



Ornamentals & Turf

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.

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://www.entm.purdue.edu/entomology/ext/targets/e-series/ornament.htm>>

Aphids

- Acephate (Orthene, Isotox)
- Azadirachtin (Safer's Brand Neem)
- Bifenthrin (Ortho Home Defense, **Talstar**)
- Cyfluthrin (Bayer Advanced Garden Multi-Insect Killer)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Disulfoton (Bonide Systemic, Hi-Yield Di-Syston)
- Dormant oil (Ortho, Fertlome)
- 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 (ash, birch, pine, lilac, linden, peach tree, shothole, twolined, longhorned)

- Bifenthrin (Ortho Home Defense, **Talstar**)
- Imidacloprid (Bayer Advanced Tree & Shrub Insect Control)
- Permethrin (several products)

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**, Fertlome, 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 beetles (Japanese beetle)

- 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**)
- 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 (Safer's Brand Neem)
- 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)
- 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**)
- Carbaryl (Sevin)
- Deltamethrin (Delta-Eight, Enforcer, **Deltagard**)
- Dormant oil
- 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)
- Permethrin (several products)
- Spinosad (**Conserve**, Fertilome, and Bulls-Eye BioInsecticide)



List of Publications

- E-11-W Mimosa Webworm (Revised 4/2002)
- E-24 Boxelder Bugs (Revised 4/2000)
- E-25 The Elm Leaf Beetle (Rerun 2/1996)
- E-27-W Bagworms (Revised 4/2002)
- E-29-W Scale Insects on Shade Trees and Shrubs (Revised 4/2002)
- E-33 Managing Insect Pests of Nut Trees (Revised 3/2000)
- E-40-W Zimmerman Pine Moth (Revised 4/2002)
- E-42-W Spider Mites on Ornamentals (Revised 4/2002)
- E-45 Slugs In Homes, Gardens, and Greenhouses (Revised 6/1997)
- E-47-W Periodical Cicada of Indiana (Revised 5/2002)
- E-50-W Bronze Birch Borer (Revised 4/2002)
- E-56 Galls on Shade Trees, and Shrubs (Revised 6/2001)
- E-61 Turfgrass Insect Management (Revised 8/2001)
- E-70 Flower Garden Pests (Revised 4/2000)
- E-75-W Japanese Beetles in the Urban Landscape (Revised 6/2002)
- E-82 Common Tree and Shrub Pests (Rerun 10/1993)
- E-110 Western Flower Thrips (New 8/1993)
- E-111 Fungus Gnats and Shoreflies (Rerun 3/1995)
- E-213 Developing an Integrated Pest Management Program for Nurseries (New 10/1997)
- E-214-W Asian Lady Beetle (Revised 10/2002)
- E-221-W Home, Landscape, and Nursery Insecticides (New 2/2003)
- ID-217-W Crabapples Resistant to Apple Scab and Japanese Beetle in Indiana (Reviewed 2/2003)
- 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

All of these publications are available on the following website:

<<http://www.entm.purdue.edu/entomology/ext/targets/e-series/ornament.htm>>

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