WATCH FOR FORAGE CROPS

- Pests late summer seedings
- Soybean aphid in late planted soybeans.

SOYBEANS

Soybean aphid populations have been very low in Kentucky and in most of the soybean production area this year. For most of the US soybean production area the season is drawing to a close. However in KY and states further south, our double crop beans still have a way to go. Although I do not expect major problems with this pest at this time of year, Kentucky is different from most of the soybean production area because of our large acreage of late planted and thus late maturing beans. As far as I know the largest aphid populations seen in KY occurred on or about 21 September 2003. Remember it is the late maturing part that is important.

Producers, consultants and scouts need to keep watching these late maturing fields for the presence of soybean aphid and ESPECIALLY any increase in population size. Soybean aphid is most damaging when threshold is reached between R1 (first bloom) and R5 (beginning seed) stages.

The threshold for insecticidal control of soybean aphid is a three part consideration as follows:

Grasshoppers and crickets can chew off small seedlings. Damage may appear at the edges of fields and expand inwards. These insects will move readily so feeding should be more diffuse over an area.

Evaluate injury carefully. Low rates and spot treatments may be all that is needed to deal with pest activity. See ENT-17 for control options.

SOYBEANS

SOYBEAN APHID IN LATE PLANTED SOYBEANS

by Doug Johnson

Several insects feed on late summer seedings of alfalfa and forage grasses, often without harm. However, if enough are present, there can be significant stand loss. The most common culprits are fall armyworms and grasshoppers but crickets and other insects can be there, too. Fall armyworms feed on corn, grasses, and a range of other crops. They can be active until a killing frost. Several beetle species, including the spotted cucumber beetle, feed on alfalfa seedlings. Regular inspection of new seedings will allow early detection and assessment of feeding damage, and treatment if necessary.

Fall armyworm infestations tend to be clumped and intense because each female can lay several hundred eggs in a mass. The small larvae move out from these focus sites as they grow and consume all of the nearby plants. Look for roughly circular areas of missing plants. Examine the soil under surface debris for the striped larvae. If caught early, spot treatments can be sufficient to deal with the problem.
• An average of 250 aphids per plant,
• On 80% of the plants,
• And an INCREASING population.

This means that at least two samples must be taken to see if the population is increasing or decreasing. Additionally, this threshold provides a 7-day lead-time between scouting and treatment to make spray arrangements or handle weather delays.

Once in the R6 growth stage, a higher number of aphids per plant are required for economic return but no threshold is available at this time. Though the actual number has not been established in my opinion it is likely to be in the 800 – 1000 aphids per plant range. If treatment options are considered, ensure pre-harvest intervals of the insecticidal product chosen are met prior to application.

Beyond the R6 stage of soybeans, there is no economic return on insecticidal applications for soybean aphid control.

If an insecticide application is needed you can find a list of registered products in the Kentucky Pest News No. 1093 May 22, 2006 at: http://www.uky.edu/Ag/kpn/kpn_06/pn060522.htm#soyins

VEGETABLES

IT’S TIME TO CLEAN UP YOUR ACT
by Ric Bessin

With summer vegetable production winding down, now is the time to clean up these fields for next year. Early sanitation at this time of the year can (1) cause adult insect pests to move out of the field and (2) eliminate the food source for immature pests so that they cannot complete their life cycle. Keep in mind, that although it may not be profitable to continue to harvest some vegetables because of the low price in the market of the poor quality of this tail-end produce, it is still attractive to pests. Many of these pests that develop at the end of the season will be the early colonizers of fields next spring.

Several of the more serious insect pests such as European corn borer, squash vine borer, Mexican bean beetle, squash bug, diamondback moth, tobacco and tomato hornworm, cabbage looper, and imported cabbageworm are able to continue development on crop residues in the garden long after we take what we consider the edible vegetables. Other pests such as flea beetles can find food and shelter from weeds as well as crop residues throughout the winter. The two-spotted spider mites continue to feed on weeds after the crops have withered.

A thorough fall cleanup should help to discourage some of the pests that may cause problems next year. Commercially, fields can be disked to destroy crop residues. Home gardeners can compost or till these residues into the soil. It is important to keep in mind that this should not be just a fall practice to destroy crop residues, as soon as a crop has been harvested for the last time, clean up should begin, even if that is early summer for spring crops.

SHADE TREES & ORNAMENTALS

DOGWOOD POWDERY MILDEW
by John Hartman

Flowering dogwoods (Cornus florida) in many landscapes are showing symptoms and signs of powdery mildew. This disease, first noticed in the mid-1990’s has been active in Kentucky for more than a decade. The development and buildup of symptoms through the growing season is consistent with previous years’ experiences, however this year, the disease appears to be a little more severe and signs more visible. Considering the lengthy periods of high humidity seen in Kentucky this past spring and summer, it shouldn’t be surprising that powdery mildew is more prevalent.

Cause. Dogwood powdery mildew is caused mainly by the fungus Erysiphe pulchra (formerly Microsphaera pulchra), but a related, but different fungus, Phyllactinia guttata, can also be found on diseased dogwoods in Kentucky. Powdery mildews are obligate parasites and fungus development is favored by fresh, succulent plant growth and high humidity conditions. Unlike many foliar diseases, powdery mildew is not dependent on wet leaves for infection and spread. The fungal signs present for most of the season are those of the asexual Oidium stage which produces microscopic chains of white conidia. On leaves late in the season and on fallen leaves in fall and winter, ascomarps (cleistothecia, the sexual stage) resembling tiny dark dots embedded in the mildew can be observed. Microscopic characters of these cleistothecia are used to differentiate E. pulchra from P. guttata. It is thought that the powdery mildew caused by E. pulchra is a new disease, possibly introduced from the orient on infected plants in the 1990’s.

