

Number 15 – August 27, 2010

## Whiteflies

Whiteflies are being found commonly in the landscape, feeding on the leaves of flowers and other herbaceous plants as well as hydrangea, other shrubs, and trees. Generally, late season whiteflies can be ignored, as they are too late to cause serious damage to plant health or even cause obvious aesthetic damage. They are 1/16-inch-long insects with white, powdery wings. They sit on leaf undersides and fly off of infested foliage when disturbed, frequently being numerous enough at this time of year to be obvious. They are sucking insects, whose removal of sap can cause leaf distortion.

Three species of whitefly are common in Illinois. Perhaps most common is the bandedwinged whitefly. The adult has two dark bands on each front wing. It is hardy in Illinois, feeding primarily on velvetleaf, also known as buttonweed. This weed is common in agricultural and weedy land areas. From late summer into fall, huge numbers of adults migrate to other plants, even flying in large numbers into greenhouses.

Bandedwinged whitefly feed as adults on many plant species but does not reproduce heavily on them. Thus, bandedwinged whiteflies usually do not warrant control. An exception is attacks on flowering maple, *Abutilon*, which is the same genus as velvetleaf.

The other two common species are greenhouse whitefly and silverleaf whitefly. Silverleaf whitefly used to be known as sweet potato whitefly. They do not have dark bands on their front wings, being totally white. Neither of these species is able to survive Illinois winters. They are common pests in greenhouses and are apparently moved outdoors each spring on bedding plants. These whiteflies can build up in numbers through multiple generations through the growing season to be common on plants in late summer and fall. They reproduce on many plants and can increase enough to cause damage.

Damage appears as wrinkled, curled, cupped, or otherwise distorted leaves. Large amounts of honeydew, excreted from the nymphs and adults, make leaves glossy and sticky. Infestations may be first noticed by sidewalks and objects below infested plants becoming sticky from the honeydew. Black sooty mold grows on the honeydew and is another clue that an infestation is present. Sooty mold can reduce the amount of light reaching the leaf surface, resulting in reduced photosynthesis.

Another determination that greenhouse or silverleaf whiteflies are present is to look for nymphs and pupae. Insects with incomplete development go through egg, nymph, and adult life stages; and complete development insects have egg, larva, pupa, and adult life stages.

Whiteflies, along with a few other insects, are thought to be somewhat transitional between incomplete and complete development. They are considered to have incomplete life cycles, but the last nymphal stage is called a pupa.

Whitefly nymphs and pupae appear as oval, clear to light yellow insects on the leaf undersides. Legs are not apparent. The pupae and older nymphs are about 1/16 of an inch long, 1 to 2 millimeters. They are most common on the older, lower leaves of the plant. Their small size and transparent qualities make them difficult to see. Adults and their eggs are most common on the younger, upper leaves of the plant.

Control of whiteflies is usually not necessary unless nymphs are present. Even with nymphs being present, there may not be enough to cause damage or the leaves may be too hardened off to show damage. The whiteflies may cause early leaf fall, but it is probably too late to stimulate new leaf production.

If treatment is warranted, thorough coverage with sprays of insecticidal soap, summer spray oil, or pyrethroids should be effective. Apply weekly, two or three times. Imidacloprid (Merit) applied to the soil as a single application is also effective systemically on whiteflies.--*Phil Nixon*

### **White Pine Sawfly**

White pine sawfly larvae have been reported from Henry County in northwestern Illinois and Champaign County in east central Illinois feeding on white pine. White pine sawfly, *Neodiprion pinetum*, feeds on both the

younger and older needles of white pine, mugo, and red pines, resulting in branches completely stripped of foliage. They typically feed in groups, causing obvious damage to occur quickly. Completely defoliated branches or trees will die, so quick attention is important.

Larvae are about one inch long when fully grown. The body is yellowish with four rows of black dots down the back and sides. The head is large and black. When fully grown, the larvae drop to the soil where they form cocoons. The larvae round up into prepupae within the brown cocoons, and then pupate in the spring.

White pine sawfly adults emerge later in the spring. They are black and reddish, wasp-like insects with thick waists. The females insert their eggs into pine needles with their saw-like ovipositors, typically laying three to four per needle. Each female repeats that process until there are sixty or more eggs laid per branch. There are two generations per year, with larvae occurring between mid-June and late July and again in mid-August into late September.

