KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE On line at: www.uky.edu/Agriculture/kpn/kpnhome.htm

Number 1119 March 12, 2007

WATCH FOR TOBACCO

- Tips for managing diseases in float beds CORN
- SWCB spring survey update

FRUIT CROPS

• Winter and early spring cultural practices to control tree fruit diseases

LAWN & TURF

- Disarm®, a new fungicide for turf disease control
- Clover mites crawling

SHADE & FOREST TREES & ORNAMENTALS

- Sudden Oak Death Science Symposium III Risk to Conifers
- Clover mites crawling

HOUSEHOLD

• It's termite season

WATCH FOR:

CLOVER MITES are crawling from grass onto buildings and patios; CLUSTER FLIES and other OVERWINTER-ING insects are becoming active and ready to move outside; the first TERMITE SWARMERS of the season took wing last week, flight can continue through May.

TOBACCO

TIPS FOR MANAGING DISEASES IN FLOAT BEDS by Kenny Seebold

With spring right around the corner, it won't be long before outdoor float beds and greenhouses around Kentucky are filled with newly-seeded trays to produce this year's supply of tobacco seedlings. A quality, disease-free transplant plays a key role in a successful growing season, so let's take a look at some ways to manage disease in the float system. The float system offers many advantages over the traditional plant bed but also creates ideal conditions for the development of disease. High moisture levels and dense plant populations provide a favorable environment for several plant pathogens.

Prevention should be the first step a grower takes to manage disease in tobacco float beds, or any other production system for that matter. In fact, prevention is probably more critical in the float system than the field because of the disease-conducive environment and the relative lack of fungicide tools that we can use to manage certain diseases once an outbreak takes place. Here are some considerations in developing a preventive disease management strategy:

- Keep plant pathogens out of the float system. Water from ponds or creeks can harbor pathogens like *Pythium* or the black shank pathogen, *Phytophthora nicotianae*, which can wreak havoc in the float system. Keep soil out of float bays this is another avenue by which *Pythium* and *Phytophthora* can make their way into the system.
- Seed into pathogen-free Styrofoam trays. New trays will not harbor plant pathogens, but re-used trays may harbor *Pythium*, for example, particularly if the trays have been re-used for several years. There is no guaranteed, foolproof way to sanitize used trays; however, there are ways to significantly reduce survival of plant pathogens on trays. The first step is to wash used trays thoroughly in soapy water to remove soil and plant debris. Follow by a soak in a 10% bleach solution for 2-3 minutes, followed by a good rinse. Alternatively, trays can be dipped in the bleach solution (or sprayed) and then covered with a plastic tarp overnight. Rinse thoroughly to remove bleach residue. The solution must be replaced regularly (every couple of hours) to maintain effective levels of chlorine. Bleaching is particularly effective with glazed Styrofoam trays. For standard high-density Styrofoam trays that are 3 or more years old, a bleach dip may not be enough to eradicate overwintering pathogens. Steaming trays at 165-175 °F for 30 minutes will significantly reduce pathogens inside trays, but monitor temperature and steaming time carefully to avoid damage to trays.
- Keep your transplants as stress-free as possible. Clip properly, avoid temperature extremes and keep fertilizer levels within recommended ranges. Plants that are under- or over-fertilized are more susceptible to diseases in general.

- Maintain good air movement through the use of side vents and fans, and keep water levels high enough for float trays to clear the side boards of the bays. Good airflow promotes rapid drying of foliage, creating less favorable conditions for diseases.
- When clipping plants, avoid the buildup of leaf matter in float trays. Some pathogens can use leaf debris as a food base to become established and then spread in the float system. Dispose of clippings and unused or diseased plants properly. Bury or burn the plants, or place them in cull piles that are at least 100 yards from float beds or tobacco fields.
- Use fungicides preventively for best effect. Terramaster 4EC, for example, is an excellent tool for management of Pythium root rot when used before disease appears, or when symptoms first appear. For more information on fungicides that can be used in the production of tobacco transplant see the 2007 Kentucky Tobacco Production Guide (http://www.ca.uky.edu/agc/pubs/id/id160/id160.pdf). The guide also features tips on preventive practices to manage diseases and insects, and contains useful information on general production practices in float systems.

Disease-free transplants pay dividends at setting time and beyond because they are more vigorous and less prone to attack by pathogens in the field. Use a management strategy that combines cultural practices and chemicals in the float system to get the best possible control of diseases and produce high-quality tobacco seedlings.

