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KENTUCKY PEST NEWS

ENTOMOLOGY · PLANT PATHOLOGY · WEED SCIENCE

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TOBACCO

Is Tobacco Aphid Control Necessary Now?

By Lee Townsend

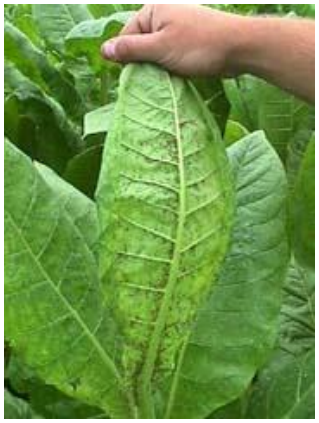

Figure 1. A lightly infested tobacco leaf for late in the growing season.

At this point in the season, the time left until topping is the major factor to consider when making a decision on aphid control. Yield and quality losses to aphids occur gradually - from the onset of infestation (about 4 to 6 weeks after transplant) until topping. Most of the loss is due to reduced leaf size and weight from heavy infestations. There is little chance for return from attempting to control heavy infestations just before harvest. The loss has already occurred.

If the field will be topped within about a week (or has been topped), aphids have already done their damage; there is no benefit to an insecticide application that is limited to aphid control. Topping the plants not only removes the greatest concentration of aphids but also the tender tissue on which they prefer to feed and where they cause the most new damage. Aphids present on the discarded tops will remain there and will continue to feed until the leaves dry completely. Few, if any, will find their way back to a plant. Aphids present on tobacco that has been topped are not a cause for concern at this time in the season.

Aphids can be a problem in late set fields that are still several weeks from being topped. Foliar sprays can be effective if applied when about 20% of the plants in the field are infested with aphids. Judge the benefit of control by looking at new foliage at the top of the plant. If aphid build ups are not seen on these leaves, then the sprays are working – they are more effective at protecting uninfested foliage than at killing aphids lower down on the stalks.

Watch for Hornworms and Grasshoppers

By Lee Townsend

Hornworms and grasshoppers are the most common insect pests that are active in tobacco that has been topped. They can be very destructive during the 3 to 4 weeks the crop remains in the field before harvest. Most insecticides used on tobacco should be

effective for about a week. After that time, weekly field checks should be made to detect any late pest buildups.

Figure 2. Tobacco hornworm moth.

Hornworm moths fly over a relatively long period of time so worm season can occur over an extended interval. Grasshoppers can cause extensive leaf loss in tobacco fields. They usually occur in grassy pastures and can be driven into crop fields as hay is cut and cured. Check for grasshoppers in hay fields and pastures adjacent to tobacco before clipping it. An average of 10 or more hoppers per square yard can mean trouble if they move to tobacco. It is much better to control these insects before they get into the crop than to try a rescue application later. Cythion (malathion) and Sevin are labeled for grasshopper control in pastures and hay fields. See the label for rates and restrictions.

Figure 3. Differential grasshopper.

Dipel and Tracer are effective and safe insecticides for hornworm control but will not kill grasshoppers. If both of these insects are active in tobacco, then Orthene is the best choice. Often an insecticide is included when the sucker control chemical is applied. Depending on the product used this approach should control insects present at the time of application. However, the residual effect will not last for the entire time the crop stands before harvest. Sunlight and weathering will gradually reduce the amount of chemical present on the leaf. This is a natural occurrence and generally means that pesticide levels should be at acceptable levels if label rates and harvest intervals are followed.

SHADE TREES & ORNAMENTALS

Bacterial Wetwood and Slime Flux of Landscape Trees

By John Hartman

Recent inquiries by County Extension Agents and landscape maintenance persons suggest that wetwood disease and its associated product, slime flux, are fairly common in Kentucky landscape trees this summer. The sometimes foul-smelling and unsightly seepage from wounds in the bark or wood of various shade trees is known as slime flux. It occurs most commonly on bacterial wetwood-infected trees, such as elm, mulberry, poplar, oak, birch, and maple. Although slime flux development is seasonal, evidence of wetwood and slime flux-stained bark is visible anytime.

Symptoms and Cause. Tree owners will first notice a vertical streak of wet bark on the trunk beginning at a crack or wound up on the trunk and extending all the way to the ground (Figure 4). This seepage is often accompanied by a discoloration of the bark in the area where the fluid flows (Figure 5). Wetwood seepage originates from infections of the heartwood and inner sapwood by common soil-inhabiting bacteria such as *Enterobacter cloacae* (*Erwinia nimmipressuralis*). There are many other bacterial species also associated with wetwood. Wetwood bacteria are capable of growing anaerobically (without oxygen) in the internal wood tissues of the tree and leaving the wood of trunks,

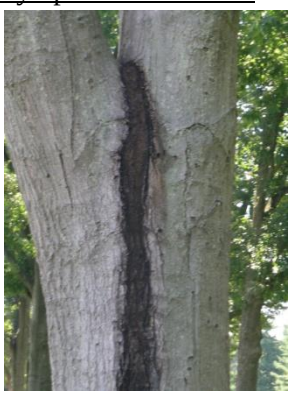

Figure 4. Pin oak with wetwood fluid running down the trunk.

