

# Micro-Injection of Systemic Insecticides into Trees

Systemic insecticides, used as foliar sprays, soil drenches and granular applications to trees for control of a number of important pests, are not new.

Several companies have been developing various methods of injecting these same systemic insecticides directly into the trunk of trees to allow the vascular transport system to distribute the pesticide throughout the plant.

Some of these injection systems use 3/8-inch to 1/2-inch holes for injecting or implanting capsules. Recent evidence indicates that these larger diameter holes may not heal rapidly on some species of trees. Therefore, these techniques should probably be avoided.

Other injection systems use much smaller injection holes, "micro-injection," which seem to heal more rapidly. The following two systems are nationally available:

## Mauget System -

The J. J. Mauget Company, 5435 Peck Road, Arcadia, CA 91006 (<http://www.mauget.com>) provides a micro-injection system which uses prepacked plastic containers which can be compressed to provide internal pressure. An 11/64-inch drill bit

is used to make holes in the tree trunk and a microinjector tube is inserted. The compressed container is then attached and the pesticide is injected into the tree vascular system. Mauget provides the following products:

### Inject-A-Cide B (Contains Bidrin)

Host	Pest
Ash	aphids leafhopper
Birch	aphids bronze birch borer gypsy moth birch leafminer
Flowering crabapple (Noncrop)	eastern tent caterpillar
Dogwood	dogwood twig borer
Elms	aphids European elm scale elm leaf beetle
Black gum	gypsy moth
Hackberry	nipple gall psyllid hackberry psyllid
Linden	aphids
Locust	aphids leafhopper
Maples (non-crop)	aphids gypsy moth
Oaks	aphids goudy and oak gall wasps gypsy moth obscure scale pit-making scale sycamore borer (=American plum borer)
Pines	European pine sawfly pine spittlebug spider mites
Flowering stone fruits (Non crop)	lesser peachtree borer
Sycamore (Plane tree)	sycamore borer (=American plum borer)
Willow	aphids

### Inject-A-Cide (Contains Metasystox-R)

Host	Pest
Cedars	bark beetle
Cottonwoods	aphids
Cypress	bark beetles mites
Douglas-fir	cone moths engraver beetle
Elms	elm leafbeetle
Juniper	bark beetle
Pines (Except pinon)	engraver beetle (5 spined) engraver beetle (Monterey) flathead borer red turpentine beetle black turpentine beetle mites Nantucket pine tip moth pine needle aphid pine needle scale
Redwood	bark beetle mites needle scale
Spruce	adelgids
Walnuts and pecans (Non bearing)	aphids mites
Willow	aphids

### Imicide (Contains Imidacloprid)

Host	Pest
Ornamental Trees	adelgids aphids elm leaf beetle Japanese beetle lace bugs leafhoppers leafminers mealybugs pine tip moth larvae scale insects thrips whiteflies

### Abacide (Contains Abamectin)

Host	Pest
Ornamental Trees	elm leaf beetle fall webworm sycamore lace bug leafminers spider mites

## Micro-Injection -- (continued)

### Tree Tech Microinjection Systems -

The Tree Tech microinjection systems, a Division of Florida Silvics, Inc., 950 S.E. 215th Ave., Morriston, FL 32668 (<http://www.treetech.net>) has developed a micro-injection system

which uses prepacked plastic containers which can be compressed to provide internal pressure. A 3/16-inch drill bit is used to make holes in the tree trunk and a tip with container is inserted. A tap with a mallet seats the tip and compresses the container.

#### Dendrex (Contains Acephate)

Host	Pest
Trees and Shrubs (except flowering crabapple, see below)	aphids bagworms birch leafminer boxelder bugs bronze birch borer budworms cankerworms casebearer coneworms Douglas-fir tussock moth elm leaf beetle larvae gypsy moth larvae Japanese beetle lace bugs leafrollers Nantucket pine tip moth larvae pine needle miner root weevil adults sawflies scale crawlers thrips whiteflies Zimmerman pine moth
Flowering crabapples	aphids tent caterpillars leafrollers

#### Vivid (Contains Abamectin)

Host	Pest
Ornamental Trees	elm leaf beetle fall webworm sycamore lace bug leafminers spider mites

#### Harpoon (Contains Metasystox-R)

Host	Pest
Cedars	bark beetle
Cottonwoods	aphids
Cypress	bark beetles mites
Douglas-fir	cone moths engraver beetle
Elms	elm leafbeetle
Juniper	bark beetle
Pines (Except pinon)	engraver beetle (5 spined) engraver beetle (Monterey) flathead borer red turpentine beetle black turpentine beetle mites Nantucket pine tip moth pine needle aphid pine needle scale
Redwood	bark beetles mites needle scale
Spruce	adelgids
Walnuts and Pecans (non-bearing)	aphids mites

### ArborSystems LLC -

ArborSystems LLC is located at P.O. Box 34645, Omaha, NE 68134. They use a hypodermic needle type of

injection system called the Wedgle™. This system does not use drills or drill bits to insert the injections.

#### Pointer (Contains Imidacloprid)

Host	Pest
Ornamentals & Interior Plantscapes	adelgids aphids elm leaf beetle larvae Japanese beetle lace bugs leafhoppers mealybugs scale insects thrips

#### Greyhound Insecticide (Contains Abamectin)

Host	Pest
Ornamentals & Interior Plantscapes	elm leaf beetles lace bugs