

Home and Horticultural PESTS

Borers Management and Prevention

Insecticidal practices for borer management and prevention

Insecticides can be used before or after signs of trouble, but the latter is most often the case. Usually borer activities become evident when sick trees prompt close-up inspection. Holes indicate the exit of adult borers from trees damaged by larvae. Even if the next generation of larvae is actively feeding, insecticide sprays applied to the tree's exterior are

not effective in killing borer larvae protected within. Insect debris may prompt an attempt to kill larva by forcing insecticide through the opening and into the borer tunnel. But this tactic does little to restore an already damaged tree. Instead, systemic insecticides such as those listed below might be used to try and eliminate actively feeding borer larvae.

Trunk and branch spray treatments

Anti-borer insecticides are best suited for proactive rather than reactive use. Insecticides can be sprayed directly onto trunks and larger limbs. It is important to achieve thorough coverage. Insecticides must penetrate into bark cracks and crevices where eggs may have been deposited and from which larvae bore into trees immediately after they hatch. Egg-laying can be reduced or eliminated when beetles

chewing egg niches in the bark succumb to ingested spray residues on the bark.

To apply treatments in a timely manner, identify the borer species to be controlled. Protective sprays must be applied before adult borers emerge. Re-treatments can ensure protection through the period of adult activity. Consider the following active ingredients for preventative spray treatments:

Active Ingredient	Trade Name	Use Site	Pest Species
bifenthrin	Onyx (commercial)	trunk sprays to ornamental trees	bark beetles and engraver beetles, clearwing moth borers, coleopteran borers (bronze birch borer and flat-headed appletree borer)
carbaryl	Sevin	trees and ornamentals	locust borer
permethrin	Astro (commercial)	ornamental trees	clearwing moth borers, bark beetles and coleopteran borers (bronze birch borer and flatheaded appletree borer)
	Hi Yield Indoor Outdoor Broad Use Insecticide (homeowner) <i>or</i> Hi Yield Lawn, Garden, Pet, & Livestock Insect Control (homeowner)	ornamental trees and shrubs	bark beetles and boring insects

Systemic treatments

Certain active ingredients can be transported through trees' vascular systems. Sufficient soil moisture is essential to ensure efficient and thorough movement of systemic insecticides within treated trees. Not all trees have vascular

systems adequate for transport, so application of a systemic insecticide does not automatically confer total protection.

Trunk injections are applied by commercial applicators for controlling certain borer species. These include:

Active Ingredient	Trade Name	Use Site	Pest Species
abamectin	Vivid II	noncrop nuts and fruits	flatheaded borers, engraver beetles
acephate	Dendrex	woody ornamental trees and shrubs	bronze birch borer
dicrotophos	Inject-A-Cide-B	birch dogwood ornamental stone fruits	bronze birch borer dogwood borer lesser peachtree borer
imidacloprid	IMA JET	residential, commercial and interiorscape trees and shrubs	flatheaded borers, longhorned borers
	Imicide	ornamental trees	flatheaded borers, cottonwood borers, and eucalyptus longhorned borers
	Pointer	ornamental trees	flatheaded borers
metasystox-R	Harpoon	cedar juniper pines	bark beetles bark beetles flatheaded borers, engraver beetles

Soil injections and drench treatments use the active ingredient imidacloprid, which is marketed under various trade names. Commercial applicators are most familiar with the product trade name Merit. Merit is applied using soil injectors and a grid, circle, or basal system injection pattern, or as

soil drenches to entire root systems beneath trees. Marketed to homeowners as tree and grub insect control, imidacloprid can be applied by using a watering can or bucket to pour the insecticide mixture into the soil around the base of tree. Procedures for use are specified on product labels.

Author

Robert Bauernfeind, Entomologist

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available on the World Wide Web at: www.oznet.ksu.edu

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. Robert Bauernfeind, *Borers: Management and Prevention*, Home and Horticultural Pests, MF-2736 Kansas State University, November 2006.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2736

November 2006

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Fred A. Cholick, Director.