UtahState University COOPERATIVE EXTENSION

Small Fruits & Vegetables IPM Advisory

UTAH PESTS

Weekly Pest and Production Update, Utah State University Extension, **July 10, 2009**

Insect/Disease Information

VEGETABLES

Corn Earworm

No corn earworms have been trapped yet in northern Utah traps. Sweet corn is starting to tassel up, and growers should be prepared for corn earworm treatment where you have had damage to the ears in past years. If you have not set you your earworm trap, now is the time to do so. Trapping can help you determine when (or if) you need to spray, based on whether your corn has fresh silks. You can purchase traps (called Heliothis traps) and corn earworm lures online from Great Lakes IPM.

The corn earworm is a moth that overwinters as a pupa. Only a very small population of pupae are able to survive the winter in northern Utah, so the overwintering generation that emerges in spring is not large enough to worry about. Overwintering adults lay eggs on weeds or other vegetables but don't cause economic damage. By the corn tasseling stage, moths from southern Utah will have blown north, greatly contributing to the first summer generation of moths. If your corn was planted early and formed silks in June, you have probably avoided injury by corn earworm.

Corn earworm larvae cause indirect damage by feeding on the silks which reduces pollination, and causes direct damage to the ear through feeding on the corn kernels.

Eggs are laid on the silk, so ideally, corn treatment should begin at the tasseling stage, 2-3 days before silking. Eggs will continue to be laid on silks until silks turn brown.

Treatment: Starting 2-3 days before silking, and continuing until silk turns brown:

residential: Spray silk with summer oil or Bt (*Bacillus thuringiensis*) every 2-3 days; permethrin (Bayer Advanced Dust, Bonide Eight Dust), spinosad (Green Light, Monterey), or carbaryl (Sevin)

commercial: permethrin (Pounce, Ambush), esfenvalerate (Asana), bifenthrin (Capture, Brigade), carbaryl (Sevin), spinosad (Success, Entrust)

Spider Mites on Melons

Spider mites overwinter in groundcover and leaf litter, and as soon as plants dry in their overwintering sites, they move to irrigated vegetables. Their population stays low in cooler weather, and multiplies rapidly in heat and dust, by as much as 70 times in one week.

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They feed on the undersides of leaves, sucking out plant cell contents. Plants that are drought stressed will be affected more than healthy plants. Heavy feeding can cause defoliation or poor fruit quality. In some cases, mites will feed on the rind.

We have started to see spider mites show up now in light numbers on melon crops in northern Utah. Growers should start scouting fields regularly for spider mites now that the weather has turned hot and dry. Check the edge plants first, or plants near a dusty road, and look under the leaves near the petiole end. A 20x hand lens is indispensable for seeing mites, and for general pest scouting. You can also shake a few leaves over a white piece of paper and look for slow moving dots on the page.

Treatments should be made if you find that 20-30% of the plants you inspect are infested with 1-2 mites per leaf.

Treatment: Avoid carbaryl (Sevin), organophosphates, and most pyrethroids for mite control as they can actually increase mite damage. Do not apply materials during hot, dry weather.

residential: insecticidal soap, oil

commercial: Zeal (an effective product that sterilizes adults and kills eggs and nymphs but results take time), Oberon, Agri-Mek

