

KENTUCKY PEST NEWS

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ANNOUNCEMENTS

- Plant health progress articles may be of interest to UK agents and specialists
- Integrated Pest Management School is March 7

TOBACCO

- Preventive control options for tobacco aphids

FORAGE CROPS

- Phoenix alfalfa has substantial resistance to sclerotinia crown and stem rot

LIVESTOCK

- Cattle insecticide ear tags: points to consider

HOUSEHOLD

- Overwintering bugs appearing in buildings

ANNOUNCEMENTS

INTEGRATED PEST MANAGEMENT SCHOOL IS MARCH 7

The IPM Training School will be Wednesday, March 7 at the UK Research and Education Center in Princeton. Topics to be covered at the training include: Bringing Fallow Land Back into Production, Soybean Rust Up-date, Spray Technologies for Controlling Rust, Advances in Bt Varieties, Seed and Foliar Applied Insecticides, Soybean Stem Borer and Soybean Aphid. The afternoon will end with a session on weed identification.

Registration will open at 8:30 a.m. with the meeting starting at 9 a.m. and ending at 4 p.m. The program is free and lunch will be provided. To guarantee a lunch, register by March 5 by calling 270-365-7541, ext. 216 or e-mail plucas@uky.edu.

Program is approved for 5.5 hours of continuing education units for certified crop advisers – 2 in pest management, 1.5 in crop management, and 2 in soil and water management. The meeting will offer 3 General hours and 1 Specific hour of continuing education for Pesticide Safety Education hours for categories 1a, 10 and 12.

PLANT HEALTH PROGRESS ARTICLES MAY BE OF INTEREST TO UK AGENTS AND SPECIALISTS

by John Hartman

County Extension Agents and State Extension Specialists are likely aware that because U.K. is a partner, they have access to the on-line Plant Management Network (PMN) and its resources. For example, applied research articles

presented in the journal Plant Health Progress is one of the PMN resources available to U.K. employees. Of the titles published in this journal during the last 18 months, there are many that could be of interest to Kentucky County Extension Agents and State Specialists. Of the dozens of articles, titles relating to landscape plants and fruit crops are listed below and mention is made of additional field crop, vegetable and turfgrass topics recently published in this journal.

Landscape plants and trees titles that may be of interest:

- Host Range of *Itersonilia perplexans* and Management of Itersonilia Petal Blight of China Aster.
- *Lilium lancifolium* is Discovered as a New Host of *Botryosphaeria parva* in Georgia.
- First Report of *Phytophthora ramorum* Infecting Camellia Flower Buds in North America.
- First Report of Association Between Delphinium and *Peziza repanda*.
- First Report of *Phytophthora cambivora* on Hybrid Rhododendron in North Carolina.
- The Occurrence of *Phytophthora ramorum* in Nursery Stock in California, Oregon, and Washington States.
- Illustration of Key Morphological Characteristics of *Phytophthora* Species Identified in Virginia Nursery Irrigation Water.
- Biology and Distribution of *Pryeria sinica*, a New Pest of *Euonymus* Found in Virginia and Maryland.
- First Report of Powdery Mildew of *Mahonia aquifolium* (Pursh.) Nutt. Caused by *Erysiphe* (*Microsphaera*) *berberidis* (DC.) Lév in Canada.
- *Phytophthora hibernalis*: A New Pathogen on Rhododendron and Evidence of Cross Amplification with Two PCR Detection Assays for *Phytophthora ramorum*.
- Comparing Diagnostic Protocols for *Phytophthora*

ramorum in Rhododendron Leaves.

- Phytophthora Root Rot and Stem Canker Found on Nordmann and Subalpine Fir in Norwegian Christmas Tree Plantations.
- Control of Phytophthora Root Rot in Field Plantings of Fraser Fir with Fosetyl-Al and Mefenoxam.
- Effects of Azoxystrobin Rate and Treatment Interval on the Control of Rhabdocline pseudotsugae on Douglas-fir Christmas Trees.
- Rhabdocline Needlecast Increases Needle Loss of Douglas-fir Christmas Trees.
- Abnormal Leaf Development on White Oaks Linked to Drift of Chloroacetamide Herbicides.