CORN

SWCB SPRING SURVEY UPDATE by Ric Bessin and Mike Smith

Southwestern corn borer spends the winter as larvae in galleries at the base of corn stalks. Stubble in cornfields can be checked during early spring for damaged plants and surviving borers. This provide an indication of the level of moth flight this spring and an indicator of what the first generation may be like for 2007. A survey of southwestern corn borer damage and larval survival was conducted in Daviess and Henderson counties on March 12. These counties were selected because of past infestation and sampling history. The purpose was to estimate the extent of SWCB damage in 2006, as evidenced by basal stalk girdling. In addition, we wanted to estimate the survival of the over-wintering larvae in the crowns of these damaged plants. In each county, four non-Bt corn fields were evaluated. Within each field, 10 random groups of 10 consecutive plants were examined for girdling and an additional of 50 (minimum) girdled plants

were examined for the presence of live SWCB larvae.

2005 SWCB Spring Survey Results

Location	Damaged plants	SWCB recovered
Henderson Co.		
4 Farms	58 / 400	5 / 400
Daviess Co.		
2 Farms	22 / 200	3 / 200

The information from Daviess and Henderson counties indicated that there was a moderate incidence of stalk girdling when compared with previous years, but the survival of those larvae was the lowest observed in any of the nine years that we've been conducting this survey. As in past years, there were high levels of what appeared as bird predation on the larvae.

Year	Girdled stalks (%)	Survival/girdled stalk (%)	Overall Survival / stalk (%)
2007	12.8	1.4	0.18
2006	15.0	31.8	4.82
2005	5.6	5.1	0.29
2004	15.6	2.5	0.39
2003	26.6	4.3	1.13
2002	11.8	5.3	0.63
2001	40.6	9.7	3.92
2000	20.7	26.9	5.57
1999	35.9	10.1	3.64

So for the spring of 2007, we can conclude:

- The 'normal' winter has reduced survival of SWCB larvae in the counties surveyed, the numbers are very similar to what was observed in the spring of 2004.
- Birds continue to feed heavily on SWCB larvae during the winter.
- Winter conditions were not sufficient to eliminate SWCB larvae.
- We expect low to moderate first generation SWCB pres-

- sure for those areas surveyed.
- Date of planting is still important. Corn planted after May 1 could be at risk to late season SWCB activity.

FRUIT CROPS

WINTER AND EARLY SPRING CULTURAL PRACTICES TO CONTROL TREE FRUIT DISEASES by John Hartman

Many fruit growers in Kentucky are now engaged in orchard pruning and other late winter and early spring activities. Each season, apple and stone fruit diseases are a threat to orchard productivity and fruit quality. Now is an important time for fruit growers to manage some of these destructive diseases. Cultural practices applied this winter and early spring will help to reduce disease in the crop next summer.

There are many cultural practices that can be implemented now and in the coming weeks to reduce the threat of diseases such as apple and peach scab, stone fruit and apple fruit rots, apple and stone fruit canker, apple and stone fruit powdery mildews, plum black knot, apple and stone fruit collar rots, apple fire blight, and cedar-apple rust. The following are cultural practices beneficial for reducing tree fruit diseases:

- •Sanitation prune out last year's infections, cankers, and any dead wood while the trees are dormant.
- Remove nearby landscape or forest trees or overhanging tree branches that might shade the fruit trees.
- For apple and pear disease management, especially for fire blight, remove and destroy any abandoned and unsprayed apple or pear trees near the orchard.
- Remove and destroy susceptible cedars and junipers if possible or at least remove and destroy galls on susceptible cedars and junipers. Cedar-apple rust galls are visible now. The absence of cedars or junipers within 200 yards of the orchard indicates that cedar rust diseases are not likely to be a serious problem for apples in the orchard.
- Thin fruit tree branches during the dormant pruning operation to open up the trees to better sunlight penetration.
- Remove prunings from the orchard and destroy them.
- Mummies (dried, shriveled fruits from last year) should be removed from the tree, picked up from the ground, and destroyed.
- Rake up and destroy all fallen leaves from the previous season or chop fallen leaves into tiny pieces with a power mower before spring.
- Plant scab-resistant apple trees.
- •Select and plant fire blight-tolerant apple varieties and

rootstocks.

