

Granulate Ambrosia Beetle

(*Xylosandrus crassiusculus* (Mot.))

Description:

Immature stages – Immatures are developed inside the heartwood region of the tree, feeding on the fungus they farm.

Adult stages – Adult females are about 2.5 mm. Females can readily fly, males are flightless and do not emerge from the home gallery.

Biology:

Life Cycle – In late winter and early spring, adult beetles emerge and begin attacking trees, especially when they are young and/or stressed. Young females mate with male siblings within carved galleries. Except for adults, the egg, larval and pupal stages occur within the tree/shrub. Mated females leave the host trees seeking new trees to invade and lay eggs.

Damage to Crop:

GAB, previously known as Asian ambrosia beetle, is a major pest of woody ornamental and fruit trees in Georgia. Highly susceptible trees include Styra, dogwood, redbud, maple, ornamental flowering cherry, Japanese maple, crapemyrtle, pecan, peach, apple, plum, persimmon, golden rain tree, sweetgum, Shumard oak, Chinese elm, magnolia, fig, Rhododendron and azalea. Female beetles commonly attack trunks of young trees and shrubs. They bore through inner bark and softwood, settling into heartwood of trees where they carve galleries and lay eggs. Adults introduce symbiotic “ambrosia” fungi into galleries as a food source of developing larvae. Symptoms of active infestation include “toothpicks” or strings of sawdust pushed out of tiny pinholes bored into bark. Trees severely infested will show stunted growth, delayed leaf emergence in spring and have premature defoliation. Attacks on nursery trees or newly transplanted trees are often fatal. Once infested, trees can serve as breeding sites for future infestations.

Management:

Trees otherwise healthy can withstand low levels of infestation. Timely irrigation, adequate fertilization and well drained soils will help keep trees/shrubs healthy. Pay attention to irrigation needs during summer and fall drought periods to minimize tree stress. Avoid mechanical wounding of trees. Once adult beetles bore through bark, insecticide control options are limited. Beetles do not ingest wood during boring, which further minimizes insecticide options, even if using systemic products. Pyrethroid insecticides, such as permethrin or bifenthrin, can be used preventatively to repel females or as a rescue treatment if applied quickly after attack is initiated. Thus, monitoring for adults can help with making timely insecticide applications. Set out simple alcohol-based traps or cut hardwood segments, called bolt traps, that are 2-4 inches in diameter



Larvae



Adult Beetle



Damage: characteristic “toothpicks”

and 2 feet long. Drill a half-inch hole down center of the bolt as deep as possible, fill with ethyl alcohol (greater than 70%) and close using stopper cork. Isopropyl alcohol (rubbing alcohol) will not work. Hang traps or bolts along woodland border of a nursery at waist height to determine beetle emergence/activity. Sawdust toothpicks will begin to appear on the bolts once infested. If practical, spray entire nursery with pyrethroid insecticide as preventative. If individual trees are found to be infested, immediately target spray on trunk. Insecticide application will not provide total control. Reapply insecticide at frequent intervals (according to label) until spring green-up is complete in areas where the beetle pressure is moderate to severe (greater than 10 holes).

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