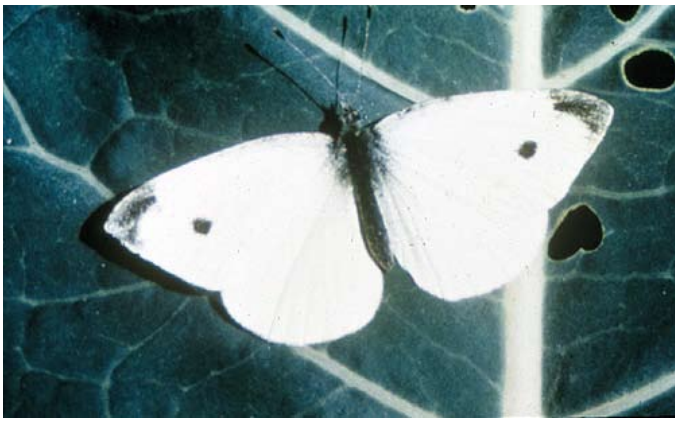
Cabbage Looper

Cabbage looper is a moth that feeds on all Brassica crops and on tomato leaves. Adults emerge in spring, but populations on plants are usually not noticed until mid to late July. Young larvae chew on the leaf epidermis only, while older larvae eat irregular holes through the leaves. Sometimes they will move to a developing cabbage or broccoli head from which they are difficult to wash out. There are three or more generations throughout the summer.

Growers should monitor for feeding damage on all Brassica crops now. Look on the undersides of leaves or within cabbage heads. They are easy to identify as they move in an inchworm pattern and are green in color with white stripes down the back and sides.

Treatment: Bt and spinosad both provide excellent control. Carbaryl can also be used.

Imported Cabbageworm



Imported cabbageworm, AKA, cabbage white, is a common butterfly that flits about its preferred host plant group, the crucifers. The eggs are easy to spot, and are small, yellow, oblong, and usually on the upper leaf surface. They hatch in about 4 days.

Adults have been laying eggs for about a month, so keep an eye out for larval activity. Caterpillars are different from cabbage looper larvae in that they have a velvety fuzz on their bodies and are more sluggish in motion. They can be found mostly on the tops of the leaves for about 2 weeks, and then they pupate. You may find their green pupae attached to leaves or other objects in the garden. There can be as many as 5 generations each summer.

Treatment: Bt and spinosad both provide excellent control. Carbaryl can also be used.

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Cabbage Aphid

Cabbage aphid numbers are still low due to the cool and wet spring, but numbers will be building soon, and will continue throughout the season. Their feeding causes a localized yellowing of the foliage, leaf cupping, and stunting of smaller plants. They generally do not cause reductions in yield, but they tend to move deep into head-forming crucifers, thus making the harvested portion of the crop unmarketable. The colonies are easy to identify as these aphids have a white waxy coating.

For cultural controls, remove and destroy crop debris after harvest, and remove alternate hosts (weeds in the mustard family) from nearby borders. Also, if using transplants, make sure they are free of aphids.

It is advisable to avoid multiple sprays for aphid control so that you are conserving natural enemies that help to control crucifer caterpillars. If a treatment is necessary, wait until pre-heading and apply a single application.

Treatment:

residential: insecticidal soap (can be phytotoxic on Brussels sprouts and cabbage), permethrin (Ace Multi-Purpose Dust, Bayer Advanced Complete Dust, Bonide Eight)

commercial: acetamiprid (Assail), imidacloprid (Admire), *Beauveria bassiana* GHA (Botanigard 22 WP)

Squash Bug

Squash bugs are actively mating and laying eggs, and will continue through mid-August. The egg clusters are easy to spot and are laid in the V of leaf veins. They take about 2 weeks to hatch. Nymphs will often feed in clusters on the undersides of leaves and sometimes on the developing fruit. They feed all summer and overwinter as adults. There is a single generation each year.

In Utah, squash bugs primarily prefer squash (winter squash especially) and zucchini. They feed by sucking plant juices, causing yellow speckling, browning, wilting, and in extreme cases, death of small plants.

The key to management is to target the newly hatched nymphs, which entails regular monitoring. In larger fields, look at the undersides of the lowest leaves of approximately 20-25 plants at least 2-3 times per week.

Treatment:

residential: neem oil (Concern, Ferti-Lome), permethrin (Ace Dust, Bayer Advanced Dust, Bonide Eight), kaolin clay (Surround), carbaryl

commercial: acetamiprid (Assail), esfenvalerate (Asana), permethrin (Ambush, Pounce), bifenthrin (Tundra), carbaryl, lambda-cyhalothrin (Warrior)

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