

# PLANT DISEASE AND INSECT ADVISORY



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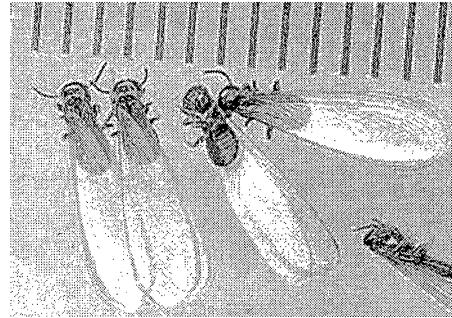
Vol. 1, No. 11

Website: <http://plants.okstate.edu/Pddl/advisory.htm>

May 8, 2002

## Oklahoma 2002 Termite Swarming Season Brad Kard, Structural and Urban Entomologist

**Swarming Season.** March, April, and May are the months when swarms of subterranean termites occur in Oklahoma. These flights consist of hundreds to thousands of mature reproductive 'king' and 'queen' termites. These are capable of initiating new colonies if they find a suitable environment after they land. Upon landing, a king and queen pair up and search for cracks and crevices in soil, old tree stumps, and in your home foundation and siding, or in other structures such as wooden sheds, barns, and other outbuildings. If they find a suitable habitat, the queen will begin to lay eggs. Fall swarming also occurs in September or October in Oklahoma, but this is not as consistent as spring swarming.



**Are Termites a Problem?** In the natural outside environment termites are beneficial and play an important role in recycling dead wood back to the soil, enhancing soil aeration, and improving soil nutrient levels. They are also an important part of the food web, as many animals including birds, reptiles, amphibians, mammals, spiders, and other insects, such as ants, feed upon swarmers. Termites only become a problem when they infest our wooden structures and damage or destroy the wooden components.

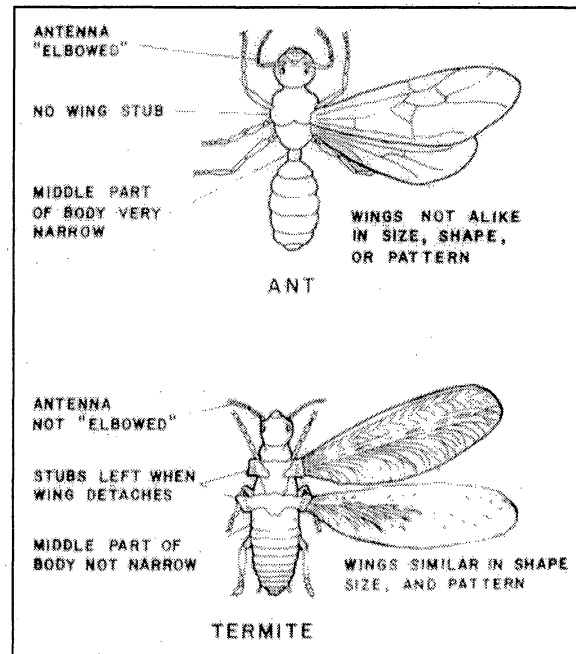
**Does Your Home Have Termites?** If you find termites flying around the outside of your home, this is normal as termites live in the soil throughout Oklahoma. However, swarming does indicate that substantial numbers of termites are in your yard and planter beds. This does not mean that your home is infested, although the presence of swarmers indicates that your home has a risk of becoming infested. If you find swarmers inside your home, then it is almost certain that you have an infestation (unless you left a window or door open and they flew in from the outside). Termites shed their wings after landing and then search for new hiding places. You may find hundreds of wings around window sills, door frames, or on table tops, without seeing the swarmers that have hidden themselves away.

**Inspecting for Termites and Termite Damage.** Termites require high humidity conditions for survival, so they construct mud tubes over concrete foundations and brick walls or wood siding as they forage for wood to eat. The mud tubes maintain humidity for foragers and protect them from predators. As termites forage and build mud tubes, they fill small spaces around window sills, door frames, baseboards, and other structural cracks and crevices with mud. They can also

forage through small cracks in a concrete floor or foundation. If wood is severely damaged, a small knife blade or screwdriver tip can easily be inserted directly through the wood surface and into the hollowed-out wood beneath. A small twist can reveal mud and termites immediately beneath the wood surface. The most likely place to find termite damage is in high humidity areas such as under kitchen or bathroom sinks, bath traps, or anywhere that water pipes are in the walls, although they have been found throughout a structure.

**Differences Between Termites and Ants.** Swarming termites and flying ants are both dark brown-to-black in color, so you must look at other body features to separate these two types of

insects. The three easiest features to use are the thickness of the waistline where the thorax attaches to the abdomen, the shape of the antenna, and the relative size of the two pair of wings. Ants have a noticeably constricted waist that connects the much wider abdomen and thorax. The waistline of a termite is not constricted and is the same width as the thorax and abdomen it connects. Ant antenna consist of smooth, long straight segments that angle sharply like a bent elbow about halfway up their length. Termites have straight, bead-like antenna like a small string of pearls and they do not elbow. The front pair of ant wings is obviously larger and longer than their short and relatively narrow back wings. Both the front and back pair of slender termite wings are the same size and shape, and extend well beyond the rear tip of their abdomen.



