

KENTUCKY PEST NEWS

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WATCH FOR ANNOUNCEMENT

- Recent plant health progress articles may be of interest to U.K. agents and specialists

CORN

- Corn rootworm, an emerging pest

FRUIT CROPS

- Adament fungicide for stone fruits and grapes

.VEGETABLES

- Fungicide product and label update

LIVESTOCK

- Rotation plan for cattle insecticide ear tags
- Cattle lice control—part of a total herd health program

HOUSEHOLD

- There's a hole in my sweater!

WATCH FOR:

Continued movement of **ACCIDENTAL INVADERS** into homes and structures; **INSECTS and MITES** on houseplants brought inside for the winter.

ANNOUNCEMENT

RECENT PLANT HEALTH PROGRESS ARTICLES MAY BE OF INTEREST TO U.K. AGENTS AND SPECIALISTS

by John Hartman

Because U.K. is a partner, County Extension Agents and State Extension Specialists have access to the on-line Plant Management Network (PMN) and its resources. One of the PMN resources available to U.K. employees is the journal Plant Health Progress (PHP). Of the titles published in this journal during the last 3 months, there are many that could be of interest to Kentucky County Extension Agents and State Specialists. Some of these are listed below. Agents and specialists are urged to go to (<http://www.plantmanagementnetwork.org/>) and click under Journals to find these PHP articles. Note that there is a Kentucky author on one of these papers.

Research affecting management recommendations.

- Susceptibility of Some *Lilac* Cultivars and Other Members of the Oleaceae to *Phytophthora ramorum*. N. Shishkoff. 1 November 2007.
- Potential Risk of Commercial Geranium to Infection by *Puccinia pelargonii-zonalis*. J. W. Buck. 31 October 2007.
- Distribution and Damage Caused by Root-Knot Nematodes on Soybean in Southwest Indiana. G. R. Kruger, L. Xing, J. B. Santini, and A. Westphal. 31 October

2007.

- Occurrence of *Ustilago striiformis* in *Dactylis glomerata* Seed Production Fields in Oregon. S. C. Alderman, C. M. Ocamb, M. E. Mellbye, and M. S. Sedegui. 23 October 2007.
- First Report of Pierce's Disease in New Mexico. J. J. Randall, M. Radionenko, J. M. French, N. P. Goldberg, and S. F. Hanson. 2 October 2007.
- Genetic Diversity of Lettuce for Resistance to Bacterial Leaf Spot Caused by *Xanthomonas campestris* pv. *vitiensis*. C. T. Bull, P. H. Goldman, R. Hayes, L. V. Madden, S. T. Koike, and E. Ryder. 17 September 2007.
- Comparative Susceptibility of Plants Native to the Appalachian Range of the United States to Inoculation with *Phytophthora ramorum*. R. G. Linderman, P. B. de Sá, and E. A. Davis. 17 September 2007.
- Impact of Soybean Planting Date on Soil Population Density of *Macrophomina phaseolina*. J. A. Wrather, J. G. Shannon, and A. Mengistu. 17 September 2007.
- Evaluation of *Phytophthora ramorum* in Nursery Crop Tissue Culture Propagation. R. G. Linderman and E. A. Davis. 22 August 2007.
- Comparative Host Susceptibility and Sporulation Potential of *Phytophthora ramorum* on Species, Cultivars, and Hybrids of Camellia. R. G. Linderman and E. A. Davis. 22 August 2007.

Short reports on new findings and recommendations relevant to practitioners.

- Expansion of the Range of Pierce's Disease in Virginia. A. K. Wallingford, S. A. Tolin, A. L. Myers, T. K. Wolf, and D. G. Pfeiffer. 4 October 2007.
- *Hosta virus X* Detected in Kansas. M. M. Kennelly, J. O'Mara, J. Pierzynski, B. Hilbert, and J. Appel. 26 September 2007.
- Reemergence of Goss's Wilt and Blight of Corn to the

Central High Plains. T. A. Jackson, R. M. Harveson, and A. K. Vidaver. 19 September 2007.

