



# KENTUCKY PEST NEWS

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## FRUITS

### CONSIDER TREE FRUIT COLLAR ROT CONTROL IN THE FALL

by John Hartman

Collar rot, (crown rot) caused by the soilborne fungus *Phytophthora cactorum* and also by *P. cambivora* and *P. cryptogea*, is an occasional, but serious problem in many Kentucky apple and peach orchards. It is especially severe on apple trees that are grown on Malling Merton 106 (MM106) rootstocks. The disease is most frequently associated with those areas of the orchard having heavy, poorly-drained soil. *Phytophthora* collar rot attacks the lower trunk just at or below the soil surface. One of the first indications of a collar rot problem is the production of reddish leaves in late summer. This is soon followed by general stress symptoms, which include poor terminal growth, small off-colored leaves, and numerous, small, brightly colored fruit. Cankers at the base of the main trunk can be recognized by the dark, sunken appearance of the bark; tissue beneath the bark has a dark brown to black marbled appearance. Trees are relatively resistant to infection while they are dormant.

Although near-normal soil moisture levels prevailed for much of the summer, July rainfall

totals were bolstered by occasional heavy rains in some regions. Periods of soil saturation promote root and collar rot diseases for two reasons: (1) saturated soil conditions are required for the production and movement of the infective fungal spores; and (2) lack of oxygen in saturated soils inhibits new root growth making it hard for trees to "grow out of" non-fatal attacks. Lack of oxygen may also actually increase the rootstock's susceptibility to the diseases.

Collar Rot Control: Site selection, rootstock selection, and good water management are the most important factors for control of collar rot. Orchard soils should be well-drained and leveled before planting. The apple rootstocks MM.106 and Ant.313 are particularly susceptible; M.4, M.7, M.26, Bud.490, P.18, and MM.111 are less susceptible, and M.9, Mark, Bud.118, Bud.9 and seedling are relatively resistant. However, these susceptibilities may vary with the *Phytophthora* species. Peaches are very susceptible. If collar rot occurs after trees are planted, improve drainage in the vicinity of the trunk, being sure water is not allowed to pool in a soil "saucer" around the base of the trunk. If subsurface drainage is a problem, the only solution may be the installation of drainage tile through the area in which trees are planted -- a task much more easily done before trees are planted!

In addition to good water management, fungicide applications are suggested for those areas of the orchard likely to have collar rot problems. Because these diseases occur so sporadically and the cost of chemical treatments is high, growers should consider only spot treatment of blocks with susceptible rootstocks growing in poorly drained areas. Chemical control can be an effective option, but must be applied before symptoms become obvious, because by then the tree is usually girdled.

Ridomil Gold EC (mefanoxam) is labeled for use on bearing apple and stone fruit trees. According to the label, Ridomil 2E can be applied to apples in the fall after harvest. Now is a good time to check the orchard for preliminary symptoms of collar rot (abnormally reddish leaves) and for chronic collar rot (smaller than normal, or somewhat yellowed leaves) or to determine areas of the orchard where trees are vulnerable. Remember that the fungicide will not revitalize trees showing moderate to severe crown rot symptoms. Notice that the application rates and instructions are different for apples and stone fruits. Aliette WDG is another fungicide registered for apple and stone fruit collar rot. Aliette is applied as a foliar spray and is normally used in spring and summer.

## **HOUSEHOLD**

### **CAMEL CRICKETS**

**By Lee Townsend**

Very long antennae and a sensational, if somewhat ungainly leaping ability, make these unusual creatures an unsettling sight in basements, garages, and crawl spaces. These crickets are active when it is dark and can start bounding for cover when a basement or garage light is turned on.

Their natural hangouts are in caves, hollow trees, or under stones and logs and other cool, dark, moist places. These insects, also called humpbacked crickets or cave crickets, usually enter at ground level but can be found through houses.

Control begins with reducing or eliminating outdoor breeding sites along or near the foundation. This includes removing woodpiles or debris that create the conditions which the crickets prefer. Next look at reducing humidity through installation of vapor barriers, vents, or dehumidifiers. Finally, make sure as much as possible is done to exclude them from

structures through door sweeps, caulking, and screening. These are long term strategies and the keys to ultimate solutions.

Properly used sticky boards, total release aerosols, or residual ant and roach killers can knock back populations but will not end the problem as long as the conditions that these insects like continue to exist.

