

Landscape & Ornamentals

Department of Entomology

HOME LANDSCAPE AND NURSERY INSECTICIDES

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Recently, several commonly used insecticides for the control of insects on woody landscape plants have been taken off the market. As a result, it's becoming difficult for homeowners and landscape professionals to find suitable insecticide products at garden centers, discount stores, and hardware stores.

The listing of active ingredients in this publication will help identify some of the registered products that may replace pesticides that are no longer available. Most pesticides in this list are available to homeowners in products sold at retail home and garden centers. **Pesticide brand names labeled in bold are marketed to landscape professionals and available at commercial supply houses.**

Please be sure to note the product names carefully because several products have similar names. Make sure you check that the active ingredient on the product label is what you're looking for.

Insecticides That Are Being Phased Out

Tree and shrub insecticides that have lost their registration include bendiocarb (Turcam), chlorpyrifos (Dursban), diazinon, dimethoate (Cygon), endosulfan (Thiodan), and Lindane. EPA is phasing out the use of these materials due to safety concerns. Approved disposal methods include using the product according to label directions or disposing of them during local toxic waste collection days in your community.

Always be sure that the PEST you want to control is on the pesticide label for the LOCATION you are planning to treat. Be advised that some manufacturers have separate labels for residential and production uses.

The following list of active ingredients in products registered for controlling pests is likely to change over time. Pesticide brand names are in parentheses. Inclusion in or exclusion from this list does not constitute a claim about product effectiveness. This is not a complete list of brand names. **Please refer to related bulletins for more detail on the biology and recommendations for controlling each pest at the following website.**

[<http://extension.entm.purdue.edu/topics/landscape.php>](http://extension.entm.purdue.edu/topics/landscape.php)

Aphids

- Acephate (Orthene, Isotox)
- Azadirachtin (Azatrol, and other Neem Products)
- Bifenthrin (Ortho Home Defense, **Talstar**)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Dinotefuran (Safari)
- Disulfoton (Bonide Systemic, Hi-Yield Di-Syston)
- Dormant oil (Ortho, Fertilome)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Oil (Ultra fine) – summer spray
- Permethrin (several products)
- Pymetrozine (**Endeavor**)
- Pyrethrin (several products)
- Pyriproxifen (**Distance**)

Borers and Bark Beetles (emerald ash borer, birch, pine, lilac, linden, peach tree, shothole, twolined, longhorned)

- Bifenthrin (Ortho Home Defense, **Talstar**, Onyx)
- Dinotefuran (Safari)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control) - (**Note:** this does not kill moths borers like ash, lilac, and peach tree borers)
- Permethrin (Hi-Yield 38 Plus and others)

Caterpillars

- Acephate (Orthene, Isotox)
- Bifenthrin (Ortho Home Defense, **Talstar**)
- Bacillus thuringiensis (Thuricide, Dipel)
- Carbaryl (Sevin)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Permethrin (several products)
- Pyrethrin (several products)
- Spinosad (**Conserve**, Fertilome, and Bulls-Eye BioInsecticide)
- Tebufenozide (**Confirm**)

Galls (Cooley Spruce, and others)

- Acephate (Orthene, Isotox)
- Bifenthrin (Ortho Home Defense, **Talstar**)
- Carbaryl (Sevin)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Oil (Ultra fine) – summer spray

Leaf Chewing Beetles (Japanese beetle, elm flea weevil)

- Acephate (Orthene, Isotox)
- Azadirachtin (Safer's Brand Neem)
- Bifenthrin (Ortho Home Defense, **Talstar**)
- Carbaryl (Sevin)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Dinotefuran (Safari)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Disulfoton (Bonide Systemic, Hi-Yield Di-Syston)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Lambda cyhalothrin (**Scimitar, Battle**)

Leafhoppers, Plant bugs, Lacebugs

- Acephate (Orthene, Isotox)
- Azadirachtin (Azatrol, and other Neem Products)
- Bifenthrin (Ortho Home Defense, Talstar)
- Carbaryl (Sevin)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Disulfoton (Bonide Systemic, Hi-Yield Di-Syston)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Permethrin (several products)
- Pyrethrin (several products)