- Provide good soil drainage. Underground tiling will help improve internal drainage of heavy soils.
- Avoid collar rot-susceptible apple rootstocks such as MM106. Use only disease-free nursery stock when planting a new block of trees.
- •Soil contaminated with the collar rot fungus should not be moved about.
- Remove and destroy weeds, undergrowth and brush from near the orchard; these plants may harbor pathogenic microbes.
- Be prepared to monitor for disease-favorable weather conditions, especially in spring.
- Read and understand the 2007 Commercial Tree Fruit Spray Guide and develop ways to integrate fungicide applications into the total orchard disease management program.
- Purchase necessary fungicides so that they are available when they are needed during the growing season.

For more specific information concerning tree fruit diseases and control recommendations, please consult the current U.K. College of agriculture Commercial Tree Fruit Spray Guide (ID-92) or the Midwest Tree Fruit Handbook (ID-93). These publications are available at County Extension Offices statewide. More detailed information about symptoms, causal organisms, disease cycles and epidemiology, and control of tree fruit diseases can be found in the *Compendium of Apple and Pear Diseases* and the *Compendium of Stone Fruit Diseases*. These books are available from The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN 55121.

LAWN & TURF

DISARM®, A NEW FUNGICIDE FOR TURF DISEASE CONTROL by Paul Vincelli

Disarm® 480 SC fungicide (containing the active ingredient *fluoxastrobin*) is a relatively new systemic Q_oI fungicide for turf disease control from Arysta Life Science. The Q_oI family of fungicides currently sold for turf disease control are chemically classified as *strobilurin* fungicides, and readers may know them by that name. This fungicide family includes Heritage® (*azoxystrobin*), Compass® (*trifloxystrobin*), and Insignia® (*pyraclostrobin*).

Diseases controlled

Disarm® is labeled for control of a wide variety of diseases. The symbol (*) indicates that the disease is important in Kentucky turfgrass; (°) indicates the disease occurs in Kentucky but rarely warrants fungicide treatment.

Anthracnose (*)

Brown patch (*)

Cool-weather brown patch (=yellow patch) (*) Fusarium patch (=Microdochium patch) (*) Gray leaf spot (*)

Leaf spot caused by *Bipolaris sorokiniana* (*)

Melting Out caused by *Drechslera poae* (*)

Pink patch (°)

Pink snow mold (*)

Typhula blight (°)

Pythium blight (*)

Pythium root rot (*)

Red thread (*)

Southern blight (°)

Spring dead spot (*)

Summer patch (*)

Take-all patch (*)

Target spot

Efficacy

There isn't much readily accessible data at this point on efficacy of this fungicide. Prior to 2006, a variety of tests were conducted at universities under a code name; in these tests, almost all of the diseases listed above were tested at least once. However, the full reports of these tests are unavailable to me at this time. Extensive university testing was conducted with Disarm® last season, and those tests are soon to be published. Thus, I'll be soon able to form a clearer picture of the efficacy of the product.

Resistance management

There are very specific use guidelines on the Disarm® label relating to reducing the risk of fungicide resistance. Resistance to Q_oI fungicides has been reported in gray leaf spot, anthracnose, and Pythium blight, and I don't think it is overly pessimistic to predict that other diseases will develop resistance with continued use of these fungicides. Therefore, it is important to pay close attention to the use restrictions on the Disarm® label as well as the labels of all Q_oI fungicides.

Any time you apply fungicide which is at-risk for the development of resistance, you run the risk that you are selecting resistant biotypes of the pathogen. You cannot prevent the development of resistance if you are using the chemical. All you can hope to do is reduce the risk that the resistance will develop. The label guidelines are based on sound biological principles and will help reduce that risk.

CLOVER MITES CRAWLING by Lee Townsend

Clover mites are accidental invaders that can be a temporary nuisance during the early spring. These very small, reddish brown creatures appear only as moving dark

spots to the naked eye. Sheer numbers, plus the resulting red-brown stain left behind if they are crushed, make them unwelcome visitors. Clover mites are not blood feeders and will not harm people or pets, nor will they infest household products. Once inside a home or building they will soon die.

Clover mites feed on clover and grasses. They can be especially abundant in the heavy, succulent growth of well-fertilized lawns. They usually enter a home around windows or doors so they are usually seen crawling along sills or thresholds.

A soapy rag or wet sponge can be used to clean mites off of surfaces. Wipe carefully to avoid crushing the mites and causing stains. The crevice tool of a vacuum cleaner may also be used to pick up mites. Rely on non-chemical control indoors. Do not apply insecticides to kitchen counters or other interior surfaces.

There is an increased potential for invading structures when grass extends up to the foundation. A plant bed or open area will provide a barrier that will stop many mites and provide a long term solution to persistent problems. Avoid overfertilizing lawns. This creates situations that are ideal for mites to increase to tremendous numbers.