**Managing Termites and the Benefits of working with a Pest Control Company.** The first rule of termite management is sanitation. A homeowner should conduct a thorough external and internal inspection of their home, and if mud tubes are found they should be scraped off walls and siding. All pieces of wood and wood debris in the planter bed, dead shrubs, and any paper or cardboard that may be on the ground near the home should be removed. Wood-chip mulch placed against exterior walls can also harbor termites, and should be raked back six inches away from exterior walls. Firewood should not be placed against a house, and should be kept off the ground. A homeowner should ensure that water drains away from the house, that rain gutters are free of debris, and that downspouts direct water outward and away. Wet soil, and water around or under a house, creates conducive conditions for termite survival and proliferation. If sanitation and water problems are not first eliminated, then it is nearly impossible to manage and remove termites from a structure.

The primary methods of managing and killing termites in houses today consist of one or more strategies. First is the creation of a treated zone in the soil around your home using liquid insecticides (called termiticides) placed directly into the soil immediately adjacent to your home. The insecticides used to create these barriers have been proven effective in scientific field tests and are registered by the U.S. Environmental Protection Agency for this use. Baiting systems are also available and have been shown to be successful in several studies. Both termiticides and baits have proven effective. However, sometimes even the best strategies and treatments do not

solve a termite infestation problem, as no strategy or product has been demonstrated to work 100% of the time.

Termiticides provide immediate results but require an insecticide to be placed completely around your home. Baits require more time to work as foraging termites must find the bait station and consume the bait, but they require less insecticidal ingredient. Some homeowners have used both strategies simultaneously for extra assurance, but if one strategy is working well, then adding the second is a personal choice. Infested wood in a structure can be sprayed or injected with insecticide. This requires opening up walls or drilling holes through walls to reach infested areas. Damaged wood should be replaced with chemically-treated wood to prevent future damage.

Proper termite management treatments to a home require specialized tools and equipment, liquid pumps, hoses, and tanks, and extensive training on correct use and application of termiticides and baits, as well as other pest management products. Almost all termiticides and bait systems are sold only to licensed pest control companies for use by state certified applicators, and are not available to the general public. Generally, for a reasonable cost, local pest management professionals will inspect your home to determine the extent of an infestation, and develop a termite management plan. Their experience and expertise is of benefit to the homeowner, and a thorough inspection and management plan is invaluable.

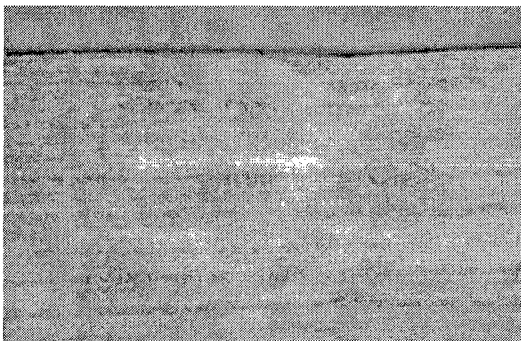
**Summary.** Termites in our homes and wooden structures are a serious problem in Oklahoma. Spring swarms alarm us and remind us of their presence. But with proper sanitation and water management practices, thorough inspections, and the choice of several effective termite management products, the problem can be solved in all but the most insidious infestations and structural problems. So, no need to panic, just assess the problem, decide on a plan, and be persistent in implementing your long-term war on termites.

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### **Wheat Disease Update**

**Bob Hunger, Extension Wheat Pathologist**

Last week certainly started my phone ringing, and although I did not get out of the Stillwater area, there are several things to report.

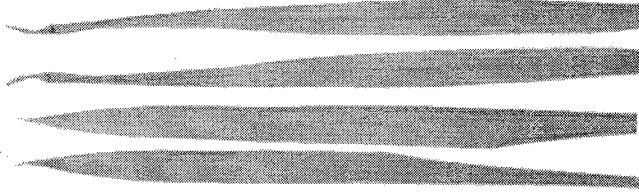


**Wheat leaf rust** is increasing around Stillwater, and I would suspect, around the state. I read hundreds of breeder plots for reaction to leaf rust at Stillwater on Friday (May 3<sup>rd</sup>), and had severities of 50-80 S (anywhere from 5-8 on a scale of 1-9) on susceptible lines. These included "Above", "TAM-107", "TAM-110", and "Chisholm". The variety "Above" was clearly the most susceptible of these. I only saw five or six leaves in all the plots I looked at that had infections with **wheat stripe rust**.

**Wheat streak mosaic virus (WSMV)** was confirmed in three samples received last week. These samples were from the Major/Garfield County area, and from around Lahoma. From the appearance of these samples, there will be little if any wheat to harvest if the entire field is the

same as the samples. Hence, it appears that conditions last fall were favorable for the vector of WSMV (the wheat curl mite) to occur further to the southeast into Oklahoma than it has for at least five or six years.