Leafminers

- Abamectin (**Avid**)
- Acephate (Orthene, Isotox)
- Carbaryl (Sevin)
- Dinotefuran (Safari)
- Disulfoton (Bonide Systemic, Hi-Yield Di-Syston)
- Fenoxycarb (**Precision**)
- Imidacloprid – must apply early for systemic effect (Bayer Advanced Tree & Shrub Insect Control)
- Permethrin (several products)
- Spinosad (**Conserve**, Fertilome, and Bulls-Eye BioInsecticide)

Mites (rust-mites, spider mites)

- Abamectin (**Avid**)
- Bifenazate (**Floramite**)
- Bifenthrin (Ortho Home Defense, Talstar)
- Clofentazine (**Ovation**)
- Dormant oil- not effective on all mites
- Fenbutatin oxide (**Vendex**)
- Hexythiazox (**Hexagon**)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Pyradiben (**Sanmite**)
- Oil (Ultra fine) – summer spray

Sawflies (elm, pine, mountain-ash, pear slug, rose, slug, viburnum)

- Acephate (Orthene, Isotox)
- Azadirachtin (Safer's Brand Neem)
- Bifenthrin (Ortho Home Defense, Talstar)
- Carbaryl (Sevin)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Oil (Ultra fine) – summer spray
- Permethrin (several products)
- Pyrethrin (several products)
- Spinosad (**Conserve**, Fertilome, and Bulls-Eye BioInsecticide)

Scales (armored, soft and mealybugs)

- Acephate (Orthene, Isotox)
- Bifenthrin (Ortho Home Defense, Talstar)
- Buprofezin (Talus)
- Carbaryl (Sevin)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Dormant oil
- Dinotefuran (Safari)
- Esfenvalerate (Ortho Bug-B-Gone Multipurpose Spray)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Insecticidal soap (Safer's, Concern)
- Lambda cyhalothrin (**Scimitar, Battle**)
- Oil (Ultra fine) – summer spray
- Permethrin (several products)
- Pyriproxifen (**Distance**)

Thrips (western flower, daylily)

- Abamectin (**Avid**)
- Acephate (Orthene, Isotox)
- Bifenthrin (Ortho Home Defense, Talstar)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Dinotefuran (Safari)
- Fluvalinate (Zoecon Yardex Insecticide, **Mavrik**)
- Lambda cyhalothrin (Scimitar, Battle)
- Novaluron (Pedestal)
- Permethrin (several products)
- Spinosad (**Conserve**, Fertilome, and Bulls-Eye BioInsecticide)

List of Publications

E-11-W	Mimosa Webworm
E-24-W	Boxelder Bugs
E-25-W	The Elm Leaf Beetle
E-27-W	Bagworms
E-29-W	Scale Insects on Shade Trees and Shrubs
E-33-W	Managing Insect Pests of Nut Trees
E-40-W	Zimmerman Pine Moth
E-42-W	Spider Mites on Ornamentals
E-45-W	Slugs in Homes, Gardens, and Greenhouses
E-47-W	Periodical Cicada of Indiana
E-50-W	Bronze Birch Borer
E-56-W	Galls on Shade Trees and Shrubs
E-61-W	Turfgrass Insect Management
E-70-W	Flower Garden Pests
E-75-W	Japanese Beetles in the Urban Landscape
E-85-W	Common Tree and Shrub Pests
E-110-W	Western Flower Thrips
E-111-W	Fungus Gnats and Shoreflies
E-213-W	Developing an Integrated Pest Management Program for Nurseries
E-214-W	Asian Lady Beetle
E-221-W	Home, Landscape, and Nursery Insecticides
ID-217-W	Crabapples Resistant to Apply Scab and Japanese Beetle in Indiana
B-504	Insect and Mite Control on Woody Ornamentals and Herbaceous Perennials. This publication is by Dave Shetlar, Extension Landscape Entomologist, The Ohio State University.

Visit our Emerald Ashborer site: <<http://extension.entm.purdue.edu/EAB/>>

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READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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