**Forage Crops**

### Cowpea Aphid / Black Legume Aphid Appearing in Some Fields

by Lee Townsend

The cowpea aphid, also called the black legume aphid, appeared in some Kentucky alfalfa fields this past spring. The numbers of aphids found seemed to point to infestations that began in the fall and survived the relatively mild winter, rather than starting in the spring. Some aphids are present now, following the most recent cutting. While numbers are too low to treat, it is a good idea to check for them now and again in the spring, to keep from being surprised.

The cowpea aphid is easy to identify, it is the only black aphid found infesting the crop. Adults are usually shiny black, the nymphs are slate gray. The first half of the antennae is white, and the legs are usually a creamy white color with blackish tips. In alfalfa, these aphids primarily feed on young terminal growth but can be found infesting leaves, blooms, and stems. Damage symptoms can include yellowing, wilting, and dieback. The cowpea aphid is generally distributed across North America and has been reported in at least 28 states and three Canadian provinces. It has an extensive host range with a marked preference for legumes. Other known host plants are apple, carrot, cotton, cowpea, dandelion, dock, goldenrod, kidney bean, lambsquarters, lettuce, lima bean, pinto bean, peanut, pepperweed, pigweed, red clover, shepherdspurse, vetch, wheat, white sweet clover, and yellow sweet clover. The aphid lives throughout the year without producing sexual forms and they are always females ready to produce live offspring.

### Anthracnose “Gone Wild” in Alfalfa

by Paul Vincelli

Judging from the samples we’ve received in the diagnostic lab, there has been a lot of anthracnose activity in alfalfa fields this summer, especially in “Buffalo” and other undefined or inexpensive varieties. Fields are reported to have incidences ranging from 15% to 100% of the field having diseased plants. The generally wet weather this summer has allowed this disease to be more active than normal.

**Symptoms**

The disease causes scattered plants to wilt, to turn yellow (sometimes with red coloration also), and to quickly dry up. Often the wilting produces a “Shepherd’s crook” appearance to the top of the shoot, where it droops and then dries in place. Although the affected plants are often scattered, there may be wetter parts of the field where most of the plants are affected.

Close examination of plants will reveal some brown discoloration on the stem, usually the lower stem. This discoloration can progress into the crown also, which is bad news from the standpoint of that plant’s chances of survival. Sometimes the infection site is not so easily seen. Sometimes, affected shoots will only have a very small girdling lesion no more than 1/16 inches thick, and that may be several inches above the soil line.
Management
Anthracnose is a disease against which alfalfa breeders long ago made significant progress. Most of the cases we’ve diagnosed have been in “Buffalo” and other undefined or inexpensive varieties, so the anthracnose problems this year present a strong case for sowing improved varieties with high levels of resistance. Kentucky producers should select alfalfa cultivars with substantial resistance to following diseases: bacterial wilt, anthracnose, Phytophthora root rot, and Fusarium wilt. For spring seedings, the variety selected should also have substantial resistance to Aphanomyces root rot. For fall seedings, Aphanomyces resistance is less important but ideally one should use a cultivar that has some resistance to Sclerotinia crown and stem rot (and there are very few of these that will hold up under Kentucky conditions should Sclerotinia be active in your field).

It is possible to find anthracnose activity this season even in an alfalfa cultivar with resistance to this disease. The rating system for disease resistance in alfalfa is as follows:

<table>
<thead>
<tr>
<th>Resistance rating</th>
<th>% resistant plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susceptible (S)</td>
<td>0-5%</td>
</tr>
<tr>
<td>Low resistance (LR)</td>
<td>6-14</td>
</tr>
<tr>
<td>Moderate resistance (MR)</td>
<td>15-30</td>
</tr>
<tr>
<td>Resistance (R)</td>
<td>31-50</td>
</tr>
<tr>
<td>High resistance (HR)</td>
<td>over 50%</td>
</tr>
</tbody>
</table>

Thus, it is possible to have an alfalfa variety that is considered highly resistant but one in which 49% of the plants show symptoms of the disease. The resistant plants should thrive and provide for an adequate stand and yield in the future, but it is important to remember that no cultivar is completely resistant to the disease.

SOYBEAN

SOYBEAN STEM BORER—A BORING BEETLE by Doug Johnson and Lee Townsend

Late last week, Rod Grusey (Hardin Co ANR agent) reported a significant soybean stem borer infestation in a 60 acre LaRue county field (planted May 15). Live borers were found in 80% to 90% of the stems examined, about 10% of the plants were lodged. Infested stems also were found in several other fields in the area. There have been a few reports of the insect from west Kentucky this season but we don’t often see significant infestations in the central portion of the state.