Fruits:

- Identifying and Characterizing Summer Diseases on 'Babygold' Peach in South Carolina.
- Differentiation of Isolates of *Glomerella cingulata* and *Colletotrichum* spp. Associated with Glomerella Leaf Spot and Bitter Rot of Apples Using Growth Rate, Response to Temperature, and Benomyl Sensitivity.
- Penicillium expansum* Invades Apples Through Stems during Controlled Atmosphere Storage.
- Postharvest Fruit Rots in d'Anjou Pears Caused by *Botrytis cinerea*, *Potrebniamyces pyri*, and *Sphaeropsis pyripuntrescens*.
- Control of Strawberry Black Root Rot with Compost Socks.
- Efficacy of Selected Insecticides for Management of the Multicolored Asian Lady Beetle on Wine Grapes Near Harvest.
- Influence of Berry Injury on Infestations of the Multicolored Asian Lady Beetle in Wine Grapes.
- Use of Petroleum Derived Spray Oils in Washington Grapevine Powdery Mildew Management Programs.
- First Report of Raspberry bushy dwarf virus in Ohio.

Field crops research articles on the following topics:

- Wheat stripe rust and on Fusarium head blight including risk forecasting.
- Corn mycotoxin and fumonisin levels as related to chemical and fertilizer treatments.
- Soybean diseases including resistance to Asian soybean rust, discovery of Rhizoctonia foliar blight, and virus disease incidence.

Vegetable crops research articles on the following topics:

- Fungicides for potato early and late blight diseases.
- Insecticides to manage cucumber beetles in zucchini squash and row covers to suppress muskmelon bacterial wilt.
- Greenhouse tomato Botrytis gray mold management and disease management products in organically-produced tomatoes.
- Impatiens necrotic spot virus in peppers.

Turfgrass research articles on the following topics:

- Pathogenicity of *Bipolaris* and *Curvularia* spp. to Bermudagrasses and fungicides for spring dead spot.
- Fungicides for Pythium blight in overseeded turfgrasses.

Pest Management titles:

- The Establishment of a National Pest Information Platform for Extension and Education.
- Synopsis of Fungi Listed as Regulated Plant Pests by the USDA Animal and Plant Health Inspection Service: Notes on Nomenclature, Disease, Plant Hosts, and Geographic Distribution.

The articles and topics listed are from only one journal, Plant Health Progress. The PMN includes other on-line journals, all with color photographs to help illustrate research results. In addition, PMN offers resources such as the image database and the Arthropod Management Tests and Plant Disease Management Reports publications which provide plant management information and tools for Extension Agents and Specialists. U.K. Agents and Specialists can easily subscribe to the Plant Management Network for free by going to <http://www.plantmanagementnetwork.org/>. Click on subscribe, then personal subscriptions, then complimentary personal subscriptions, then University of Kentucky, and take it from there.

TOBACCO

PREVENTIVE CONTROL OPTIONS FOR TOBACCO APHIDS

by Lee Townsend

The very successful preventive approach to aphid control on tobacco is based on the use of new products in the neonicotinoid class- clothianidin (Belay), imidacloprid (Admire), and thiamethoxam (Platinum). The mode of action of these insecticides is based on nicotine, which acts on the central nervous system of insects to produce nerve excitation and the paralysis which leads to death. Their solubility in water allows for uptake and movement in plants, giving them a significant systemic effect, especially on sap feeding insects such as aphids. Slow breakdown in the plant gives long term pest control. These products belong to the 4a group based on mode of action.

UK tobacco insecticide evaluations have shown Belay, Admire, and Platinum to provide excellent preventive aphid control by tray drench or transplant water application compared to untreated tobacco. No statistical differences have been seen between products or application methods more than 60 following transplant and no statistical differences have been seen in aphid control using low or high label rates.

