

# FLOWERS

## HOMEOWNER OUTDOOR INSECT CONTROL

Ronald D. Oetting and Will Hudson, Extension Entomologists

PEST	INSECTICIDE AND FORMULATION*	AMOUNT FORMULATION PER GALLON SPRAY	REMARKS AND PRECAUTIONS
Aphids	acephate		Follow label directions.
	bifenthrin		Follow label directions.
	cyfluthrin		Follow label directions.
	disulfoton		Follow label directions
	pyrethroids	Ready to use and concentrate	Follow label directions.
	imidacloprid		Follow label directions.
	insecticidal soap	1-2%	Thorough coverage necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5-7 day intervals.
	horticultural oils	1-2%	Follow label directions.
	pyrethrum		Follow label directions.
	resmethrin		Follow label directions.
Beetles (foliage feeding such as Japanese beetle, Elm leaf beetle)	carbaryl (Sevin) 50WP	2 Tbs.	Apply to foliage when injury first noted.
	disulfoton		Follow label directions
Caterpillars such as Armyworms, Cutworms and Loopers	acephate		Follow label directions.
	bifenthrin		Follow label directions.
	<i>Bacillus thuringiensis</i> (Dipel, Thuricide)		Follow manufacturer's suggestions.
	bifenthrin	ready to use	Follow label directions.
	carbaryl (Sevin) 50WP	2 Tbs.	
	cyfluthrin		Follow label directions.
	pyrethroids	ready to use and concentrate	Follow label directions.
Mealybugs	acephate		Follow label directions.
	bifenthrin		Follow label directions.
	bifenthrin 0.012%	ready to use	Follow label directions.
	cyfluthrin		Follow label directions.
	imidacloprid		Follow label directions.
	insecticidal soap	1-2%	Thorough coverage necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5-7 day intervals.
	horticultural oil	1-2%	Coverage important, spray must contact pest.
	pyrethroids	ready to use and concentrate	Follow label directions.
Plant bugs Leafhopper	acephate		Follow label directions.
	carbaryl (Sevin) 50 WP	2 Tbs.	Apply to foliage as needed.
	cyfluthrin		Follow label directions.

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**HOMEOWNER OUTDOOR INSECT CONTROL (continued)**

PEST	INSECTICIDE AND FORMULATION*	AMOUNT FORMULATION PER GALLON SPRAY	REMARKS AND PRECAUTIONS
Plant bugs Leafhopper (cont.)	pyrethroids	ready to use and concentrate	Follow label directions.
	insecticidal soap	1-2%	Thorough coverage necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5-7 day intervals.
Scale Insects	acephate		Follow label directions.
	bifenthrin		Follow label directions.
	cyfluthrin		Follow label directions.
	pyrethroids	ready to use and concentrate	Follow label directions.
	horticultural oils	1-2%	Follow label directions.
	imidacloprid		Follow label directions.
	insecticidal soap	1-2%	
	malathion		Follow label directions
Slugs and Snails	iron phosphate		Follow label directions
	Methaldehyde		Attention should be given to moist areas or water leaks. Do not use in home gardens.
	Mesuro 2B	1 lb./100 sq. ft.	Follow label directions.
Sowbugs and Pillbugs	carbaryl (Sevin) 50WP 5D	2 Tbs. Follow label	Clean up breeding and hiding places, i.e., treat any mulched area of ornamental shrubbery.
Spider mites	bifenthrin 0.012%	ready to use	Follow label directions.
	disulfoton		Follow label directions
	horticultural oil	1-2%	
	insecticidal soap	1-2%	Coverage is important, spray must contact pest to be effective.
Stalk borer	carbaryl (Sevin) 50 WP 5D	2 Tbs. Follow label	Treat as often as needed beginning when first damage noted. Do not allow ragweeds to grow near flower beds.
Thrips	acephate		Follow label directions.
	cyfluthrin		Follow label directions.
	disulfoton		Follow label directions
	imidacloprid		Follow label directions.
	insecticidal soap	1-2%	Thorough coverage necessary, spray must contact pest to be effective. Repeat spray 3 times at 5-7 day intervals.
Whitefly	acephate		Follow label directions.
	bifenthrin		Follow label directions.
	bifenthrin 0.012%	ready to use	Follow label directions.
	cyfluthrin		Follow label directions.
	disulfoton		Follow label directions
	malathion		Follow label directions
	pyrethroids	ready to use and concentrate	Follow label directions.

