

**KENTUCKY PEST NEWS**

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

On line at: [www.uky.edu/Agriculture/kpn/kpnhome/htm](http://www.uky.edu/Agriculture/kpn/kpnhome/htm)**Number 1045****January 24, 2005**

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**ANNOUNCEMENTS****COMMERCIAL PESTICIDE TRAINING MEETINGS**

The most complete and up-to-date listing of meetings approved for continuing education for certified commercial pesticide applicators (CEUs) is posted at

[www.kyagr.com/enviro\\_out/pesticide/programs/testing/CEUlistAG.htm](http://www.kyagr.com/enviro_out/pesticide/programs/testing/CEUlistAG.htm)

Meetings for Pest Control Operators are listed at [www.kyagr.com/enviro\\_out/pesticide/programs/testing/CEUlistPCO.htm](http://www.kyagr.com/enviro_out/pesticide/programs/testing/CEUlistPCO.htm)

Testing dates and locations are available at: [www.kyagr.com/enviro\\_out/pesticide/programs/testing/2004TestingDates.htm](http://www.kyagr.com/enviro_out/pesticide/programs/testing/2004TestingDates.htm)

**2005 IPM TRAINING SCHOOL**

The 2005 IPM Training School will be held on Wednesday, March 16 at the University of Kentucky Research and Education Center in Princeton. Registration will open at 8:30 AM with the meeting starting at 9:00AM and ending at 4:30 PM.

The first session of the day will be a First Detectors Training, National Plant Diagnostic Network conducted by Dr. Paul Vincelli. This session will offer information on how to recognize and respond to exotic pest problems. Those who complete this

session will be eligible to be certified as a First Detector and placed on a registry as part of a nation wide network. This network can provide information as well as receive updates on exotic or threatening plant related problems.

Pest identification will be a major part of the training school. Weed, insect and disease problems of corn, soybeans, and small grains will be covered. Information on Soybean Rust and Soybean Aphid will be a part of these sessions.

The program is free of charge and lunch will be provided. **To guarantee a lunch, register by March 11 by calling (270) 365-7541 extension 218 or e-mail [plucas@uky.edu](mailto:plucas@uky.edu).**

**Program has applied for 6.5 hours of CEU's for Certified Crop Advisers.**

(3.0 Pest Management, 2.0 Crop Production, 1.0 Crop Management, 1.0 Professional Development and .5 Nutrient Management)

**Program has also applied** for general hours and specific hours for Categories 1 ag applicator, 10 demo and research, and 12 retail pesticide sales agent (dealer) for Kentucky Pesticide Applicator Training.

## SOYBEANS

### IMPLICATIONS OF SOYBEAN RUST CONTROL MEASURES ON INSECT POPULATIONS

by Doug Johnson

The agricultural industry is abuzz with the discovery of soybean rust in the US. Unquestionably, the development of sound management strategies for this disease will have a major impact on production practices. However, control of soybean rust can have implications well beyond the rust epidemic. One is the impact of a fungicide on fungi that attack arthropods that feed on the crop; the other is potential outcome from adding an insecticide to the spray tank as an "insurance" treatment.

#### Impact of fungicides on beneficial

Specific fungal pathogens are an important part of population regulation of soybean feeders such as green cloverworms, soybean aphids, and two spotted spider mites. While we rarely see evidence of their impact, research studies have documented the importance of these fungal entomopathogens. Often, these organisms are susceptible to fungicides applied to crops to suppress plant pathogenic fungi. Consequently, the widespread use of fungicides to control soybean rust might also affect populations of some soybean insect and mite pests, which have the potential to damage the Kentucky soybean crop.

This is not a new concept. As far back as 1908 scientists reported that Bordeaux mixture used in Florida citrus resulted in large increases in some insect pests because it suppressed fungi that kill insects. Even as a graduate student studying entomology I worked on this same problem in soybean. A popular fungicide used in soybean at that time was shown to suppress the fungal pathogen which helped control the velvetbean caterpillar, a major insect pest.