Most of the losses to this insect come from lodged plants, not physiological yield loss from the stem tunneling. Early-planted fields have the highest potential for infestation. Check and harvest them first if significant infestations are found. Look for lodged bean plants that are broken off smoothly near the soil line. The two opposing surfaces of the break (upper face of root end and lower face of stem end) will be smooth and often closed (no visible tunnel). Split lodged stalks and look for the borer in the root end, and a tunnel packed with frass (sawdust-like insect waste) in the upper section. Either sign is diagnostic of the pest.

The larva of the soybean stem borer, Dectes texanus texanus, is legless and has a small, brown head. Its long creamy white body is about 5/8-inch long with distinct, accordion-like ridges. Following egg hatch earlier in the summer, the larva feeds in the leaf petiole, then tunnels into the main stem. During the summer, it chews its way up and down inside the main stem. By September, it arrives at the base of them stem and forms an overwintering cell. Ragweed, cocklebur, and other weeds also are suitable hosts for this insect.

GREENHOUSE CROPS

PREVENT POINSETTIA DISEASES NOW by John Hartman

Poinsettias grown through the fall months for Christmas sales are subject to destructive diseases from the time the cuttings are stuck in rooting media until they are mature and ready for sale. Important poinsettia diseases include:

Rhizoctonia Root and Stem Rot - This disease occurs on cuttings and young plants, causing a brown, dry canker at the stem base, and root browning. Depending on the level of infection, the roots may show individual brown lesions or they may be entirely brown. The disease is favored by planting too deep, injuring the stem while planting, or by soluble salts injury.

Pythium Root Rot - Rooted cuttings may be stunted and yellow with brown, decayed roots. Root cortex (outer layers) are easily stripped off, leaving a narrow core of inner vascular tissue. In mid-season, Pythium invades roots made vulnerable by water stress or excess soluble salts, causing discoloration and decay of small absorptive roots. Loss of root function produces yellowing, wilting, and possibly death of infected plants, especially under stressful growing conditions.

Black Root Rot - Infected roots show black dead tips or distinct black bands or root lesions, and eventually blackened root systems as the disease progresses in late season. Diseased roots lead to stunting and poor plant growth plants. This disease is favored by cool temperatures and high soil pH.
Bacterial Soft Rot - Infected cuttings become soft and mushy, usually starting at the base of the stem. Rotting tissues usually have a disagreeable odor. On older plants, stem decay may result in lodging. The disease is favored by the use of soft, succulent cuttings and warm, damp conditions.

Bacterial Canker - Longitudinal water-soaked streaks on stems and spots on leaves precede plant defoliation and death.

Botrytis Blight - Tan to gray-brown blotches on bracts or target spot lesions on leaves appear on mature plants during periods of cloudy, moist weather. Damaged areas may be covered by the fuzzy gray growth (spores) of the fungus. Botrytis may also cause a stem blight on cuttings and plants, often at branch crotches. Stem cankers cause defoliation and death of the distal plant parts. The Botrytis fungus can colonize dead plant tissues and produce large numbers of spores.

Powdery Mildew - Yellow spots may develop on leaves. Patches of white fungal growth may be seen on leaves and bracts.

Poinsettia Scab - Leaves develop small, raised blister-like tan or brown circular spots that may expand to ½ inch in diameter. Gray to tan lesions develop on stems. Infected young stems may be visibly elongated compared to healthy stems. Disease spread is favored by splashing water.

Disease control is best done through prevention using an integrated program involving sanitation, cultural control, and chemical fungicides.

Sanitation is important for control of any greenhouse crop disease, and poinsettia is no exception. Disease-causing fungi and bacteria survive in plant debris from the previous crop, and in soil and water left on floors, benches and equipment, alternatively, the microbes are brought into the greenhouse. Sanitize by doing the following:

- Remove pathogen-infested plant debris and soil from the greenhouse.
- Clean and disinfect the benches and equipment with a germicide.
- Root cuttings in well-aerated, sterilized rooting medium.
- Transplant rooted cuttings into sterilized soil mix.
- Regularly collect organic debris such as shed leaves or bracts or declining plants and remove from the greenhouse.

Crop management influences poinsettia diseases. The following practices can help reduce disease in the greenhouse:

- Reduce nitrogen fertilization to harden plants before taking cuttings.
- Inspect purchased cuttings and reject those that are diseased.
- Handle cuttings carefully and plant at the correct depth.
- Maintain optimum growing conditions.
- Monitor mineral nutrient levels regularly through soil testing. Common problems causing infectious disease-like symptoms include low calcium compared to potassium and magnesium or calcium-ammonium antagonism (marginal bract spots), magnesium deficiency (interveinal leaf yellowing), and molybdenum deficiency (lower leaf yellowing, burning, and downward cupping).
- Avoid ammonium toxicity (lower leaves yellow with marginal burn) due to excess use of ammonium nitrate fertilizer, low soil pH, and over-watering.
- Watch for and correct soluble salts and over- or under-watering problems.
- Provide plant spacing that allows good air movement.
- Avoid splashing water on foliage.
- Use greenhouse ventilation systems to maintain low humidity.