Figure 5. Elm with wetwood, showing discoloration of the bark where fluid has contacted the bark.

limbs, and roots water-soaked. Methane and osmotic or metabolic liquids, two by-products of the bacterial activity, accumulate under pressure and are forced out of the tree through the nearest available opening, usually a trunk wound or branch stub. Pruning a branch or taking a core with an increment borer can sometimes release the materials under pressure, squirting the worker with foul-smelling liquid and gas.

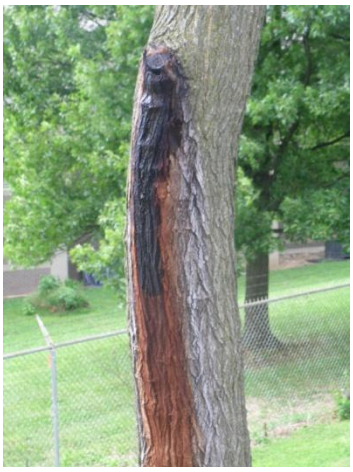

Figure 6. Mulberry with wetwood disease and liquid seepage colonized by microbes turning the fluid into slime flux.

Normally flowing to the wounded bark surface, the wetwood fluid is a clear watery liquid containing several nutrients. On the surface it soon changes into a brown, slimy ooze, as a result of feeding by fungi, yeasts, bacteria, and insects (Figure 6). This surface slime flux may kill injured cambium and bark surface organisms as well as grass growing near the base of the tree. Otherwise, wetwood disease does not appear to be directly harmful to the tree. However, as the internal tissues are infected, the tree may lose some of its stored carbohydrate reserves and have less energy for warding off other diseases or insects or the effects of drought or pruning. Once a tree is infected, the disease does not normally go away.

Wetwood-infected trees have an internal core of wood that is wet but not decayed. These infected branch, trunk, and root tissues also have a high pH. Wetwood-infected wood is resistant to decay by fungi. The extent of wetwood spread in the tree may be limited by tree defenses; however, wetwood can spread into new tissues as new injuries occur. Thus deep injection holes and pruning can expand wetwood infection. Tree workers must take care to avoid pruning live branches on infected trees.

Control. Thus far, no effective preventive or curative measure is known. If the bark is being stained it may be helpful to drain the slime flux away from the branch or trunk so that it drips on the ground. Drilling a hole into the tree and inserting a copper or semi-rigid plastic tube has helped in some cases; however, this results in additional wounding and the threat of expanded wetwood or decay should be considered. Loose dead bark should be carefully cut away so that the area can dry.

Lace Bug Feeding Injury Appearing
By Lee Townsend

Figure 7. Lace bug feeding spot - upper leaf surface (photo by P. Bachi).

Figure 8. Lace bug - lower leaf surface (photo P. Bachi).

Lace bugs use their sucking mouthparts to feed on plant sap. Damage ranges from a few scattered tiny white to yellow spots on the upper surfaces of leaves to bleached white leaves that drop prematurely in late summer. Common species in Kentucky feed on azalea (azalea lace bug); hawthorn, cotoneaster, pyracantha, Japanese quince (hawthorn lace bug); rhododendron and mountain laurel (rhododendron lace bug); and ash, hickory, mulberry, and sycamore (sycamore lace bug). Lace bugs can be confirmed as culprits by looking at the undersides of spotted leaves for the insects, white cast skins, tarry waste spots, or eggs (larger dark spots along leaf midribs). The adult is about 1/8 inch long with lace-like wings that cover the abdomen. Nymphs are dark and spiny.

Tolerate light to moderate damage as much as possible; often the plant is not harmed by these insects. Prune damaged foliage if practical and follow sound practices to promote plant health. Insecticidal soap and horticultural oils can be used for control with minimal impact on natural enemies;

most other insecticides will provide control, as well. Thorough spray coverage to lower leaf surfaces is necessary with all products.

Lace wing eggs are inserted into plant tissue so they are protected from sprays. Consequently, more than one application may be needed for control. These applications must be made at the first signs of leaf spots to be effective. A soil drench with an imidacloprid product can provide good preventive control where chronic infestations are a problem. The drench should be applied in the spring according to label directions.

HOUSEHOLD

Foreign Grain Beetles – New House Beetles
By Mike Potter

Figure 9. Foreign grain beetle view from below (V points to knob).

Foreign grain beetles are very small (about 1/16-inch long) brownish insects that are often mistaken for flour beetles or other stored product insects. The key characteristic to look for in identifying this beetle is the presence of a slight projection or knob on each front corner of the segment directly behind the head. A microscope or good quality hand lens is necessary to see this character (See Entomology Entfact-610, Foreign Grain Beetle) http://www.ca.uky.edu/entomology/entfacts/entfactpdf/ef610.pdf .

