UtahState UNIVERSITY extension

Small Fruits & Vegetables IPM Advisory

Weekly Pest and Production Update, Utah State University Extension, **June 20, 2008**

UTAH PESTS

Insect/Disease Information

VEGETABLES

Colorado Potato Beetles–Using Trap Crops

Adults are becoming more active with the warmer weather, and are laying egg masses on the undersides of leaves. Keep an eye out for hatching larvae.

Using trap crops is an excellent IPM control strategy if this insect is a problem in your fields, and is particularly effective on potato, tomato, and eggplant. It can also work to control flea beetles in your primary crop. Research has shown that long slender Italian or oriental eggplants are very attractive to both pests.

A trap crop barrier impedes the travel of the adults as they migrate from their overwintering sites to your new plantings. The trap crop "harbors" large populations of early-arriving insects, and the crop can be treated once infested. This idea works on a variety of insect pests and crops. Alternatively, the trap crop (only) can be treated early in the season with a systemic pesticide (a neonicotinoid, for example), and the beetles are killed while feeding on the treated trap crop.

If you find you need to treat, spinosad (Entrust, Success, Ferti-Lome) can be used (so long as your crop is on the label) to kill the larvae of both Colorado potato beetles and flea beetles. It is a metabolite of a naturally-occurring soil bacterium so it is safe on pollinators and other beneficial insects.

According to University of Connecticut IPM Program, thresholds for treatment are:

- potatoes: more than 0.5 beetles per plant, 4 small larvae per plant or 1.5 large larvae per plant; more than 20% defoliation of later season potatoes
- eggplants: more than 1.5 adults, 2 small, or 1 large larvae per small plant (<6"), or 4 small larvae or 2 big larvae for plants over 6" in height

Thrips

Western flower thrips have been found in small numbers on melons and cabbage. They will also feed on pumpkin, cucumbers, and lettuce. As mentioned in the last advisory, onion thrips can be severe on onions in Utah. These tiny insects are hard to spot (a hand lens is necessary for identification), and are usually not noticed until significant damage has occurred.

Ontario Ministry of Ag., Food and Rural Affairs

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.

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 on cabbage to determine presence. No threshold for treatment has been determined for vegetable crops. The best option is to monitor the crop and treat before the population builds to damaging levels.

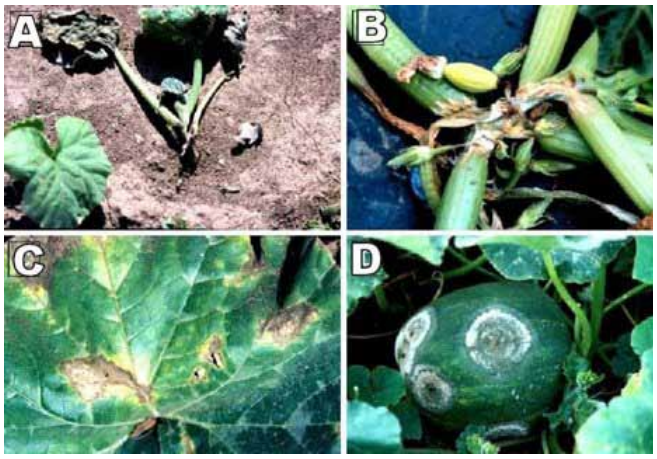
Treatment: azadirachtin (Azatin), spinosad (Conserve), *Beauvaria bassiana* (Botanigaurd), lambda-cyhalothrin (Warrior)

Phytophthora Root Rot on Vine Crops

Dieback and disease from *Phytophthora* can happen just about any time during the growing season, so long as the disease, host, and wet soils occur together. There are several species of *Phytophthora* that can cause root rot on vine crops including *P. capsici*, *P. parasitica*, and *P. cactorum*.

For *Phytophthora* to cause infection, it must produce swimming spores (zoospores) in saturated soils. After infection, plants will wilt or collapse. Roots will be brown to black and soft. Developing vegetables can also become infected. What at first appears as water-soaked lesions will only days later develop a white layer of spores on the surface of the fruit. These lesions can even develop after harvesting.

Insect/Disease Activity, continued



M. Babadoost, American Phytopathological Society

Typical symptoms of Phytophthora blight on cucurbits: (A) post-emergence damping-off of a pumpkin seedling; (B) crown infection of a summer squash plant; (C) leaf spot of pumpkin; (D) fruit rot of processing pumpkin. (www.apsnet.org)

Once *Phytophthora* infections have occurred (the Utah Plant Pest Diagnostic Lab can help with identification), control is difficult. The number one key in preventing infection is to provide good drainage, and to avoid overwatering.

Phytophthora survives in infested plant debris in the soil for years, so completely remove all infested plants from the field. It is also spread in irrigation water so prevent contaminating the water. Rotating the infested part of the field to non-susceptible crops for 3 years is also essential.

Treatment: **commercial growers**: dimethomorph (Acrobat, Forum), metalaxyl (Ridomil Gold, Twist). **Homeowners** should manage this pathogen by the cultural methods provided above.

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