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**HOMEOWNER OUTDOOR INSECT CONTROL (continued)**

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Whitefly (cont)	horticultural oils	1-2%	
	imidacloprid		Follow label directions.
	insecticidal soap	1-2%	

\*Numerous products containing insecticide are available to homeowners. Products containing the same insecticide may vary in the concentration of the active ingredient. Always consult the product label for information on rate of application. The following table provides the common name, brand name and lists manufacturers that package insecticides in a product(s) for homeowner use.

COMMON NAME	BRAND NAME AND COMMONLY AVAILABLE PRODUCTS
acephate	Orthene
<i>Bacillus thuringiensis</i> (Bt)	Biotrol, Dipel, Thuricide, Sok-Bt; found in various Green Light, Ortho, Ford's, Rigo and Safer products
bifenthrin	Ortho products
carbaryl	Sevin; found in various KGro, Green Light, Ford's, Rigo and Dexol products
cyfluthrin	Bayer Advanced Rose and Flower Insect Killer
disulfoton	Bayer Advanced
horticultural oil	SunSpray Ultrafine, Saf-T-Side, Superior Oil, Golden Natural Spray Oil, Volck Oil; found in Green Light products, neem oil, organic insect control and others
imidacloprid	Bayer Advanced Garden 2-in-1 Plant Spikes
insecticidal soap	M-Pede and Safer's Soap
iron phosphate	Bayer Advanced Snail & Slug Bait
malathion	Ortho
pyrethrins	Pyrethrin; found in various Ortho, KGro, Green Light, Dexol, Rigo, Black Flag, Garden Safe
pyrethroids	esfenvalerate, lambda-cyhalothrin, permethrin, and others
pyrethrum	Pyrethrum; found in several Safer products
resmethrin	Resmethrin; found in Ortho, Dexol, Hot Shot and Rid-a-Bug products

# FLOWERS

## HOMEOWNER OUTDOOR WEED CONTROL

Mark A. Czarnota, Extension Horticulturist - Weed Science

USE STAGE AND HERBICIDE	FORMULATION	AMOUNT OF FORMULATION/ GAL. PER 1000 SQ. FT.	REMARKS AND PRECAUTIONS
<b>HERBACEOUS FLOWERS</b>			
<b>PREEMERGENCE</b> <sup>1,2,3,4</sup>			
benefin + oryzalin (Amaze 2G)	2.0% granular	4.6 - 6.9 lb	Can be applied over-the-top of several established bedding plants (see label). Provides broad spectrum control of many broad leaf and annual grass weeds.
oryzalin (Surflan 4AS)	4.0 lb/gal	1.5 - 3.0 fl oz	Controls annual grasses and some broadleaf weeds. Can be apply over-the-top to certain established flowers. One-half inch of rainfall or irrigation water immediately after application will aid in weed control. Do not use on Coleus or Begonia species.
trifluralin (Preen 1.47G)	1.47% granular	6.25 lbs. <sup>1</sup>	Apply to established flowers to control annual grasses and some broadleaf weeds from seed. Optimum weed control is obtained when rainfall or irrigation occurs within a few hours of application. DO NOT apply to seedbeds or to non-rooted plants. Preen is also available on a dry fertilizer carrier.
<b>POSTEMERGENCE</b>			
clethodim (Envoy Plus)	0.97 lb/gal	0.3 - 0.7 fl oz	Apply to actively-growing grasses, which are not drought stressed. Make sure to add a crop oil concentrate at 1% V/V to the spray solution. Refer to label for recommended list of ornamentals. Envoy will not control broadleaf weeds or nutsedges.
fluazifop-p (Grass-B-Gon and others)	See label.	See label.	Apply to actively-growing grasses, which are not drought stressed. Refer to label to determine if the addition of a surfactant is necessary. Refer to label for recommended list of ornamentals. Fluazifop will not control broadleaf weeds or nutsedges.
sethoxydim (Segment)	1.0 lb/gal	0.8 - 1.4 fl oz	Apply to actively growing grasses, which are not drought stressed. DO NOT add a crop oil concentrate or surfactant to Vantage (the formulation contains an adjuvant). Vantage will not control broadleaf weeds or nutsedge(s).
<b>AREAS ADJACENT TO ORNAMENTAL FLOWERS (POSTEMERGENCE)</b>			
glufosinate (Finale 1.0L)	1.0 lb/gal	2.2-4.4 fl oz	Apply glufosinate to control emerged weeds. <u>DO NOT</u> allow spray mist to contact ornamental foliage or severe injury will occur. Glufosinate is poor on well established perennial weeds with extensive underground storage structures (Florida betrony, bermudagrass, nutsedge, etc.)
glyphosate Various trade names and formulation available	See label.	See label.	Apply glyphosate to control most emerged weeds. <u>DO NOT</u> allow spray mist to contact ornamental foliage or severe injury will occur. Avoid applications to drought stressed weeds.
halosulfuron (Sedgehammer 75DF)	75DF	0.9 grams (spray weeds to runoff)	Apply as a post-directed application to control yellow and purple nutsedge in established woody ornamentals. Apply with 1/3 fluid ounce of nonionic surfactant. DO NOT allow the spray to contact foliage of desirable woody ornamentals. Wait three months after transplanting before application. On areas scheduled to be planted in woody ornamentals wait 4 weeks between application and transplanting.