A more current example of this almost nightmarish problem is illustrated by a situation concerning fungicidal control of a disease in potato. (See the link to Radcliffe, Ragsdale and Lagnaoui below). In this case, the fungicide applied against a fungal disease of potato also suppressed a different fungus that controls aphids, allowing the aphid population to increase. These aphids not only feed on potato but also transmit important virus pathogens.

This latter example may be particularly important to Kentucky grown soybeans. In the more northern soybean producing states the soybean aphid has become a significant insect pest. In addition to the aphids feeding on the plants they may also move viral pathogens of soybean. Though this has not yet been a widespread problem, the soybean aphid has only been in the US for four years, and damaging populations have not been frequent over the Kentucky soybean production region. The blanket use of fungicides might remove an important natural control from these aphid populations, allowing them to both spread and increase in number.

#### Don't add an insecticide if it is not needed.

An even more difficult problem could arise from a misuse of pesticides in an attempt to "cover the waterfront". If fungicide applications are necessary, there will be a temptation to put a little insecticide in the tank "just in case". While there are situations when insecticide / fungicide combinations are appropriate, the wholesale addition of insecticides to applications targeted at soybean rust could produce some very bad consequences. Insecticide applications, even when warranted, devastate natural biological control. Applying insecticides when pests are present but not at treatment thresholds, could release them from natural control and allow them to increase at faster rates and to higher numbers. The result could be more frequent pest outbreaks, or trouble from secondary pests that rarely threaten the crop.

#### Judicious use of pesticides

1) Follow the soybean rust management recommendations for our area. 2) Use insecticides when pest levels warrant an application. However, don't put an insecticide on just because you are spraying for soybean rust and don't put a fungicide in the tank just because you are spraying for soybean aphid! It is not likely to be cost-effective, and secondary pest outbreaks, resurgence, and resistance are much more likely to occur in a pesticide-intense system. We have not seen the like of this possibility in Kentucky before.

Radcliffe, T., D. Ragsdale, and A. Lagnaoui. 1996. Fungicides Impact Aphid Control. <http://ipmworld.umn.edu/chapters/rrvpga.htm> In: E. B. Radcliffe and W. D. Hutchison [eds.], Radcliffe's IPM World Textbook, URL:

<http://ipmworld.umn.edu>, University of Minnesota, St. Paul, MN

## **SOYBEAN RUST INTENSIVE TRAINING TO BE HELD**

**by Don Hershman**

Multi-discipline, Soybean Rust Intensive Training meetings will be held at 11 locations throughout the state. The first meeting will be held in Hickman, Fulton County on January 25, and the last will be held in Sedalia, Graves County, on March 1. Meeting dates, locations, and times are listed below.

- Hickman, January 25; National Guard Armory, Fulton County, 5:00 p.m. to 9:00 p.m.
- Elizabethtown, January 27; Hardin County Extension Office, 12:00 noon to 4:00 p.m.
- Somerset, February 7; Pulaski County Extension Office, 12:00 noon to 4:00 p.m.
- Lexington, February 11; Fayette County Extension Office, 9:00 a.m. to 1:00 p.m.
- Hopkinsville, February 21; Christian County Extension Office, 9:00 a.m. to 1:00 p.m.
- Princeton, February 21; U.K. Research & Education Center, 2:00 p.m. to 6:00 p.m.
- Waverly, February 22; Sacred Heart Church Hall, 9:00 a.m. to 1:00 p.m.
- Owensboro, February 22; Knights of Columbus Meeting Facility, 2:00 p.m. to 6:00 p.m.
- Bowling Green, February 23; Warren County Extension Office, 9:00 a.m. to 1:00 p.m.
- Paducah, February 28; Robert Cherry Civic Center, 9:00 a.m. to 1:00 p.m.
- Sedalia, March 1; Sedalia Restaurant (intersection of Hwy 97/339), 9:00 a.m. to 1:00 p.m.

