



PLANT DISEASE AND INSECT ADVISORY

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What's the "To Do" for Tree Borer Control?

Tom A. Royer, Extension Entomologist

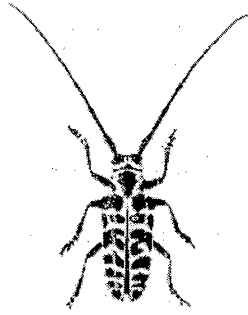
Blaine Yirsa, Extension Educator in Nowata County recently had an ag supplier ask him what could be done to control tree borers now that Dursban and lindane were no longer available for use. That question is a very timely one, and does not necessarily have a simple answer. To answer that question, I need to clear up some mystery about the availability of lindane and discuss "which" borers we are talking about.

Regarding the availability of lindane: it is still available for purchase, but it is nearly impossible to find a supply. Lindane has come under some controversy with regard to carcinogenicity, especially for use as a head lice treatment. There has been a very active, organized opposition to its use as a head louse control because of health and environmental concerns. The manufacturer quit producing lindane nearly two years ago; therefore supplies are very low. However, if a person has some lindane for borer control, it is still legal to use at this time. Dursban is no longer for sale to homeowners, but if a person has product, it can be used according to label as well.



Now we need to discuss borers. There are two major types of borers that attack trees, and they can be handled differently. The first type that I will discuss are the "clearwinged borers" which include the peachtree, lesser peachtree, ash/lilac borer and dogwood borers. The adults are clearwinged moths that are black with yellow or orange bands on the body, and they resemble some species of paper wasps. They overwinter in their tunnels as larvae, then pupate and emerge in late April through July. Eggs are deposited in

bark crevices. There is one generation per year, so control needs to be timed to get the hatching larvae. Usually 2-3 sprays spaced about two weeks apart are effective and should begin about 2 weeks after adult activity begins. There are a number of products that can be used for these borers. Azadiractin (Neem), carbaryl (Sevin), endosulfan (Thiodan) and permethrin (Astro) are labeled for control. For the homeowner, products that contain any of these active ingredients should be available. Look on the label for a specific active ingredient, and check the label to see if it lists one or several of these borers.



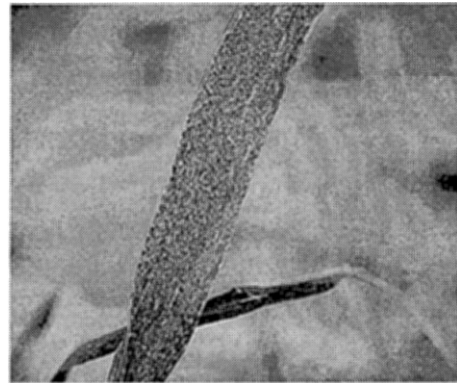
Beetle borers, which include the roundheaded, flatheaded, and shothole/bark beetles, are the next group to consider. Since the use of Dursban has been eliminated, the best product for control is probably Astro®, which contains the active ingredient permethrin. It is labeled for control of flatheaded appletree borer, and bronze birch borer. Imidacloprid is also registered for control (prevention) of these borers. It can be applied as a drench (Merit/Marathon®), or as a microinjection (Mauget Imicide®). Check the label for specific directions on use. The active ingredient bidrin can also be applied as a microinjection (Mauget Injecticide “B”®) which will control bronze birch borer, dogwood twig borer and sycamore borer.

Again, homeowners need to look for products that contain permethrin (Spectracide Bug Stop®) or imidacloprid (Bayer Advanced Garden Tree and Shrub Insect Control®). For more information on tree borers, check out F-7315, *Shade Tree Borers* (available on the web at: <http://agweb.okstate.edu/pearl/insects/home/f-7315.pdf>).

Stripe Rust or Leaf Rust - Which one will show-up on wheat this year?

Bob Hunger, Extension Wheat Pathologist

Although I have not heard any reports of rust on wheat in Oklahoma yet this year, I have received reports indicating that both stripe rust and leaf rust are present on wheat in southern Texas. According to Dr. Alan Fritz (wheat breeder at Kansas State University), leaf rust is heavier than normal, and stripe rust is at a higher level than it was this time a year ago. Recall that stripe rust requires cool temperatures (generally less than 70-75° F) and moist conditions for infection and development; hence, in Oklahoma we usually do not have much stripe rust. Leaf rust, which is a common disease in Oklahoma, has been sparse during each of the last two seasons. Although the severity of these diseases in Oklahoma can not be predicted, it does appear that inoculum for both diseases will be blown into Oklahoma this spring. Infection will then depend on host susceptibility and the weather. Jagger, which is the most commonly planted variety in Oklahoma, is susceptible to leaf rust but demonstrated good resistance to stripe rust in 2001. Varieties such as 2174 and Custer have good resistance to leaf rust but are mostly susceptible to stripe rust. A variety such as 2137 is fairly susceptible to both leaf and stripe rust. The take-home message is that producers should be sure to watch their wheat for the appearance of leaf or stripe rust to facilitate decisions regarding the possible application of a fungicide in the later spring.



PDIDL Lab Upgrade

Brian Olson, Extension Plant Pathologist

While a common tool in molecular research labs, the PCR (polymerase chain reaction) technique is finally showing its face in OSU Extension Plant Pathology. PDIDL has recently acquired PCR equipment that will be used for the rapid detection of plant pathogens, which will assist in diagnosing plant disease problems for Oklahoma agriculture.

The PCR technique is used to amplify short sequences of DNA. This allows the detection of very small amounts of a pathogen in a sample by amplifying pathogen sequences to a detectable level.

With traditional methods in plant disease diagnosis, identifying certain bacterial and fungal pathogens often takes days and may require selective media for cultures. The PCR technique, however, can be used to identify plant pathogens within a few hours.

Currently, PDIDL is working to establish a PCR assay for the detection of the aphid-transmitted Luteoviruses, which include the Barley Yellow Dwarf Viruses found in Oklahoma wheat every year. Assays for other plant pathogens will be developed on an as needed basis.

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