberries, grapes, and strawberries soon. Potato leafhopper does not overwinter in northern Utah, but in spring, it is blown in on storms or migrates from southerly areas.

They feed by inserting their straw-like mouthpart in the xylem vessels and sucking out water and plant nutrients. While feeding, they inject saliva into the plant that causes an adverse

Insect/Disease Activity continued from previous page



Michigan State University Extension

reaction. Some plants (raspberries) are more sensitive than others. Symptoms are very distinguishable, causing a stippling on the leaf surface that at first follows the center leaf veins. Heavy infestations can cause yellowing leaf margins, and distorted or stunted leaves.

The adult is iridescent green and wedge-shaped. When disturbed, they quickly fly from the undersides of leaves where they feed. The nymph is pale green and moves sideways when disturbed.

Monitoring for leafhopper is similar to spider mite and thrips monitoring, as mentioned earlier. Consider treatment if injury to foliage is moderate to severe.

Treatment: carbaryl (Sevin), malathion, canola oil+pyrethrin (Garden Safe^H), insecticidal soap^H

Leafrollers



A hatched egg case of fruit tree leafroller was found on a currant cane this week. There are several species of leafrollers, and they feed on a variety of woody plants. They roll a single or several leaves together in which to hide and feed, and can

cause damage to developing fruit. In general, leafrollers are a very minor pest on brambles, currants, and gooseberries and control is usually not warranted. Rolled leaves can be hand-removed, or growers may choose to apply a product containing spinosad.

Raspberry bushy dwarf virus



Oregon State University Extension

Raspberry bushy dwarf virus is a disease that was once common in the Bear Lake area, but has since been reduced to a few spotty outbreaks. It is also known to occur in other parts of the state. It has not been reported yet this season.

This virus is usually introduced to a site on infected planting stock. It is then spread by pollen on honeybees from plant to plant. Black and red raspberries and some blackberries are susceptible, but some cultivars may be more resistant. The old standby 'Canby' is very susceptible, as is 'Meeker.'

The primary symptom is crumbly fruit, but plants can also be stunted and have poor fruit set. Some plants may show a network of bright yellow streaks along the main and smaller leaf veins, sometimes turning leaves completely yellow. Yet other plants may show concentric rings or random line patterns on the leaves. Fruit of infected plants is only useful for value-added products such as jams, jellies, or juice.

Treatment: There are no products labeled for use. When planting, use clean stock. 'Willamette' and 'Chilcotin' red raspberries are immune. 'Haida', 'Comox', and 'Heritage' are moderately resistant.

^Halso for homeowner use

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