A barrier spray of a pyrethroid insecticide (*e.g.*, Spectracide Bug Stop(R), Enforcer Overnight Pest Control Concentrate) may reduce movement of the mites from grasses to patios, decks, or house walls. Use a compressed air or hose end sprayer to treat at the base of all exterior doors, garage and crawl space entrances, around foundation vents and utility openings, and up underneath siding. It may also be useful to treat around the outside perimeter of the foundation in a 2 to 6- foot-wide band along the ground, and 2-3 feet up the foundation wall. Follow label directions.

SHADE & FOREST TREES & ORNAMENTALS

SUDDEN OAK DEATH SCIENCE SYMPOSIUM III - RISK TO CONIFERS by Patricia B. de Sá

The Sudden Oak Death Science Symposium III took place in Santa Rosa, CA during March 4 to March 9, 2007. International updates on issues related to *Phytophthora ramorum*, *Phytophthora kernoviae* and other *Phytophthora* species were presented in oral sessions and in a poster session. Scientists, regulators and nursery industry representatives from the U.S., the United Kingdom, Ireland, Canada, Germany, Netherlands, Australia and other

countries were present. Diagnostics, biology and ecology, landscape monitoring and mapping, nursery management, forestry quarantine and nursery issues as well as regulatory updates were presented followed by questions and comments from symposium participants.

A panel discussion on the risk of *P. ramorum* diseases to conifers initiated the symposium and research results and needs were discussed, as well as regulatory and trade issues. As seen on the February 27, 2007, update of the P. ramorum host list available on the USDA-APHIS-PPQ website (http://www.aphis.usda.gov/ppq/ispm/ pramorum/pdf files/usdaprlist.pdf), 45 plants were listed as proven hosts regulated for P. ramorum and 62 plants are listed as plants associated with P. ramorum and regulated as nursery stock only. The conifers listed as hosts are Douglas fir (Pseudotsuga menziessi var menziesii) and all other nursery grown P. menziesii, coast redwood (Sequoia sempervirens) and European yew (Taxus baccata). White fir (Abies concolor), grand fir (Abies grandis), red fir (Abies magnifica) Pacific yew (Taxus brevifolia), yew (Taxus *x media*) and California nutmeg (*Torreya californica*) are listed as plants associated with *P. ramorum*.

Inoculation studies have shown that some species of conifers including pine, have susceptible bark when they are wounded first and then inoculated with *P. ramorum* under laboratory and greenhouse conditions. However, little is known about the natural susceptibility of many conifers, since there is insufficient information available about infections under natural conditions of plants other than the ones on the USDA list. In one study on a Christmas tree farm, it was shown that most of the infections of Christmas tree and seedlings (Douglas fir and grand fir) occurred where the trees are grown in close proximity to forests and are under the canopy of infected bay laurels and are exposed to high amounts of spores coming from the bay laurel. P. ramorum causes ramorum dieback, cankers on branch flags and death of small trees and seedlings under environmental conditions suitable for development of disease, such as high rainfall and high inoculum potential (high number of spores).

Studies performed on a range of broadleaved tree species inoculated with *Phytophthora* species indicated that *P. ramorum*, *P. kernoviae* and other *Phytophthoras* could be isolated from the bark, the phloem and from the xylem of infected trees and that they can spread in the xylem tissue. It was suggested that outer sapwood should be removed to prevent spread of tree stem *Phytophthoras*. More research is needed to understand if logs and lumber represent a meaningful pathway of spread of *P. ramorum* to new areas and what are the conditions needed for spread of this and other *Phytophthoras* through logs and lumber

of conifers and other tree types.

HOUSHOLD

IT'S TERMITE SEASON by Mike Potter

Termite season has begun in Kentucky. During the next several weeks, you'll probably spend more time responding to termite calls than to any other insect pest. To complicate matters, the public has little understanding of termites and what should be done if their home is infested. This column will help you answer their questions.

Q: Why be concerned about termites?

A: Termites cause billions of dollars in damage each year. They primarily feed on wood, but also damage paper, books, foam board insulation, and even swimming pool liners and filtration systems. Termites can injure living trees and shrubs, but more often are a secondary invader of woody plants already in decline. While buildings may become infested at any time, termites are of particular importance when buying or selling a home since a termite inspection is normally a condition of sale. Besides the monetary impact, thousands of winged termites emerging inside one's home are an emotionally trying experience — not to mention the thought of termites silently feasting on one's largest investment.