### **A MOUSE IN THE HOUSE**

**by Mike Potter**

For householders, cold weather offers a reprieve from most insect pests. Not so in the case of mice. The house mouse is remarkably well-adapted for living year round in homes, food establishments and other structures. Homeowners are especially likely to notice mice during fall and winter, following their migration indoors in search of warmth, food and shelter. Once mice become established indoors, they can be extremely difficult to control.

#### Reasons To Control Mice

Although most people consider mice less objectionable than rats, mice are more common and cause significantly more damage. Mice are prolific breeders, producing 6 to 10 litters continuously throughout the year, with 4 to 7 young per litter. The greatest economic loss is not from how much these rodents eat, but what must be thrown out because of damage or contamination. Food, clothing, furniture, books, and many other items are contaminated by their droppings and urine or damaged by their gnawing. House mice gnaw through electrical wiring, causing fires, power outages, and equipment failures. Entire communication systems of corporations have been shut down as a result of their gnawing. Mice can also transmit diseases, most notably salmonellosis (bacterial food poisoning), when food is contaminated by infected rodent feces. Hantavirus, although rare in the Midwest, is an often fatal disease acquired through the urine, dropping, and nesting materials of field mice.

Mice often store large quantities of seeds, nuts, pet food, etc., behind walls, between floors, and in other concealed locations. This can lead to serious and difficult to control infestations of stored product insects.

#### Behavior Pertinent To Control

Mice are nocturnal creatures and may not be seen by the homeowner. The most obvious indicators of their presence are droppings (1/8- to 1/4 inch long, dark, and pointed at one or both ends), sounds of them running, gnawing or squeaking, or damage to stored food or materials used for nesting.

Compared to rats, mice forage only short distances from their nest, usually not more than 10-25 feet. When food and shelter are adequate, their foraging range may be only a few feet. For this reason, traps and other control devices must be placed in areas where mouse activity is most apparent. Mice prefer to travel adjacent to walls and edges, and are particularly fond of corners (another important point to remember when positioning control devices). Mice are very inquisitive and will investigate each new object placed in their foraging territory. Therefore, if control devices are not initially successful, try moving them to a different location.

Mice feed on a wide variety of foods but prefer seeds and cereal grains. They are also fond of nuts and sweets (a dab of peanut butter or piece of chocolate are excellent baits for snap traps). Dental floss or any soft, stringy material are also good baits for pregnant female mice foraging for nesting materials. Mice are "nibblers" and may make 20 to 30 visits to different food sites each night.

### Control Tactics

To control mice, you must "think like a mouse," keeping in mind the behavioral traits noted above. The best way to avoid rodent problems in buildings is to prevent their entry. Mice are able to squeeze through extremely small openings no wider than the diameter of a pencil (1/4-inch). Cracks and openings under entry and garage doors, around windows, vents, and where utility lines enter the structure should all be sealed (See Entfact 641- How to Pest-Proof Your Home).

Good sanitation and food storage practices are helpful in reducing problems with mice. Bird seed and pet food bags stored in the garage or basement are especially prone to infestation. Since weed seeds are a favored food and also serve as rodent harborage, weeds and unnecessary vegetation next to the foundation should be eliminated. However, because mice are able to occupy such small nesting areas and

survive on minute amounts of food, sanitation alone will not normally eliminate an existing infestation.

Other than calling a professional pest control firm, householders have two basic options available for ridding their premises of mice: 1) traps, or 2) toxic baits (rodenticides). Traps are generally preferred over rodenticides when you suspect only a small number of mice are present. Traps are less hazardous to use around children and pets. In addition, because mice are captured by the trap, they are not as likely to die in walls or other inaccessible areas and create odors. Snap traps are widely available and easy to use. Trapping efficiency can be enhanced by baiting the trigger with such foods as peanut butter, chocolate or raisins. Snap traps with an expanded, plastic trigger catch significantly more mice than non-expanded trigger designs. Snap traps should be oriented perpendicular to the wall, with the trigger end against the vertical surface.

Another very effective trap against heavy infestations of mice is the automatic, multiple-catch trap, available at most hardware and farm-supply stores. Mice enter these traps out of curiosity for new objects placed in their territory. One type of multiple-catch trap requires winding and flips mice into a holding chamber. Another model operates using the principle of a trap door. Both devices can capture and hold several mice before needing to be emptied. Multiple-catch traps can be oriented with the entrance hole either perpendicular or parallel to the wall.