**Barley yellow dwarf virus (BYDV)** was confirmed from samples collected from around Stillwater and Perkins. BYDV certainly is widespread, with many of the plots I observed having discolored flag leaves (mostly yellow) starting at the tips and ragged height. Of course, there is nothing that can be done about the BYDV at this point, and the degree of damage will depend on the extent of the infection.



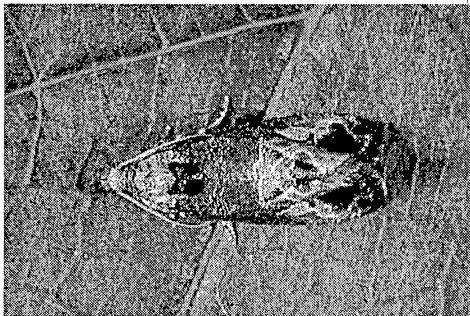
I sent six wheat heads to a pathologist at KSU at Hays to examine for "whitehead disease." Some of you may recall that 3 or 4 years ago some heads were appearing at a low incidence that were taller than surrounding heads and had an off-white or pale yellowish color. The flag leaves of these plants would be mottled with white stripes and/or spots. These also occurred in Kansas, where Dr. Dallas Seifers (KSU at Hays) studied them, and associated them with a pathogen, but I can't recall the exact story. I'll send a more complete description of this in my next update.

Tomorrow and Friday of this week I'll be traveling west and north of Stillwater and will send an update at the end of the week or next Monday.

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## Scouting for Grape Berry Moth Should Begin Soon

Phil Mulder - Extension Entomologist



Grape berry moths have been recovered in the three locations that we regularly monitor; Perkins, Luther and Stone Bluff. Degree day accumulations for anticipating the arrival of larvae are begun based on a "biofix", or the first capture of moths in pheromone traps. First capture at the first two locations occurred on April 14, while first capture at the other site was obtained about one week later. Based on the biofix, degree day accumulations for Perkins, Chandler, and Haskell stand at 357, 375 and 220, respectively.

Beginning at 400 degree days, growers should begin scouting the vineyard edges for evidence of grape berry moth larvae. A minimum of 100 clusters of grapes should be checked. If more than one larva is recovered from this sample then treatment should be initiated on the edge rows only. Between 400-700 degree days check grape clusters on the vineyard edge and use the aforementioned threshold. If the threshold is exceeded in the perimeter of the vineyard treat the perimeter at ten-day intervals until we reach 700 degree days. In mid-May, move the three traps to the center of the vineyard. When 1200 degree days are obtained, check 50 clusters of grapes on the edge and 50 clusters about 10 rows in, to see if the population is moving into the vineyard. If the threshold is exceeded then treat the entire vineyard.

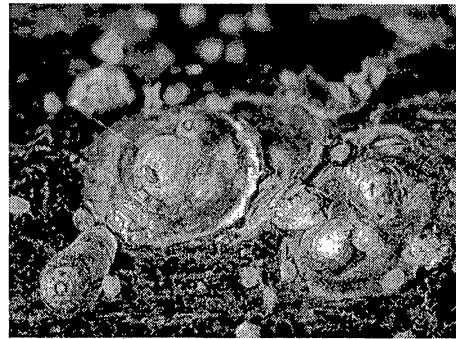
A third generation of grape berry moth is possible between 2400 and 2700 degree days, so vineyards need to be checked throughout the summer. Be careful about your insecticide choices, since some materials can eliminate beneficial organisms and cause other problems. If carefully timed, applications of *Bacillus thuringiensis* (Bt) can provide good control and not create a problem with flare-up of secondary pests. Two such products include Agree® and Dipel®. Classical insecticides include such products as Imidan, Guthion or Sevin.

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## **Time to Check for San Jose Scale and Grape Scale**

**Phil Mulder - Extension Entomologist**

Sometime in mid-May these two pests will begin to produce crawlers. Scouting for these insects should start now. Simply wrap strips of either double-sticky Scotch tape or black electrician tape coated with a strip of vaseline (along the center of the tape) around several scale-infested limbs. Twice weekly, look for small yellow crawlers on tape. The crawlers are about 1/32 of an inch long and difficult to see with the naked eye, so use a hand lens to inspect the tapes. Replace tapes after checking for crawlers. Keep trees protected as long as crawlers emerge (as long as you find them on the tape) in May. Crawler emergence usually lasts only about 2-3 weeks.



The best approach to protecting an orchard or vineyard from problems with scale is to prevent it from becoming established. This can be done by treating the site annually before bloom when buds are beginning to open and good spray coverage of the tree can be achieved. If infestations become heavy, particularly on older, large trees, the insects may get under bark scales or on top of high leader, where they are difficult to target. Additional sprays, possibly by hand gun, may be needed for a few years to reduce populations. Summer sprays directed at the crawler stage help protect fruit, but usually do not control infestations. For this reason, they are a supplement to the early-season spray, not a substitute.

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