Q: Why are infestations often discovered during March - May?

A: Spring typically is when large numbers of winged termites, known as "swarmers," emerge inside homes. In nature, termites swarm to disperse and start new colonies. Triggered by warmer temperatures and rainfall, the winged termites emerge from the colony and fly into the air. The swarmers then drop to the ground, shed their wings, pair off with a mate, and attempt to begin new colonies in the soil. Few swarmers emerging outdoors survive to start new colonies. Swarmers emerging indoors are incapable of eating wood, seldom survive, and are best removed with a vacuum cleaner. They do, however, indicate that an infestation is present.

Q: How will I know if my home is infested?

A: Discovering winged termites indoors almost always indicates an infestation warranting treatment. People often confuse winged termites with ants, which often swarm at the same time of year. Termites can be differentiated by their straight antennae, uniform waist and wings of equal size. (Ants have elbowed antennae, constricted waists, and forewings that are longer than the hind wings.) The swarmers are attracted to light and are often seen around windows and doors. Termite swarmers

KPN—March 12, 2007 5

emerging from tree stumps, woodpiles, and other locations out in the yard are not necessarily cause for concern, and do not always mean that the house is infested. On the other hand, if winged termites are seen emerging from the base of a foundation wall or adjoining porches and patios, there's a good chance the house is infested also and treatment may be warranted.

Other signs of infestation are earthen (mud) tubes extending over foundation walls, support piers, sill plates, etc. The mud tubes are typically about the diameter of a pencil, but sometimes can be thicker. Termites construct these tubes for shelter as they travel between their underground colonies and the structure. To help determine if an infestation is active, the tubes may be broken open and checked for the presence of small, creamy-white worker termites. If a tube happens to be vacant, it does not necessarily mean that the infestation is inactive; termites often abandon sections of tube while foraging elsewhere in the structure. Termite-damaged wood is usually hollowed out along the grain, with bits of dried mud or soil lining the feeding galleries. Wood damaged by moisture or other types of insects (e.g., carpenter ants) will not have this appearance. Occasionally termites bore tiny holes through plaster or drywall, accompanied by bits of soil around the margin. Rippled or sunken traces behind wall covering can also be indicative of termites tunneling underneath.

Oftentimes there will be no visible indication that the home is infested. Termites are cryptic creatures and infestations can go undetected for years, hidden behind walls, floor coverings, insulation, and other obstructions. Termite feeding and damage can even progress undetected in wood that is exposed because the outer surface is usually left intact. Confirmation of infestation often requires the keen eye of an experienced termite inspector. However, even the most experienced inspector can overlook infestation or damage which is hidden.

Q: Can I treat the house myself?

A: Ridding a home of termites requires special skills. Knowledge of building construction is needed to identify the critical areas where termites are likely to enter. Many of these potential points of entry are hidden and difficult to access. Termite control also utilizes specialized equipment such as masonry drills, pumps, large-capacity tanks, and soil treatment rods. A typical treatment may involve hundreds of gallons of a liquid pesticide, known as a termiticide, injected into the ground alongside the foundation, beneath concrete slabs, and within foundation walls. In short, termite treatment is a job for professionals. A possible exception would be if a mailbox post, sandbox or other small wooden object not attached to the

house was infested. "Do-it-yourself" termite baits (see bait comments below) sold at retail stores or bought over the internet will seldom eradicate an existing termite problem.

Q: How do I choose a pest control company? Why is there such variance in price?

A: These are complex questions. The company should be licensed by the Kentucky Department of Agriculture. Membership in the Kentucky Pest Control Association and/or National Pest Management Association suggest the company is an established firm with access to technical and training information needed to do the job correctly. As with any service company, references are invaluable. Consider calling at least 2-3 companies. Requesting inspections and estimates from more than one company will help verify the existence of a termite problem and allow you to compare services. Companies offer different types of treatment methods and warranties. If termites happen to return, most will retreat the affected areas at no additional charge. A smaller percentage of firms also will repair damage occurring subsequent to their treatment, although dating onset of termite damage is a hard thing to determine. In some cases, no warranty will be offered if wells, cisterns, sub-slab heating ducts, drainage systems, or inaccessible crawl spaces make it impossible to treat in accordance with industry standards.

Take your time when selecting a company. Termites damage wood slowly; the amount of damage caused by taking an additional day, week, or month to make an informed decision is insignificant. Avoid firms that try to pressure you into signing a contract immediately with "specials" or scare tactics. The overall quality of a termite job depends less on the sales person than on the technician who does the work. A safe and effective treatment requires an experienced technician, not someone who was hired a few weeks ago.