Control is relatively easy. Because the larvae feed in a group, they can easily be removed by hand or pruning. Spraying the larvae with acephate (Orthene), azadirachtin (Azatin, Bioneem), carbaryl (Sevin), spinosad (Conserve), or a labeled pyrethroid insecticide will also provide control.--*Phil Nixon, Martha Smith, Rick Davis*

### **Redheaded Pine Sawfly**

Redheaded pine sawfly feeds primarily on two- and three-needle pines, being

particularly common on Scotch, jack, and red pines. It also feeds on five-needle pines, Norway spruce, and larch growing near two- or three-needle pines. It tends to prefer weakened trees, those growing in poor sites, stressed by drought, or growing in competition with other plants.

The larva is about an inch long when fully grown, has a red head, and is yellow with several rows of black dots. The larvae feed on the older needles first, and then feed on the younger needles at the tip of the branch. After the outside of the needle is eaten, the center of the needle is consumed. A characteristic of this insect's feeding is that tufts of partially eaten needles are usually left behind, looking like threads of straw. Because essentially all of the needles can be eaten, stripped branches or trees are likely to die.

Two generations occur per year, with the larvae present from mid-May to late June and then again from mid-August to late September. Mature larvae drop from the tree and form cocoons on the ground or in debris (duff) under the tree. They spend the winter as prepupae, pupating in the spring. Reddish wasp-like adults with thickened waists and black wings emerge in the spring, although some wait for several weeks to emerge. They insert their eggs into pine needles with their saw-like ovipositor. Each female lays up to a dozen eggs per needle, laying 100 to 120 eggs per branch.

Because the larvae feed in a group, they can easily be removed by hand or pruning. Spraying the larvae with acephate (Orthene), azadirachtin (Azatin, Bioneem), carbaryl (Sevin), spinosad (Conserve), or a labeled

pyrethroid insecticide will also provide control.--*Phil Nixon*

## **White Grubs**

White grubs in moderately damaging numbers have been reported in east central Illinois. Be vigilant for wilting and browning turf areas. Cut through the turf and pull it back to reveal the white grubs in or just below the root zone and verify that they are the cause of the damage. Ten to twelve or more Japanese beetle and/or masked chafer grubs per foot square are enough to cause damage. Trichlorfon (Dylox) watered in with at least one half inch of water will provide control in about three days. Other insecticides will also provide control, but will take longer to kill the grubs.--*Phil Nixon, Bill Sharp*

## **University of Illinois Plant Clinic Seasonal Closing Notice**

It is almost time for the Plant Clinic to close its doors for the season.

**Wednesday, September 15th, is the last day of operation for this year.**

Any samples that arrive by September 15th will be processed as usual. This is a firm deadline. There is no one to process samples after that date. We will open the 2011 season on May 1st.

If you have a plant problem after the closing date, contact your local extension office. Extension offices have access to our digital distance diagnosis system (DDDI). If further help is needed from a specialist, extension personnel can help direct you. The following specialists may be available for telephone questions, but **do not** send

samples to these specialists unless that has been determined necessary by the specialist. There is no lab service in 2010 after September 15th.

#### Ornamental Plants

Insect problems: Phil Nixon,  
(217)333-6650

Disease problems: Jim Schuster  
244-9646

Tree/Shrub problems: David  
Williams, 333-2126

Herbaceous plant problems:  
Jim Schmidt, 244-5153

Weed Control (ornamentals):  
Michelle Wiesbrook, 244-4397

#### Field Crops

Field crop insect problems:  
Mike Gray, 333-4424

Field crop diseases:  
Carl Bradley, 244-7415,  
Suzanne Bissonnette 333-4424

Vegetable and fruit insect problems:

Rick Weinzierl, 333-6651

Vegetable and fruit diseases:

Mohammad Babadoost,  
333-1523

Vegetable production: Chuck Voigt,  
333-1969

Food crops: Mosbah Kushad,  
244-5691

Weeds/Chemicals: Aaron Hager,  
333-4424

Weed control (vegetable crops):  
John Masiunas, 244-4469

Nematode problems: Terry Niblack,  
244-5940

Crop production and Nutrient stress:  
Emerson Nafziger or Vince Davis,  
333-4424

Crop fertility questions:  
Fabian Fernandez, 333-4424

*--Suzanne Bissonnette*