UtahState UNIVERSITY extension

Small Fruits & Vegetables IPM Advisory

UTAH PESTS

Weekly Pest and Production Update, Utah State University Extension, **August 22, 2008**

Insect/Disease Information

VEGETABLES

Beet Armyworm

Arizona Ag. Experiment Station

The beet armyworm is a minor pest of lettuce crops and peppers in Utah. This insect is killed in winter in Utah, and moths are blown up on wind currents in late summer (typically from Arizona, where it is a serious pest on cole crops and leafy vegetables). Traps are up now for this pest and adults have been caught, but damage has not been observed. As cold season crops emerge, watch young plants for feeding.

Larvae are green to black in color on the back, paler underneath, and with a broad stripe down each side. The have four abdominal prolegs, and a dark head.

Larvae feed on leaves, starting at the upper portion of the plant and near the buds. They are very mobile, and often move from plant to plant. Older larvae will feed on the fruit of peppers.

Materials used for other lepidopteran pests (imported cabbageworm, for example) will work on beet armyworm. Target them while they are less than 1/2-inch in size for best success. Bt and spinosad are excellent options.

Spider Mites on Beans

Spider mites are continuing to increase in numbers on many crops, including melons and raspberries, and this week were seen on beans. They suck the chlorophyll from plant cells, causing stippling on the leaf surface. Severe infestations result in leaf burn, leaf distortion, and reduced yields.

Examine the underside of oldest, lowest leaves on the plants with a hand lens for mites, eggs, and webbing. A threshold has not been determined for beans, but if mites can easily be found on the older leaves, consider treatment.

Keep in mind that some pesticides, such as pyrethroids and carbaryl, can actually increase spider mites by killing predators, and by increasing the reproductive rate of the mites. Instead, choose treatments that are targeted toward this pest. Manage dust build-up on leaves, water plants down regularly,

Treatment: (**commercial**) Kelthane, Aldicarb, Acramite; (**residential**) neem oil, horticultural oil, insecticidal soap, malathion

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Insect/Disease Activity, continued

Root Rot on Cucurbits

Phytophthora root rot of melons has shown up in a few areas in Utah and Salt Lake Counties. This disease is mostly a problem in saturated soils, or where water sits for at least 2 hours. The pathogen-–a fungus-like organism–is present in most soils on previously infected plant debris. It can survive in a "resting stage" for several years until the optimal conditions arise.

Collapse can occur in a matter of days after roots are severely infected. Minor infections will cause yellowing and localized wilting. Once a plant is infected, the disease can spread between plants where roots touch. There is no control for infested plants. The disease is mostly managed by prevention.

Sanitation is the number one management option when dealing with phytophthora. Once plants are infected, they should be removed from the site; be sure to get as much of the root system as possible. Movement of infested plant material, debris, and infested soil is one of the primary means of spread. (On its own, "swimming" in water is the only way spores spread.) Machinery, tires, tools, and shoes can all inadvertently contribute to spread.

Just as important as good sanitation is proper water management. With flood irrigation, it is often difficult to prevent standing water, but encourage good drainage through cultivation or grading, and plant on berms.

Potato Leaf Roll Virus

What appears to be potato leaf roll virus was seen in Utah County. This disease is transmitted by aphids, and in Utah, it's the green peach aphid. Plants can be infected anytime during the season, or may be chronically infected if grown from previously infected tubers. Symptoms of current season infections may not show up until later in the season, when the top leaves curl upward and turn red. Eventually, all leaves will be curled and discolored. Plants grown from infected tubers start showing symptoms early in the season: inward-curled

leaves starting at the lowest leaves, yellowing, and stunted growth.

Symptoms on tubers do not always appear, and when they do, it is after several weeks in storage. Closest to the stem end, the inner tissue will show strands of discoloration called net necrosis.

The disease is only spread by the aphid, and cannot be spread from plant to plant, or through the soil. The virus, however, can survive on weeds (such as other solanaceous plants, like nightshade), which makes it difficult to predict whether the disease will show up in one area.

Remove all infected plants, cull piles, and solanaceous weeds to prevent further spread. Controlling green peach aphid is also important.

Powdery Mildew

Cindy Brummer, KVUE.com

Powdery mildew is starting to show up on vine crops, especially where plants are running together. It first appears as

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Insect/Disease Activity, continued

small circular lesions located randomly on the leaf surface or on petioles. As the infection continues, leaves turn yellow and become distorted. Fruit are usually not directly affected, but yield and flavor can be reduced. This disease thrives in humid and shady environments under moderate temperatures (up to 80 degrees F). Free water is not necessary and can actually inhibit germination, as can hot temperatures.

Scout for the disease by looking on mature leaves in the middle of the field for the white, powdery lesions. In general, if you find one lesion per 50 older leaves, begin a regular, weekly protectant fungicide program.

Treatment: potassium bicarbonate (Kaligreen, Armicarb), horticultural oil (JMS Stylet Oil), sulfur (Safer Garden Fungicide), *Bacillus subtilis* (Serenade)

NOTE: to prevent plant damage, do not use oil or sulfur within two weeks of each other, and do not spray when temperatures are over 90 F.

Small Fruits & Vegetables IPM Advisory
is published weekly by Utah State University Extension

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