



## Bug-Wise

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Office: 1-662-325-2085

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**Asian Ambrosia Beetle (AAB):** First detected in the US in 1974, this wood-boring beetle has become established as an important, though sporadic, pest of trees in both the home landscape and in commercial nurseries. Like most tree borers, AAB (*Xylosandrus crassiusculus*) is attracted to stressed or injured trees, as well as newly cut wood, but it will also attack apparently healthy trees, especially trees or limbs less than 3 inches in diameter. **Attacks are usually fatal** because the beetle inoculates its galleries with a fungal disease, which grows within the tree and provides food for the larvae.

AAB is just one of many species of shot-hole borers that occur in Mississippi, but it is certainly one of the most aggressive and most damaging species. Trees being attacked by AAB are often easy to identify because of the tightly packed, **toothpick-sized columns of frass that project from the point of entry**. These may be either straight or curve downward, and may be up to three inches long. Rain and wind will eventually cause these to break off, leaving only birdshot-sized, frass-packed entrance holes.

AAB will attack many different species of trees. However, it seems to be particularly fond of species that are relatively smooth-barked, especially if they are growing in containers or have been recently transplanted. Some of the species that we see it in most commonly are: Bradford pear, fig, crape myrtle, magnolia, and pecan, but it is known to attack many other species of hardwood trees, including peach and other *Prunus* species, as well as some woody vines. Attacks to nursery stock seem to be more common in the spring of the year, but there are several generations per growing season. However, healthy trees seem to be most liable to attack during the spring, before leaves are fully expanded. Once AABs initiate an attack on a tree, they release a pheromone that attracts other AABs to the tree.

What can be done to prevent or control AAB? First, as with all wood-boring insects, keeping trees healthy and free of stress aids greatly in reducing the likelihood of attack (This is true despite the fact that AAB can and will successfully attack apparently healthy trees). Still, newly transplanted trees and containerized plants growing in nurseries are stressed to some degree, even when under the best of care, and these are some of the more frequent victims of AAB. Trees that are under heavy attack should be promptly removed and burned, or otherwise destroyed in order to prevent infestation of nearby trees, and trunks of nearby trees can be treated with insecticide. The objective of such treatments is to provide an insecticide barrier on the bark that kills the beetles before they are able to bore into the trunk and deposit eggs. When applied in late winter, trunk sprays may help protect susceptible nursery stock and newly transplanted trees from early spring attacks.

Treatment options for AAB are limited, and there is currently a lot of confusion in the labeling of these products as to 'who can apply what, where'. Some products are labeled for use in the landscape, but not in nurseries, while others may be used in nurseries, but not in home landscapes. Some are labeled for use in home landscapes, but only by licensed professionals, and may not be used in nurseries. Be sure to read and follow labels carefully.

There are several brand names of **permethrin** that are available to homeowners and are labeled for use as **trunk sprays** to aid in control of wood-boring insects. (Astro is one example, and it is one of the few permethrin labels that allows a high enough rate to be useful.) However, because the residual control provided by permethrin may not last all season, repeated treatments may be necessary. When using these treatments be sure to use the maximum rate allowed on the label in order to maximize residual control. The maximum rate for Astro, which is 36.8% permethrin, is 5 quarts per 100 gallons. Another, longer-lasting trunk treatment that has just become available for use in the landscape is a product called Onyx (active ingredient is **bifenthrin**). Onyx is not labeled for use by homeowners, but it can be applied in home and commercial landscapes by properly licensed commercial applicators. Therefore, **homeowners who wish to use Onyx will need to hire a professional applicator to make the treatments**. Note that the current Onyx label does not specifically list AAB as one of the pests that it controls. However, it does list ‘wood-boring beetles’ and available data indicate that this product provides relatively long-term protection against several other wood-boring beetles. **Onyx is not currently labeled for use in nurseries**. Currently, the most promising product for use in nurseries is Dursban (chlorpyrifos), which is no longer labeled for use by homeowners.

**Control Tomato Pests:** The following table list the active ingredients recommended for control of some of the more common insect pests of tomatoes in the home garden. Numbers shown in parenthesis are the pre-harvest intervals. Always read and follow pesticide labels.

**Insecticides for control of insect pests in home grown tomatoes**

Pest	Insecticide (Pre-harvest interval)
tomato fruitworm tomato hornworm	B.t. kurstaki (0), carbaryl (3), cyfluthrin (1), cyhalothrin (5), endosulfan (1), esfenvalerate (1), malathion (1), permethrin (1), pyrethrins (0), spinosad (1)
loopers	B.t. kurstaki (0), spinosad (1)
stink bugs leaf-footed bugs	carbaryl (3), cyfluthrin (1), cyhalothrin (5), malathion (1), permethrin (1), pyrethrins (0), endosulfan (1)
spider mites	dicofol (2), malathion (1), insecticidal soap (1), neem oil (NA)
thrips	carbaryl (3), cyfluthrin (1), cyhalothrin (5), esfenvalerate (1), malathion (1), permethrin (1), pyrethrins (0) , spinosad (1)
whiteflies	insecticidal soap (1), neem oil (NA), insecticidal oil ( ), endosulfan (1)
leafminers	dimethoate (7), spinosad (1)
aphids	insecticidal soap (1), neem oil (NA), malathion (1), dimethoate (7), pyrethrins (0), endosulfan (1)

This information is for preliminary planning purposes only. Always read and follow label.