Foreign grain beetles are frequently a problem in new construction (less than 5 years old). They are one of a group of beetles called "fungus beetles" that feed on molds and fungi growing on poorly seasoned lumber or wet plaster and wall board. If they are found infesting flour, grain, or other stored products, the products are generally moldy or in poor condition. When new homes are built, damp wood is often covered with molds or mildew which attracts the beetles. The beetles are also attracted to accumulations of sawdust trapped behind walls during construction. Eggs are laid on this food material and the larvae develop on the surface fungi. The adult beetles usually become a problem in late summer when they move out of wall voids and are attracted to windows and lights. In older homes, foreign grain beetles can also be associated with plumbing leaks, condensation problems, or poor ventilation.

There is no fast or easy way to get rid of foreign grain beetles. Control is difficult because the breeding source of the beetles is concealed within the walls. The ultimate solution is time and patience. Most new homes dry out naturally within the first few years and the fungi and molds disappear along with the beetles. Drying time can be enhanced by increasing ventilation, e.g., by use of fans and air conditioning. A vacuum cleaner can be used to remove beetles emerging from hidden locations. Pest control companies may be able to provide limited relief by locating the infested wall areas or source of dampness (usually in the rooms where the beetles are most abundant), and injecting residual aerosols or dusts into cracks and crevices beneath baseboards and into the wall voids.

If the homeowner can tolerate the emergence of the adult beetles during August-September, the problem will usually resolve itself. Most newly-built houses cease to have problems after a few summers, and the beetles usually will not be evident during the rest of the year. Some comfort can be taken in the fact that foreign grain beetles are only a nuisance by their presence. They do not bite or damage wood, fabric or stored foods in a sound condition.

PESTICIDE NEWS & VIEWS

Cancellation of Certain Uses of PCNB Fungicide
By Paul Vincelli

Manufacturers of disease-control products containing PCNB fungicide (=pentachloronitrobenzene) have received U.S. Environmental Protection Agency approval to cancel certain uses of this fungicide. Uses to be

cancelled include: golf course roughs; residential sites including lawns, yards, and ornamental plants and gardens around homes and apartments; grounds around day care facilities; school yards; parks (except industrial parks); playgrounds; and athletic fields (except professional and college fields). Affected products include Terraclor, Turfcide and various products such as PCNB 75WSP, PCNB 20%WDG, and others.

More information on this is provided in the Federal Register, Vol. 74, No. 134, Wednesday, July 15, 2009, page 34337, docket identification number EPA-HQ-OPP-2008-0935 (available online at http://www.epa.gov/fedrgstr/index.html). However, the published notice does not provide reasons for this voluntary cancellation of certain uses.

DIAGNOSTIC LAB HIGHLIGHTS

By Julie Beale and Paul Bachi

Recent agronomic samples in the PDDL have included anthracnose and Lepto leaf spot on alfalfa; Rhizoctonia root/stem rot and potassium deficiency on soybean; northern corn leaf blight and potassium deficiency on corn; black shank, blue mold, target spot, brown spot, frogeye, tomato spotted wilt virus, Fusarium wilt, weather fleck, potassium deficiency and growth regulator injury on tobacco.

On fruit and vegetable samples, we have diagnosed downy mildew and anthracnose on grape; Phytophthora crown/root rot on blueberry; Septoria leaf spot on blackberry; Phytophthora crown rot on raspberry; cedar-apple rust and sooty blotch on apple; scab and brown rot on peach; leaf spot (Coccomyces) on cherry; anthracnose on bean; southern blight on pepper; anthracnose and Rhizoctonia root/stem rot on squash; bacterial spot, early blight, Septoria leaf spot, leaf mold, late blight, southern blight, buckeye rot, tomato spotted wilt virus, and stinkbug injury on tomato; blossom end rot on watermelon; and Cercospora leaf spot on zucchini.

On ornamentals and turf, we have seen anthracnose on liriope; Cladosporium leaf blotch on peony; Rhizoctonia root/stem rot on petunia; canker on boxwood; scab on crabapple; cedar-quince rust on hawthorn; black root rot on holly; Phytophthora crown rot on rhododendron; Actinopelte leaf spot, Botryosphaeria canker and bacterial leaf scorch on oak; take-all patch on bentgrass; brown patch on fescue; and root decline on zoysiagrass.

INSECT TRAP COUNT
July 24-31

By Patricia Lucas

Location	Princeton, KY	Lexington, KY
Black cutworm	95	18
Armyworm	112	139
Corn earworm	26	10
European corn borer	3	8
Southwestern corn borer	146	0
Fall armyworm	9	0

Graphs of insect trap counts for the 2009 season are available on the IPM web site at -http://www.uky.edu/Ag/IPM/ipm.htm. View trap counts for Fulton County, Kentucky at - http://ces2.ca.uky.edu/fulton/InsectTraps

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