Insecticide	Rate
Clothianidin Belay 16% WSG	10 oz per acre
Imidacloprid Admire 2F – 2 lbs/gal Admire Pro – 4.6 lbs/gal	1 fl oz/1,000 plants tray drench for aphids 1.4 fl oz/1,000 plants tray drench for aphids 0.6 fl oz/1,000 plants – tray drench for aphids 0.8 fl oz/1,000 plants - transplant water for aphids
Platinum – 2 lbs/gal Thiamethoxam	0.8 to 1.3 fl oz/1,000 plants

Belay 16 WSG (Arysta Lifescience) lists aphid and flea beetle control. Caution: Causes moderate eye irritation. Soil applications may sometimes cause yellowing of foliage present at the time of transplanting. This effect does not have any impact on growth and yields.

Admire 2F and Admire Pro (Bayer) lists mole crickets (no problem in Ky), whiteflies (no problem in Ky), and wireworms, plus suppression of cutworms and tomato spot-

ted wilt virus at higher rates. Apply as a tray drench not more than 7 days prior to transplanting. Generic imidacloprid products are available, such as Alias 2FM and Couraze 2F.

Platinum (Syngenta) lists flea beetle, Japanese beetle, thrips, and wireworm control. Apply as a tray drench not more than 2 days prior to transplanting. During transplanting, workers handling plants must wear waterproof gloves.

FORAGE CROPS

PHOENIX ALFALFA HAS SUBSTANTIAL RESISTANCE TO SCLEROTINIA CROWN AND STEM ROT

by Paul Vincelli

Southern States is marketing a new cultivar of alfalfa called 'Phoenix'. Normally the release of a new alfalfa cultivar is of modest importance from a disease management standpoint. However, this cultivar is important because its progenitor line (a line called 50t176, from FFR Cooperative) has exhibited significant levels of resistance to Sclerotinia crown and stem rot (SCSR) in UK tests.

SCSR is a disease that attacks fall-seeded alfalfa. It attacks during the period from mid-October through mid-December or so following a fall seeding; then the disease resumes activity during cool, wet periods in the spring. Sometimes, a crop seeded in late August or September is so susceptible that stand loss the following spring can be 50-95%.

SCSR can be a difficult disease to control. Most alfalfa cultivars are susceptible or highly susceptible to this disease, and few management options exist. Planting earlier, say in early August, gives the plants more time to develop resistance, which gives the stand a better chance of surviving an attack from SCSR. However, early August seedings are more prone to damage from temporary

hot, dry spells.

Although a handful of cultivars with partial resistance to SCSR do exist, the level of resistance exhibited by some of these has been inadequate. In other cultivars like Cimarron SR and WL338 SR, partial resistance is present but there is room for improvement for Kentucky conditions. In fairness to alfalfa breeders, breeding progress against this disease has been a challenge, and research suggests that the SCSR pressure we experience in Kentucky is probably the highest in the nation (possibly along with our good neighbors to the south, Tennessee). So it is not surprising that cultivars that show good levels of resistance in other states have not looked as good here.

In the mid-1990's, the UK Departments of Plant Pathology and Plant and Soil Science began field evaluations of alfalfa selections under the severe pressure of SCSR typical for our region. In addition to seeing how selections perform under our conditions, we have used our research sites as a "disease nursery" where breeders could come and select survivors that might carry some resistance to SCSR. Alfalfa line 50t176 was tested under those conditions, and selected data on its performance are shown in table 1.

Phoenix also is reported to have high levels of resistance to other important diseases in Kentucky, such as bacterial wilt, Fusarium wilt, anthracnose, Phytophthora root rot, and Aphanomyces root rot race 1. Given the severity of SCSR, this cultivar should be given consideration when

planning fall seedings of alfalfa, particularly in fields with a high risk of the disease. The Extension publication, *Risk Factors for Sclerotinia Crown and Stem Rot in Fall-*

Seeded Alfalfa, (available online at http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/ppfsagf2.htm) will help producers identify the highest-risk fields.

Table 1. Percent row fill following the first cutting after a fall sowing.