The meetings are open to anyone with an interest in learning about the nuts and bolts of soybean rust and its management. Topics will include soybean rust disease identification and development, risk to the soybean crop in 2005, fungicide-use strategies and application, and agronomic considerations. A considerable amount of time will be devoted to fungicide-use decisions, strategies, and applications. The nuances of making effective fungicide applications to full-canopy soybean will be discussed by scientists in the UK Department of Biosystems and Agricultural Engineering. UK Agronomists will discuss various agronomic aspects of soybean production as it relates to soybean rust.

Effectively managing soybean rust will require that producers develop a new technical vocabulary. Terms like strobilurin, triazole, acropetal movement,

curative, systemicity, etc. will be commonplace as the farm community gears up to deal with this new disease threat. The Rust Intensive Training meetings are being offered in an attempt to bring producers and others "up to speed" as quickly as possible on what it will take to effectively manage soybean rust.

At the meetings, you will see soybean rust specimens (embedded in resin), hear some highly-focused presentations, and get to ask lots of pointed questions. Attendees will also receive a soybean rust identification pocket card. A meal will be provided by the Kentucky Soybean Promotion Board. Please contact your County Extension office for more information and/or to let them know you will be coming. We are expecting large crowds, so we need you to make a reservation as soon as possible to help us plan properly.

## **LIVESTOCK**

### **HOG LICE AND MANGE MITES**

**by Lee Townsend**

Hog lice and mange mites are two external parasites thrive during cold weather and can spread quickly by direct contact between animals. Hog lice use piercing, sucking mouthparts to feed on blood. Heavy infestations can be especially serious for young pigs. The hog louse spends its life on an animal. Single eggs or nits are glued to bristles and hatch in 2 to 3 weeks. The slate blue lice can blend in with the skin and be overlooked, even though adults are about 1/4" long. The good spots get taken up, so lice may move and settle around upper inside areas of legs and around the tail of a heavily infested animal.

In combination with other winter stresses, lice can harm large animals, too. A hog louse lives about 5 weeks but it probably seems a lot longer to swine because lice feed about 6 times a day. Irritation can cause excess scratching and skin lesions, reduced feed consumption, and stunted growth.

Mange mites burrow within the skin of the animal. Strong digestive enzymes dissolve the tissue producing a liquid upon which the mites can feed. Infestations cause severe itching and infested animals rub frequently to get some relief. Scabs usually show up first on the head, especially around the eyes, nose, and ears. Mites present in the ears may be missed during examination or treatment and can result in a resurgence of the problem.

Do not make a hasty “eye-ball” diagnosis; skin scraping from infested areas need to be examined under a microscope to detect these tiny arthropods. Mangy animals tend to gain poorly and are more susceptible to other stresses. Infested animals may bring discounted prices at market.

Options for lice and mange control include sprays, dusts, pour-ons, injection, or feed-through (See ENT-23, Insect Control on Swine). When using sprays, remember where these pests are on the animal and treat thoroughly. Spray pressure must be sufficient to be effective against mites and the animal must be wetted thoroughly. Treat on a warm, sunny day so animals will dry rapidly.

Dusts are generally less effective than sprays but can be used for louse control if only a few animals need treatment or conditions do not allow spraying. Pour-ons and bedding/pen treatments are effective against lice and are recommended in cold weather when spraying is prevented. Lice and mites can only survive off of the animal for 2 to 3 days. They will not infest humans, pets, or other livestock. Follow up on treatments to check on results. A few mites or lice can survive to continue the infestation.

### **WINTER CLEAN OUT GOOD FOR LITTER BEETLE MANAGEMENT** by Lee Townsend

The lesser mealworms (larvae of litter beetle and darkling beetles) can build to overwhelming numbers in broiler house litter. The insect is relatively intolerant of temperatures below freezing and a winter litter clean out can expose and kill large numbers of them with minimal chance of invasions of nearby buildings or home.