Glue traps offer yet another trap option, but tend to be less effective than snap traps or toxic baits. Some mice, particularly the adults, tend to avoid gluey surfaces placed in their pathway. Moreover, mice caught at the edge of the board sometimes escape. Compared to snap traps, death is usually more prolonged (and inhumane), with the mouse dying of suffocation or trauma. Should the glue from a glue board contact the fur of a pet or the skin of a child, it can be removed with mineral or cooking oil.

Regardless of which type of trap is used, placements should be installed up against walls, behind objects and appliances, and in secluded areas where droppings, damage, and other signs of mice are evident. Since mice forage only short distances from their nests, optimum results are achieved with multiple placements as close to the mouse harborage as possible. The biggest mistake people make is using too few traps. Minor infestations in a garage or

basement typically call for about 6-12 traps; moderate infestations often require dozens. Traps and glue boards should be checked daily, and dead mice disposed of in plastic bags. Gloves should be worn when handling rodent carcasses to prevent any chance of disease spread.

Toxic baits, known as rodenticides, are also available for mouse control. Several formulations are available, containing seeds or grain as the attractant. They come packaged for use either in individual, sealed cellophane or paper packets, as loose bait, or molded into extruded blocks. Most rodenticides sold over the counter are anticoagulants containing brodifacoum, bromadiolone, chlorophacinone, diphacinone or warfarin as active ingredients. They kill by interfering with normal clotting of the rodents' blood, causing the rodent to die from internal bleeding.

Recommendations for effective bait placement are similar to those for traps. In addition, extreme care must be taken to position baits in areas inaccessible to children, pets, and wildlife. Dogs, in particular, will seek out and find baits placed in areas that are accessible. For optimal results and safer use, mouse bait should ideally be confined in an enclosed bait box, preferably one which is tamper resistant.

**SHADE TREES & ORNAMENTALS**

**WATER WOODY LANDSCAPE PLANTS TO PREVENT WINTER DRYING AND DISEASE**

**by John Hartman**

Water is important to trees and shrubs in the landscape any time of year. In fall before leaves turn color, deciduous woody plants are transferring carbohydrates from the green leaves to the twigs and branches for storage. This transfer of energy, so necessary for warding off future diseases, requires adequate moisture in the plant. Although soil water was adequate for much of the growing season in Kentucky, recent weather has become very dry. U.K. Ag Weather Center data indicate that the problem is worse in western Kentucky than in eastern parts of the state. In some locations, dogwoods, maples, honey locusts and other species are showing wilt and scorch symptoms and leaves are prematurely turning color and falling from the trees.

Soil moisture will also be needed later in the fall and in the winter. Fall and winter may be perceived as a

time of dormancy for woody plants, however, roots actually continue to grow and function as long as the soil temperatures are above the mid-forties Fahrenheit. Continued root growth, especially for newly set plants, will aid in establishment. This period of root growth activity typically lasts until well into December under our conditions.

When deciduous woody plants lack water going into the winter, they may be more susceptible to winter cold injury and to stress-related diseases such as cankers caused by

opportunistic fungi. Broad-leaved evergreen plants such as rhododendrons and magnolias are also threatened by opportunistic canker-causing fungi. Needled and broad-leaved evergreen plants could also be subject to winter drying and scorch if they go into the winter lacking soil moisture.

Rain is in the forecast for Kentucky during the middle part of this week. Monitor the amount that falls; if your region does not get at least one inch of rain this week, consider supplemental watering. If trees and shrubs are showing wilting symptoms now, water them as soon as practical. Mulch woody plants with organic mulches to help the soil retain moisture throughout the winter. Prevention of drought stress and winter drying of woody plants will aid in maintaining disease-free landscape plantings.

**INSECT TRAP COUNTS**

**UKREC, Princeton, KY, August 31-Sept 12**

True armyworm .....	5
Fall armyworm .....	34
Beet armyworm .....	0
Corn earworm .....	162
European corn borer .....	1
Southwestern corn borer .....	61

**UKREC, Princeton, KY, September 7-14**

True armyworm .....	6
Fall armyworm .....	3
Beet armyworm .....	0
Corn earworm .....	99
European corn borer .....	1
Southwestern corn borer .....	9

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