Test I	Percent row fill, 24 May 2002	
Alfalfa line	Untreated	Fungicide-treated
50t176	79 c	98 ab
WL338 SR	66 cd	100 a
Cimarron SR	51 def	99 ab
MSR2	45 ef	96 b
P5454 (susceptible check)	13 g	98 ab
Test II	Percent row fill, 15 May 2003	
Alfalfa line	Untreated	Fungicide-treated
50t176	61 c	99 ab
Cimarron SR	41 d	98 ab
P54V54 (susceptible check)	11 f	97 ab

Means followed by the same letter are not significantly different, Waller-Duncan k-ratio test, k=100, P=0.05.

LIVESTOCK

CATTLE INSECTICIDE EAR TAGS: POINTS TO CONSIDER

by Lee Townsend

Impregnated cattle ear tags release small amounts of an insecticide which are distributed over the animal during grooming or rubbing. In general, ear tags provide excellent, long term control of horn flies and some reduction in face fly numbers. Price breaks on early order opportunities often means considering fly control programs well before the season begins.

Here are some things to consider:

- Read the label before you buy. All tags are labeled for beef cattle while only those with certain active ingredients are approved for use on lactating dairy animals. Also, check for any limitations for use, such as animal age.
- Look for the common name of the active ingredient (for example, permethrin). In some cases, different brands of tags contain the same active ingredient. You can save money by comparison shopping, or avoid inadvertently using the same active ingredient if resistance is a

potential problem.

- Consider the recommended number of tags per head. Some brands are used at the rate of one per animal. UK research trials have generally shown that systems which use two tags per animal seem to provide better face fly control than those which rely on a single tag. Animals only need to be handled one time to apply the tags. However, this is not necessarily when you would normally work your animals.
- For fly control, it is best to tag animals after horn fly numbers reach 100 or more per side. This reduces the chances of developing resistance to the active ingredients that are being used. Normally, tags provide 12 to 15 weeks of fly control. Tagging too early in the season can mean that the tags are not providing good control in the fall that will help to control the overwintering population. With insecticidal ear tags, the control system moves with the animals. This may be an advantage if animals are moved at intervals and dust bags or back rubbers are not in place in every pasture or grazing area.

There are four main types based on the active ingredient (s) that they contain.

1. Organophosphate (OP) insecticides such as diazinon, fenthion, pirimofos methyl, or a diazinon + chlorpyri-

fos combination. These tags provide good horn fly control and moderate face fly control.

2. Synthetic pyrethroid (SP) insecticides fenvalerate and permethrin are the original members of this group. These tags are sold under a variety of brand names. Usually they are less expensive than the new, more expensive synthetic pyrethroids, such as cyfluthrin, lambda cyhalothrin, and zeta cypermethrin. These tags provide good horn fly control and better face fly control than the OP tags.
The two groups of tags contain insecticides that attack the nervous system of the fly in different ways. Seasonal rotation between an OP and an SP insecticide can be useful in combating insecticide resistance that has developed in horn flies in some areas of the state. Resistance, indicated by a failure in horn fly control, can develop when tags containing the synthetic pyrethroid permethrin have been used for several consecutive seasons. No resistance to organophosphates, or the new synthetic pyrethroids, has been seen.
3. A relatively new group of combination tags has appeared. These couple an organophosphate (OP) and pyrethroid (SP) in the same tag. Current examples pair l-cyhalothrin and pirimiphos methyl or cypermethrin and chlorpyrifos. The assumption is that the OP would control P resistant horn flies.
4. The newest entry is the Avenger tag that contains 30% endosulfan, a chlorinated hydrocarbon insecticide.

Are there any safety precautions associated with using insecticide ear tags?

Nonpermeable gloves should be worn when tagging animals. This is clearly shown in the application pictures on the containers of some tag brands. The hands shown applying the tags clearly have gloves. Comparable pictures with other brands do not obviously show gloves, although label statements indicate that they should be worn.

Insecticidal ear tags should not be handled barehanded. The concentration of insecticide in the tags varies from 8% to 36%. The tags are manufactured so that the insecticide is rubbed off the surface and onto the animal. Any handling of the tags leaves some insecticide on the hands. The insecticide then can be transferred easily to the mouth, eyes, face or other areas of the body. Some individuals may be very sensitive to the active ingredients in the tags.