The dark brown to black, ½-inch long adults and the light yellow to brown wireworm-like larvae tend to congregate in the older, deeper litter. They accumulate under anything lying on or just below the litter surface, such as floor feeders or caked litter. They tend to avoid very wet or very dry situations. Spot litter removal can be helpful if the whole house cannot be cleaned. Spread the litter on fields where it (and the beetle adults and larvae) is exposed to freezing temperatures. Spread of beetle-infested litter when temperatures are above about 50o F can result in some spectacular movement of the adults to lights and invasions of homes or buildings.

## **SHADE TREES & ORNAMENTALS**

### **NEW NURSERY STOCK REGULATIONS TO PREVENT MOVEMENT OF *Phytophthora ramorum*.**

by John Hartman

During recent years, there has been concern about the potential movement of *Phytophthora ramorum*, cause of sudden oak death, from the west coast to the eastern parts of the U.S. Effective January 10, 2005, a new Emergency Federal Order restricting movement of nursery stock from California, Oregon, and Washington nurseries was issued by the United States Department of Agriculture. This order replaces a previous order in effect since April, 2004. Some readers may recall that the previous order was not considered to be effective enough by certain states, including Kentucky. This new Order should address some of those concerns.

This Order addresses the discovery of *P. ramorum* in nurseries in California, Oregon, and Washington that are outside the quarantined areas where this fungus (actually a fungus-like organism) is already endemic in local forests and woodlands. The provisions of this Order are expected to help prevent, through regulatory means, movement of this organism to states like Kentucky. The following are some of the requirements being imposed on California, Oregon, and Washington nurseries as set forth in the Order:

- All commercial nurseries within California, Oregon, and Washington that ship plants interstate will be inspected annually for evidence of *P. ramorum* infestation and they will be required to be certified as free from the pathogen.
- Inspections and testing will be done mainly in spring, when symptoms of *P. ramorum* infection will be most visible.
- Nursery certification will last one year. Thus, inspection, sampling, and testing will occur annually.
- All genera of plants are subject to visual inspection.
- Known host plants and associated host plants, plants in the same genus as hosts and associated hosts and plants located within 10 meters of a host or associate will be inspected, sampled and tested before shipments are allowed.
- Sampling protocols are outlined and, where testing is required, culturing, ELISA, and nested

- PCR test protocols will be followed.
- The inspection and testing requirements are more stringent for nurseries located in quarantined areas where the disease already exists in natural forested and wooded areas.
- Host and associated host nursery stock that is shipped out must be accompanied by an appropriate Federal certification.
- Nurseries must maintain shipment records for at least 24 months.
- This Order will expire in 3 years unless renewed.

Currently, there are 31 plant species that are considered to be hosts of *P. ramorum*. This means that plant pathologists have completed a rigorous test known as Koch's Postulates to prove pathogenicity. Plants on the list include Rhododendron, azalea, witch hazel, Douglas fir, Viburnum, red tip Photinia, Camellia, and Japanese pieris, all of which grow in Kentucky landscapes and forests.

The list of associated host species numbers 37; the causal fungus has been found associated with diseased members of these plant species, but proof of pathogenicity has not yet been established. Kentucky landscape and forest species on the associated host list include horse chestnut, European beech, southern red oak, northern red oak, lilac, and European yew.

The following nursery stock would be considered exempt from this order:

- Seeds.
- Turf or sod.
- Bulbs, tubers, corms, or rhizomes of non-host and associated hosts.
- Greenhouse-grown cactus, succulents, and orchids.
- Aquarium-grown aquatic plants.
- Greenhouse-, container-, or field-grown palms and cycads.
- Tissue culture plants grown *in vitro*.

There is an expectation that the USDA will approve several more "official" testing laboratories for *P. ramorum* than were available last year, so there should be fewer delays in getting suspect positive findings assayed. Knowledge of these regulations should help Kentucky growers as they make plans to order nursery stock or other plant materials from West Coast states.

## 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 doorframes, 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 exposed 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.