Fungicides applied preventively and regularly to poinsettias can help control many of the diseases, however, chemical applications must be combined with good sanitation and cultural practices. Many fungicides are used as soil drenches. Fungicide drenches should thoroughly wet the growing medium. Read and follow label directions. The following fungicides may be used for poinsettia disease control:

Black root rot - Banrot, Cleary's 3336, Domain, Fungo, Medallion.

Botrytis gray mold - Chipco 26019, Cleary's 3336, Daconil 2787, Domain, Fungo, Exotherm Termil, Ornalin.


Pythium root rot - Banrot, Banrot, Subdue, Subdue Maxx, Terrazole, Truban.

Rhizoctonia stem and root rot - Banrot, Chipco 26019,
services and many offer insecticide treatment of the building exterior, which helps to prevent pest entry. Fast-acting, “professional strength” pyrethroid formulations (e.g., Demand, Suspend, Talstar, Tempo) tend to be most effective, and can be applied around eaves, attic vents, windows, doors, underneath siding, and other likely points of entry.

Homeowners insistent upon applying exterior treatments themselves will usually get the most for their efforts using over-the-counter versions of these products such as Spectracide Triazicide or Bayer Advanced Powerforce Multi-Insect Killer. Purchasing the concentrated formulations of these products that can be diluted will enable the homeowner to mix up and apply larger volumes of material with a pump-up or hose-end sprayer. In order to have any benefit, exterior treatments must be applied before the beetles enter buildings to overwinter.

5. When all else fails, customers should be reminded that lady beetle entry into buildings is a relatively short-term event which generally runs its course by mid-November. The beetles sometimes emit a foul odor, stain indoor surfaces, and occasionally give a “nip” if they land on one’s skin. They do not breed or reproduce indoors like fleas or cockroaches, and constitute a nuisance mainly by their presence.

**DIAGNOSTIC LAB-HIGHLIGHTS**

by Julie Beale and Paul Bachi

Recent agronomic samples in the PDDL have included anthracnose and Rhizoctonia stem canker on alfalfa; downy mildew, potassium deficiency, stem canker, sudden death syndrome, Cercospora leaf blight and frogeye leaf spot on soybean; black shank, soreshin, bacterial stalk rot, frogeye leaf spot, and target spot on tobacco.

On fruit and vegetable samples, we diagnosed Alternaria leaf blotch, cedar-apple rust and Phoma leaf spot on apple; brown rot on apricot; downy mildew on squash and cucumber; scab on potato; bacterial spot on pumpkin; bacterial canker, early blight, and blossom end rot on tomato.

On ornamental and turf samples, we have seen bacterial leaf blight, Rhizoctonia and Pythium root rots on chrysanthemum; Pythium root rot on petunia; Rhizoctonia root rot on boxwood; powdery mildew and Septoria leaf spot on dogwood; Cercospora leaf spot on hydrangea and cherry; tar spot on maple; Phylosticta leaf spot on London plane tree; brown patch and Curvularia fading out on tall fescue; and Pythium blight on bentgrass.
INSECT TRAP COUNTS
UKREC, Princeton KY

August 25-September 1, 2006
Black cutworm ................................................................. 3
True Armyworm .............................................................. 24
European Corn Borer ....................................................... 3
Southwestern Corn Borer ................................................. 106
Corn Earworm ................................................................. 231
Fall Armyworm ............................................................... 50

September 1-8, 2006
Black cutworm ................................................................. 0
True Armyworm .............................................................. 3
European Corn Borer ....................................................... 1
Southwestern Corn Borer ................................................. 27
Corn Earworm ................................................................. 29
Fall Armyworm ............................................................... 30

View UKREC trap counts for the entire 2006 season at –
http://www.uky.edu/Ag/IPMPrinceton/Counts/2006trapsfp.htm
View trap counts for Fulton County, Kentucky at -
http://ces.ca.uky.edu/fulton/anr/Insect%20Counts.htm

For information on trap counts in southern Illinois visit
the Hines Report at –
http://www.ipm.uiuc.edu/pubs/hines_report/comments.html
The Hines Report is posted weekly by Ron Hines, Senior
Research Specialist, at the University of Illinois Dixon
Springs Agricultural Center.

Lee Townsend, Extension Entomologist

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