- Occurrence of Asian Soybean Rust Caused by *Phakopsora pachyrhizi* in Mississippi. S. Li, W. F. Moore, B. L. Spinks, B. C. Wells, G. L. Sciumbato, S. J. Robinson, and L. Libous-Bailey. 17 September 2007.
- Delayed Emergence, Stem Distortion, Stunting, and Foliar Symptoms Associated with *Tobacco Rattle Virus* and *Paratrichodorus Allius* in Potatoes Grown in the Pacific Northwest. S. L. Gieck, N. L. David, P. B. Hamm, J. M. Crosslin, and R. E. Ingham. 17 September 2007.
- First Report of the Natural Occurrence of Soybean Bacterial Wilt Isolates Pathogenic to Dry Beans in Nebraska. R. M. Harveson and A. K. Vidaver. 22 August 2007.
- High Recovery Rate of *Phytophthora* from Containerized Nursery Stock Pots at a Retail Nursery Highlights Potential For Spreading Exotic Oomycetes. N. L. Dart and G. A. Chastagner. 16 August 2007.

CORN

CORN ROOTWORM, AN EMERGING PEST by Ric Bessin

Many market-smart growers try to anticipate market demands when making their planting decisions. The demand for corn to produce ethanol has driven up the price of corn and has caused a shift toward more continuous corn. While this does make good economic sense, it has altered rotations on many farms. Traditionally corn has been followed by soybeans or wheat followed by soybeans. This has helped with the management of some weeds, diseases and insects. The shift to continuous corn has begun to increase corn rootworm numbers in some areas. In the past this insect has been managed very effectively with crop rotation, and it can still be managed very effectively in our state with crop rotation. This past summer we observed a large increase in numbers of western corn rootworm beetles in some western Kentucky corn fields.

One sign of corn rootworm is lodging of corn plants in midsummer. This is due to the root loss caused by rootworm feeding. Once lodging begins to appear, there are no rescue treatments to control the rootworms. In wet years, corn can compensate for some of the root loss, but in dry years the ability to recover is reduced. The other sign of rootworm problems is emergence of the adult beetle. The green and black striped beetle emerges in late June and July and feeds on the upper leaf surface and ear silks. If beetles numbers are high prior to pollen shed, there is a risk of pollination interference.

When the push to more continuous corn acreage began a few years ago, the risk of rootworm problems was relatively low. Keeping a field in corn two or three years only increases the risk of rootworm damage slightly. But each additional year a given field is kept in continuous corn, the risk of economic losses to corn rootworms increases. We have already begun to see rootworm levels increase in some areas. Some fields in western Kentucky had high enough levels before pollen shed to justify treatment last year.

So how do you decide if you need to control corn rootworms in your corn next year? Monitoring for beetles in mid summer is the best strategy. You are advised to control rootworms with continuous corn *if* you noticed an average at least of one beetle per plant last summer. You should monitor weekly for the adult beetles beginning in late June through early August. In fields where something other than corn was grown last year, no control is needed for rootworms.

Generally, widespread preventive treatments for corn rootworms are not recommended unless there is evidence of a need on a field by field basis. If a field shows signs of high rootworm risk, consider using rotation to manage the problem.

FRUIT CROPS

ADAMENT FUNGICIDE FOR STONE FRUITS AND GRAPES by John Hartman

Adament 50 WG fungicide has recently been registered for use in management of diseases of stone fruits and grapes. Adament consists of 25% tebuconazole (a sterol-biosynthesis inhibitor fungicide belonging to FRAC group 3) and 25% trifloxystrobin (a strobilurin fungicide belonging to FRAC group 11) and is manufactured by Bayer CropScience LP. By combining two fungicides with different modes of action, Adament is likely to be effective against a broad range of diseases.