<sup>1</sup> All preemergent herbicides require a rain or irrigation event in order for herbicide activation to occur (approximately 0.5 to 1.0 inch of water). If no rain event occurs and no supplemental watering is provided after a preemergent herbicide application, weed control can be extremely poor or totally fail.

<sup>2</sup> Most preemergent herbicides will only control germinating weed seed. Generally, they will not control weeds after they have become established (1<sup>st</sup> or 2<sup>nd</sup> true leaf), and most preemergent herbicides will not control weeds coming from vegetative structures (i.e. yellow and purple nutsedge).

<sup>3</sup> As long as the treated area remains undisturbed, most pre-emergent herbicides will provide weed control for 2 to 4 months in most growing mediums.

<sup>4</sup> Do not apply preemergence herbicides to seeded beds or to non-rooted plants or in greenhouses.

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**Ronald D. Oetting, Extension Entomologist**

**Note:** Many formulations of insecticides for use in the home are combinations of active ingredients. The following list of pesticides is given as a guide to determine which pests an active ingredient is effective in controlling. Many pyrethroids, and other compounds, are now off label and there may be several brand names for different chemicals. Only the active ingredient of insecticides is listed. Other compounds, especially oils, contain a mixture of oils and these are listed under the general category of oils. The tradenames below are only examples of several different formulations available and are not given as recommendations. Check the label on the insecticide container to determine what plants can be treated and the active ingredients present in the product. When possible, place plants outdoors or in an area not likely to come in contact with people, pets, or food while making insecticide application. If plants can not be moved outside for treatment follow label precautions for indoor treatment.

Insecticide and Formulation*		Rate	Comment
bifenthrin	Ortho Houseplant and Garden Insect Killer	as directed	mealybugs, mites, whitefly, aphids.
cyfluthrin	Bayer Advanced Home Pest Control	as directed	gnats, centipedes, earwigs, scorpions. Follow label directions.
dienchlor	Pentac (aerosol)	as directed	spider mites.
imidacloprid + fertilizer	Bayer Advanced Garden 2-in-1 Plant Spikes	as directed	aphids, mealybugs, whitefly.
insecticidal soap	M-Pede	1-2%	aphids, mealybugs, scale, thrips, mites, whitefly. Coverage is important, spray must contact pest to be effective.
horticultural oil	Plant Spray Oil (aerosol) Sunspray Ultrafine, Saf-T-Side	1-2%	scale, whitefly and mites. Coverage is important, spray must contact pest to be effective.
pyrethrum	Pyrethrum (aerosol)	as directed	aphids, mealybugs, thrips, whitefly.
resmethrin	Resmethrin (aerosol)	as directed	aphids and whitefly.
Tralomethrin		as directed	mites

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COMMON NAME	BRAND NAME AND COMMONLY AVAILABLE PRODUCTS
bifenthrin	Ortho products
cyfluthrin	Bayer Advanced Home Pest Control
dienchlor	Pentac; found in various Dexol products
horticultural oil	SunSpray Ultrafine, Saf-T-Side, Superior Oil, Golden Natural Spray Oil, Volck Oil; found in Green Light products and others
imidacloprid + fertilizer	Bayer Advanced Garden 2-in-1 Plant Spikes
insecticidal soap	M-Pede and Safer's Soap
pyrethrum	Pyrethrum; found in several Safer products, Garden Safe
pyrethroids	Ready to use and concentrate - Follow label directions
resmethrin	Resmethrin; found in Ortho, Dexol, Hot Shot and Rid-a-Bug products