## PESTICIDE NEWS & VIEWS

### ILLEGAL PESTICIDE PRODUCTS by US EPA

You may have seen people selling them on the street or in small neighborhood stores. They go by names like *Tres Pasitos* or *Chalk*, and they come with a guarantee to kill roaches, mice and other household pests like nothing else on the market. But most such products are illegal. And illegal pesticides can hurt much more than roaches. They can harm you and your family.

Illegal pesticides are often much more toxic than [registered pesticides](#) that have been approved by the EPA. The EPA has identified illegal flea and tick repellents for pets, antibacterial cleansers, mothballs, and other products that claim to get rid of household pests. Across the country, EPA has initiated an effort to protect consumers from these products. In areas where illegal products are an acute problem, EPA has increased enforcement actions against companies selling or distributing illegal household pesticides. EPA has also increased efforts to raise public awareness of these product dangers. <http://www.epa.gov/pesticides/health/illegalproducts/index.htm - top#top>

Many illegal pesticides are very toxic. Others contain unknown ingredients, or the ingredients may vary from time to time. Some of the illegal products are also available to the public in legal, EPA registered versions. However, consumers may unknowingly purchase or obtain the illegal versions. Though the illegal products may look similar to and make the same claims as their legal counterparts, these products have not been thoroughly tested. And since the products are unregistered, their labels have not been reviewed for clear directions and safety warnings.

Illegal naphthalene moth repellent products -- mothballs -- pose a hazard to young children. Mothballs can be easily mistaken for candy, or simply tempt young children to touch and play with them. Recent studies have linked naphthalene to illnesses, including nasal cancer. Widespread sale and distribution of these products make illegal mothballs a particular concern.

Illegal Insecticide Chalk is also known as "Miraculous Chalk" or "Chinese Chalk." You may have seen the chalk in a neighborhood store or sold on the street for about \$1 a box. It is mostly

imported illegally from China and often bears a label in both English and Chinese. Sometimes the manufacturer claims that the chalk is "harmless to human beings and animals" and "safe to use." These claims are untrue and dangerous.

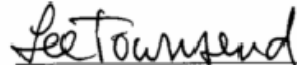
Illegal Pet Products, including foreign-labeled, unregistered versions of the common pet products Advantage and Frontline, have been illegally imported and sold throughout the U.S. Though registered for use in other countries, some foreign-labeled versions have omitted important warnings, especially those pertaining to children, that are required in the U.S. Versions imported from such countries as England and Australia often give doses in metric units, which can cause Americans to accidentally over-dose or under-dose pets. [http://www.epa.gov/pesticides/health/illegal\\_products/index.htm](http://www.epa.gov/pesticides/health/illegal_products/index.htm) - top#top

"Tres Pasitos" is imported illegally from Mexico and other Latin American countries. Its name means "three little steps", because after eating it, this is all mice can muster before dying. The active ingredient is a chemical called [aldicarb](#), a very toxic chemical that should never be used in a home. Children are especially vulnerable to poisoning by aldicarb when it is sprinkled around the home to control roaches, mice and rats. Exposure to high amounts of aldicarb can cause weakness, blurred vision, headache, nausea, tearing, sweating, and tremors in people. Very high doses can kill people, because it can paralyze the respiratory system. What "Tres Pasitos" does to pests, it can also do to you.

Here are some simple rules to follow when looking for a pesticide to use in your home:

- Look for an EPA registration number on the pesticide container. This number tells you that EPA has reviewed health and environmental information about the pesticide, and if the label says so, that the product is okay to use in your home.
- Look for a list of the active ingredients on the label. Any product registered with EPA must state the active ingredients on the label.
- The EPA registers some pesticides that are not meant to be used in the home. Look for information on the label that states that the product can be used by the general public, indoors, in the home.
- When you do find a pesticide that is registered with EPA for use in your home, always remember to [read the label first](#). EPA reviews all pesticide labels before products can be sold. If you follow all the label directions, you will reduce your risk of

harming yourself and the environment. The label provides important information you need to protect yourself and the children in your care.

  
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.