Adament is cleared for disease management use on the following fruit crops:

Stone Fruits: Brown Rot Blossom Blight (*Monilinia laxa*, *M. fructicola*); Jacket Rot, Green Fruit Rot (*Botrytis cinerea*); Shot Hole (*Wilsonomyces carpophilus*); Alternaria (*Alternaria alternata*); Anthracnose (*Colletotrichum acutatum*); Powdery Mildew (*Podosphaera* spp., *Sphaerotheca pannosa*); Rusty Spot (*Podosphaera leucotricha*); Scab (*Cladosporium carpophilum*); Cherry Leaf Spot (*Blumeriella jaapii*); Fruit Rot (*Monilinia fructicola*); Rust (*Tranzschelia discolor*).

Grapes: Powdery Mildew (*Uncinula necator*); Botrytis Bunch Rot (*Botrytis cinerea*); Phomopsis Cane & Leaf Spot (*Phomopsis viticola*); Black Rot (*Guignardia bidwellii*); Downy Mildew (*Plasmopara viticola*).

For fungicide resistance management, growers will want to avoid making more than 2 sequential applications and more than 4 (stone fruits) or 6 (grapes) total applications of Adament 50 WG per season.

VEGETABLES

FUNGICIDE PRODUCT AND LABEL UPDATE by Kenny Seebold

DuPont Crop Protection recently released an updated label for Kocide 3000, the company's newest formulation of copper hydroxide. Vegetable producers should note that the revised label allows for application to carrots at a rate range of 0.75 to 1.5 lb of product per acre, compared to only 0.75 lb per acre for the older label.

Arysta LifeScience North America will offer a generic version of chlorothalonil which will be marketed as 'Chlorothalonil 720SC'. This formulation contains 6 lb of chlorothalonil per gallon of product, identical to fungicides such as Bravo WeatherStik or Equus 720 SST. Labeling for Arysta's new product will be the same as for other chlorothalonil-based fungicides available to commercial producers.

HOUSEHOLD

THERE'S A HOLE IN MY SWEATER! by Mike Potter

Now is the time when clients begin calling about fabric pests infesting items unpacked from storage. Signs of infestation often are subtle — a few small holes chewed in a sweater, skirt or blanket. These likely were inflicted by clothes moths or carpet beetles. They will feed on any item composed of animal fiber, e.g., wool, fur, silk, feathers, felt or leather. Items commonly infested include wool sweaters, coats, blankets, rugs, upholstered furniture, toys and animal trophies. Cotton and synthetic fabrics such as polyester and rayon are rarely attacked unless blended with wool, or heavily soiled with food stains or body oils. Serious infestations of clothes moths and carpet beetles can develop undetected in a home, often causing irreparable damage to household articles.

THE CULPRITS

Carpet beetles - Carpet beetles are common in buildings,

and can infest many items in addition to fabrics. Larvae are about 1/8 to 1/4-inch long, tan to brownish in color, slow moving, and *densely covered with hairs or bristles*. This is the life stage likely to be encountered now, since only the larvae feed on fabrics and cause damage. Oftentimes, only the shed (molted) skins of the larvae are present on the damaged item. Adult carpet beetles feed mainly on flowers and usually appear indoors during the spring-time. The adult beetles are small (1/16 to 1/8-inch), oval-shaped, and range in color from black- to various patterns of white, brown, yellow and orange. They often appear around windows, indicating that an infestation is present somewhere within the home.

Clothes moths- Clothes moths are small, 1/2-inch, buff-colored moths with narrow wings fringed with hairs. Like carpet beetles, they damage fabric only in the larval stage. Adult clothes moths are seldom seen because they avoid light, preferring to hide in dark places such as closets. *Clients who report seeing tiny moths in the kitchen and other well-lighted areas are probably seeing grain moths originating from stored foods, e.g., cereal, dried fruit, nuts, or pet food.* Clothes moth larvae spin silken feeding tubes or patches of webbing as they move about on the surface of fabrics. They also deposit tiny fecal pellets similar in color to the fabric.