Q: Which treatment methods and products are most effective?

A: Another challenging question. There are two general categories of termite treatment, liquids and baits. Soilapplied liquid termiticides have been around for decades. Their purpose is to provide a long-lasting chemical barrier that excludes termites in the ground from entering buildings. In most cases, termites in the structure die off as well since they cannot return to the soil. Most former products were *repellent* rather than lethal to termites foraging in the soil. Newer materials such as Termidor® (fipronil), Premise® (imidacloprid) and Phantom® (chlorfenapyr) are *non-repellent*, and termites tunneling into the treatment zone are killed. Overall, the non-repellent products are proving to be much more reliable

in their ability to resolve problems in the first attempt. All registered termiticides (both repellent and non-repellent) can be effective, however, and homeowners should not base their purchasing decision on product alone.

The other broad treatment category is baiting. Termite baits consist of paper, cardboard, or other "termite-friendly" food, combined with a slow-acting substance lethal to termites. The baits are installed below ground out in the yard in cylindrical plastic stations. Others are sometimes placed indoors over active termite mud tubes. Foraging termites consume the bait and share it with their nest mates, resulting in a gradual decline in termite numbers. On some properties, baits may constitute the only form of treatment; on others, they may be combined with liquid applications to areas where termites are observed. Several baiting systems are available, including Sentricon®, ExterraTM, FirstLine ®, AdvanceTM, and Subterfuge®.

Termite baiting is a *very* complex subject. A detailed discussion of the considerations in having your home treated with baits versus liquids is provided in entomology extension publications, *Entfact-639: Termite Baits: A Guide for Homeowners*. (All four of our termite-related Entfacts are posted on the entomology department website). No matter which method or product is selected, it's important to have an experienced technician, backed by a responsible pest control firm.

Q: Does the entire house need to be treated... or can they "spot treat" areas where I see termites?

A: Subterranean termite colonies may contain hundreds of thousands of individuals foraging in many different directions. For the homeowner, localized or "spot" treatments are generally a gamble except in cases of retreatment. Most reputable pest control firms will not warranty spot treatments, since it's likely that termites will eventually find other points of entry into the structure.

Some companies may offer to do a so-called "perimeter" treatment using one of the non-repellent liquid termiticides (e.g., Termidor or Premise). Typically this will involve a thorough application around the entire outside foundation wall of the building, and spot-treating any infested or high-risk interior areas. If the homeowner is considering such a treatment, they should inquire whether it will be accompanied by a service agreement in case termites return. (Service renewal agreements usually state that if termites return, the company will return and retreat the affected areas at no additional charge provided the renewal agreement is maintained.) Purchasing any treatment approach is a bit of a gamble, unless the offer is accompanied by an ongoing service agreement.

Q: How long will the treatment last?

A: All liquid termiticides are supposed to control termites for at least five years when applied according to label directions. The *actual* length of control on a given structure will depend on such factors as thoroughness of the application, environmental conditions, and density of termites in the area. Should termites persist a year after treatment, it is usually because they have exploited an untreated gap in the chemical barrier.

Q: Will the chemicals harm my family or pets?

A: Termiticides are tested extensively for adverse effects on health. Before a product can be used, numerous studies are conducted by the manufacturer and independently evaluated by the U.S. Environmental Protection Agency. Based on the current body of knowledge, registered termiticides pose no significant hazard to humans, pets or the environment when applied according to label directions. Despite the negligible health risk from a properly performed termite treatment, people with lingering concerns should consult their physician. Most of the newer liquid products have essentially no odor. Clients who are still apprehensive may want to consider having their home treated with baits.

Q: Have I been "cheated" if termites continue to infest my house after treatment?

A: Not necessarily. Unlike other services such as plumbing or electrical work, termite control involves living creatures. The best treatments performed by knowledgeable firms may fail at times, when termites find their way through tiny, untreated gaps in the soil. While the *intent* is to establish a continuous, impenetrable chemical barrier, this is all but impossible to achieve in actual practice. In the case of baits, it may take several months for termites to initially find the bait stations in the soil, and several months more to achieve control. The key is to hire a reputable pest control firm employing experienced, conscientious technicians. Companies will return and retreat affected area(s) at no additional charge provided the service agreement is purchased and maintained.

Jee 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.

KPN—March 12, 2007 7



Cooperative Extension Service

University of Kentucky

Entomology
S-225 Ag. Science Center North
Lexington KY 40546-0091