Signal words on the label range from CAUTION to WARNING. Several products carry statements about the potential for allergic reaction following exposure. Many are easily absorbed through the skin or eyes, some have irritation vapors. Wear protective gloves and wash hands

thoroughly with soap and water after tagging or when taking a break.

HOUSEHOLD

OVERWINTERING BUGS APPEARING IN BUILDINGS

by Mike Potter

Various bugs are beginning to appear “mysteriously” inside homes and businesses. Most have either been ladybugs, cluster flies/face flies, yellowjacket or paper wasp (queens), stinkbugs, or leaf-footed (seed) bugs.

Where Did They Come From?

These critters actually gained entry last fall through cracks and openings and spent the winter hibernating in attics, soffits, wall voids, window/door casings, and similar protected areas. On sunny, somewhat warmer days, some of the bugs become active and emerge from their overwintering sites. As they attempt to escape outdoors, some inadvertently disperse inward into living areas, emerging from beneath baseboards, behind window and door-frames, etc. Since many insects are attracted to light, they are often seen around windows and lighting fixtures.

What Can Be Done Now?

This is a temporary nuisance, which will run its course as the weather continues to warm. Ladybugs, cluster/face flies, and stink/leaf-footed bugs generally do not bite, sting, or carry diseases, nor do they infest food, clothing or wood. They do not breed (reproduce) inside buildings and generally will not survive indoors more than a few days. Yellowjackets or paper wasps spotted indoors this time of year are overwintering queens attempting to get outdoors to initiate their spring nests. Emerging queens are not normally aggressive but will sting if handled.

The easiest way to dispose of these overwintering insects found indoors is with a vacuum cleaner, broom or fly swatter. Insecticides are not normally recommended unless the temporary annoyance can no longer be tolerated. Aerosol-type foggers containing pyrethrins or pyrethroids may be of some benefit in severely infested attics. (Large numbers of lady beetles, flies or wasps accumulating in ceiling light fixtures would suggest the attic as a possible treatment site). Insect light traps supplied by pest control firms can also be installed in such areas, although they too may be of limited benefit. Aerosol sprays or foggers are *not* recommended for treatment of bedrooms, kitchens, or other living areas within the home. The effect of such treatment would be negligible against any insects that have not yet emerged from wall voids and other hidden locations. Flies or ladybugs spotted on walls, windows, and other ex-

posed surfaces can be removed with a vacuum or fly swatter.

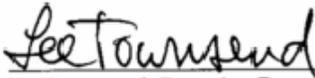
What Can Be Done To Prevent Future Problems?

It is hard to predict whether clients experiencing problems this year will have problems next year. Since most of these pests seek out overwintering sites in late-summer/fall, cracks and other openings can be sealed as a preventive measure. Use a good quality caulk to seal cracks around windows, doors, siding, fascia boards, utility pipes, wires, and other openings. Repair damaged window screens and install insect screening behind attic vents (See Entfact-641, *How to Pest-Proof Your Home*). It may be better to wait until late spring or summer before sealing such openings; otherwise, overwintering insects may be more inclined to move inward, into the living areas, instead of back outdoors.

While sealing and weatherstripping can help limit pest entry, the approach is time-consuming and often impractical. There are countless cracks and crevices under and around eaves, siding, vents, etc., where such insects can enter. On multi-story buildings, sealing becomes especially difficult. Households or businesses that do not wish to chance a recurring problem with overwintering flies or lady beetles next season may want to enlist the services of

a knowledgeable pest control firm. Many companies offer strategically placed insecticide treatments to the building exterior, which helps prevent pest sightings indoors. Long lasting, fast-acting pyrethroid insecticides can be professionally applied around eaves, attic vents, windows, siding, and other likely points of entry. The key is to apply the treatments in late September or early October, before pests enter buildings to overwinter. *Such treatments would be ineffective at this point (winter), since the pests are already indoors.*

People have varying levels of tolerance toward insects in their homes. Hospitals, food processing plants, and other "high-clean" establishments have zero tolerance for contaminants of any kind. Vacuuming, fly swatters and pest proofing, supplemented by client education, are the preferred methods of dealing with overwintering insects inside structures. Insecticides should be used only when the situation warrants and prescribed as indicated above.


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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.