THE SOLUTION

Current infestations- Controlling an existing problem requires a thorough inspection to locate all infested items and locations. The primary source may be an old woolen scarf at the back of a closet, a fur or felt hat in a box, an unused remnant of wool carpeting, or an abandoned bird or squirrel nest up in the attic. Larvae prefer to feed in dark, undisturbed areas where woolens and other susceptible items are stored for long periods. When inspecting clothing, pay attention to seams, folds, and creases (e.g. cuffs and collars) where larvae often prefer to feed. Larvae also may be found along and beneath edges of rugs and carpeting. Use needle-nose pliers to lift the outer edge of wall-to-wall carpet from the tack strip along baseboards. Other possible locations include beneath/within upholstered furniture or inside heat ducts and floor vents with accumulations of pet hair and lint. Occasionally, infestations may originate from bird or animal nests in an attic, chimney, or wall cavity. Carpet beetles, in particular, will also feed on pet food, birdseed, and grain/cereal products associated with kitchens, basements or garages.

Infested items should be laundered, dry-cleaned or discarded. Laundering (warm cycle) or dry-cleaning kills any eggs or larvae that may be present. Vacuuming floors, carpets, and inside heating vents effectively removes larvae as well as hair and lint, which could sup-

port future infestations. Be sure to vacuum along and beneath edges of carpets, along baseboards, underneath furniture and stored items, and inside closets and quiet areas where carpet beetles and clothes moths prefer to feed.

Insecticides applied to infested rugs and carpets may be helpful as a supplement to good housekeeping. Sprays containing active ingredients labeled for flea control (e.g., permethrin) or with fabric insects listed on the label are effective. When treating, pay particular attention to carpet edges, floor/wall junctions, beneath furniture, and bottoms of closets. **Infested clothing or bedding should not be sprayed with insecticides and should instead be laundered or dry-cleaned.**

Avoiding future problems- The best way to avoid future problems with fabric pests is prevention. Woolens and other susceptible items should be dry-cleaned or laundered before being stored for long periods. Cleaning kills any eggs or larvae that may be present, and removes perspiration odors that tend to attract pests. Articles to be stored should then be packed in tight-fitting plastic bags or containers. Customers choosing to use mothballs or flakes should be encouraged to read and follow label directions. The vapors from these materials are only effective if maintained at sufficient concentrations. Effective concentrations can best be achieved by sealing susceptible items (with the manufacturers' recommended dosage of moth crystals) in large plastic bags within in tight-fitting trunks, boxes or chests. Contrary to popular belief, cedar closets or chests are seldom effective by themselves because the seal is insufficient to maintain lethal or repellent concentrations of the volatile oil of cedar.

Conventional household insecticides should *not* be used to treat clothing. Valuable garments such as furs can further be protected by cold storage — a service offered by some furriers and department stores.

Additional tips on fabric pest prevention, control, and repair of damaged items can be found in entomology publications *Carpet Beetles* and *Clothes Moths*, or IP-50, *Fabric Insect Pests*. Elimination of persistent infestations in a home or business may require the help of a professional pest control firm.

LIVESTOCK

ROTATION PLAN FOR CATTLE INSECTICIDE EAR TAGS

by Lee Townsend

Insecticide-impregnated ear tags are a popular means of pasture fly (especially horn fly) control. Tags are inserted in late spring or early summer and the fly control pro-

gram travels with the animal. However, using tags containing the same class of active ingredient for several consecutive seasons can select for populations of the horn fly that are resistant to a whole class of related insecticides. This shows up in the form of a shorter than normal period of fly control but lab testing would be needed to confirm resistance.