Symptoms and signs. On susceptible dogwoods, affected parts of leaves develop a mottled yellowing or turn light green or yellow and often develop brownish patches. Yellowed leaves may fall. In some cases, a very light coating of the causal fungus can just barely be seen, and occasionally, small patches of the fungus are fairly visible. Often the disease begins as barely distinguishable reddish brown or purplish irregular blotches on dogwood leaves which then develop into dark brown to tan dead patches.
Later in the season, the tips and edges of infected leaves may be scorched, cupped, and drooped, with badly infected leaves falling prematurely. Throughout the season, the typical white powdery mildew mycelium and spores may develop abundantly on new growth, distorting and curling these youngest leaves. It is likely that many of these curled leaves will later become scorched or develop dead patches. The disease increases progressively from early June to early September. Severely affected trees may appear wilted and browned by late summer. Landscape dogwoods exposed to sunlight and dry soil conditions may be especially scorched.

How powdery mildew affects dogwoods. Powdery mildew has affected flowering dogwoods in Kentucky landscapes for several years. Although it probably weakens trees, it does not appear to be lethal. We have observed that under high disease pressure, flower production is decreased the following year. Powdery mildew most likely reduces plant photosynthesis and increases leaf water loss through disruption of the cuticle and through the superficial fungal mycelium. In the long run, this could weaken trees making them more prone to dogwood borer or Botryosphaeria canker. In reality, the long-term effects of powdery mildew disease development on tree health are not known. Most landscape dogwoods are grown from seedling sources, so the mildew susceptibility of individual dogwood trees in landscapes varies greatly.

Disease management. Powdery mildew can be confronted by using cultural practices, planting resistant dogwoods, and by using fungicides.

- Avoid cultural practices that stimulate succulent growth and encourage powdery mildew. These include applying nitrogen fertilizer, pruning heavily, and irrigating excessively.
- Use good cultural practices such as mulching over the root system, pruning out dead branches, and providing good air movement and light penetration by judicious pruning of nearby vegetation.
- Plant dogwood species and cultivars resistant to powdery mildew.
  - Susceptible: All Cornus florida, seedling wild type but individuals vary in susceptibility) and most C. florida cultivars.
  - Intermediate susceptibility: C. florida 'Cherokee Brave' and cultivars of the C. florida x C. kousa hybrids.
  - Resistant: Three powdery mildew resistant C. florida cultivars have been developed by the Tennessee Agricultural Experiment Station and are available in the nursery trade. They include 'Jean's Appalachian Snow', 'Karen's Appalachian Blush', and 'Kay's Appalachian Mist'. Also resistant: Cultivars of C. kousa, oriental dogwood.
  - Immune: Cornelian cherry dogwood, C. mas.

- If fungicides are to be used, determine which trees in the landscape are most susceptible so that applications are not made unnecessarily. Those trees most at risk for powdery mildew disease then can be considered for preventive fungicide applications. Most fungicides are capable of stopping the progress of powdery mildew infections fairly quickly, but none will restore already discolored or damaged leaf tissues. Good control can be obtained with as few as four fungicide applications made three weeks apart. Begin applications at the end of May. Effective fungicides include:
  - azoxystrobin (Heritage)
  - fenarimol (Rubigan)
  - myclobutanil (Eagle, Immunox)
  - propiconazol (Banner Maxx)
  - thiophanate-methyl (Cleary's 3336)
  - triadimefon (Bayleton, Strike)

- Powdery mildew fungicides requiring more frequent applications to be effective include:
  - neem oil (Triact)
  - potassium bicarbonate (Bonide Remedy, FirstStep, Kaligreen)
  - paraffinic oil (Sunspray UF Oil)

- When using fungicides for powdery mildew management, be sure that dogwoods are listed on the label and carefully follow all label directions.

**DIAGNOSTIC LAB-HIGHLIGHTS by Julie Beale and Paul Bachi**

Recent agronomic samples in the PDDL have included Rhizoctonia root rot and Fusarium stalk rot on corn; Phytophthora and Rhizoctonia root rots, summer black stem and Rhizoctonia web blight on alfalfa (web blight also on red clover); downy mildew, potassium deficiency, root knot nematode, stem canker, sudden death syndrome and frogeye leaf spot on soybean; black Shank, blue mold, soreshin, and target spot on tobacco.

On fruit and vegetable samples, we diagnosed black rot, crown gall and leaf blotch (*Isariopsis*) on grape; southern blight on strawberry; bitter rot, cedar-apple rust and frogeye on apple; brown rot and scab on peach; anthracnose and angular leaf spot on bean; vine borer on pumpkin; bacterial wilt on squash; gummy stem blight and Alternaria leaf blight on watermelon; early blight, Septoria leaf spot, stinkbug injury, yellow shoulders, southern blight and blossom end rot on tomato.
On ornamental and turf samples, we have seen Pythium root rot on chrysanthemum, petunia, vinca and dipladenia; southern blight on anemone; Cercospora leaf spot on hydrangea; Phylllosticta leaf spot on birch and hawthorn; bacterial scorch on oak and maple; Botryosphaeria canker on blackgum; Cercospora leaf spot on mulberry; Actinopelte leaf spot and iron deficiency on oak; brown patch and Pythium root dysfunction on bentgrass; and summer patch on bluegrass.

INSECT TRAP COUNTS
UKREC, Princeton KY

August 18-25, 2006
Black cutworm .................................................................1
True Armyworm .............................................................6
European Corn Borer ....................................................5
Southwestern Corn Borer ..............................................158
Corn Earworm ..............................................................71
Fall Armyworm ............................................................0

NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.