To cloud the issue more, other things could cause reduced fly control. Some examples: 1) The 12 to 15 week "fly control clock" starts when tags are inserted. Hanging them too early in the spring can mean protection "runs out" before fly season is over. 2) Horn flies moving in from untreated nearby herds can keep pressure high and make control seem less effective. 3) Above normal rainfall can keep manure wetter longer and more suitable for horn fly breeding than during hot, dry summers when manure dries quickly and may less hospitable for horn fly maggots.

Here are some ways to get the most out of your ear tag-based pasture fly control program in 2008.

1. Rotate insecticide classes annually. Currently there are three options – organophosphates, pyrethroids, and chlorinated hydrocarbons but dozens of brand names. Check the label for the name of the active ingredient in the tag to be sure you know what you are using and record the choice each year. The Insecticide Recommendations for Beef (ENT 11) lists the tags by insecticide class. This makes it easier to establish a rotation.
2. Next spring, apply tags after horn fly numbers reach about 100 per side per animal. This will keep them from being applied too early. It takes more than 100 flies per side to have an impact on weight gain.
3. Supplement fly control with dust bags, oilers, sprays, or pour-ons, if needed.

Staying on a pro-active program will keep resistance problems at bay.

CATTLE LICE CONTROL - PART OF A TOTAL HERD HEALTH PROGRAM

by Lee Townsend

Biting and sucking lice can cause slow weight gain or even a gradual loss, louse-induced anemia, or lowered resistance to stresses, such as cold, wet weather. A carefully planned and timely louse control program will cut losses greatly.

Both types can occur in a herd. Typically, only a small number of animals are heavily infested. A few lice sur-

vive the hot summer months on these "carrier" animals, usually bulls or old cows. The bull's longer, denser coat and heavier neck and shoulders prevent him from grooming efficiently. Self-grooming helps to reduce louse numbers. Nutrition, general health, and reduced effectiveness of the immune system of older cows can predispose them to louse infestations.

During the cool fall and cold winter months, lice numbers increase. They spread from carrier or reservoir animals to the rest of the herd as the animals bunch together. In time, the whole herd may become infested but usually only a few animals become extremely lousy. Infested animals rub and scratch excessively in response to the irritation caused by lice.

Confirm a suspected louse infestation by a careful examination of the most agitated animals. Part the hair at points along the neck, head and around the eyes, on the withers, brisket, and shoulders to look for nits (eggs) and lice. Sucking lice can occur in patches. They have narrow, pointed heads and tend to remain attached to the animal. Chewing lice are more active and have a wider, triangular head.

There are several control options for lice but the list of options narrows, especially at this time of year. We are beyond the treatment date for cattle grubs, so a systemic insecticide (fenthion, prolate) should not be used unless a grub treatment was applied earlier.

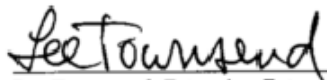
— A whole animal spray gives the good coverage needed for effective louse control and is also one of the cheapest treatments.

— This leaves pour-ons and dusts as relatively "dry" alternatives.

Check the label carefully before you buy. For example, you may find different costs for products containing the same concentration a specific active ingredient. Also, look at the application rate and method. Some products have an applicator or measuring device to help deliver accurate doses. This is very helpful when dose rates are just a few cc's per head. Note other cautions or restrictions on the label. Especially important are the time to wait between applications (two are needed for louse control because the egg or nit stage is not killed) and protective equipment to be used during application.

Here are some non-systemic pour-on formulations of insecticides that can be used to control lice on beef cattle. Check the label for specific directions. Products are listed by active ingredient.

(permethrin) - Atroban, Back Side, Back Side Plus, Boss, Brute, DeLice, Ecto Zap, Expar, Permethrin, Permethrin CDS, Ultra Boss, and many other brand names;
(cyfluthrin) - CyLence 1%; (spinosad) Elector, and
(lambda-cyhalothrin) Sabre 1%.


Lee Townsend, Extension Entomologist

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.

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