

## INSECT CONTROL FOR ORNAMENTALS GROWN IN INTERIOR PLANTSCAPES

**Note:** People without proper application protective clothing must not enter treated area until plants are dry or as stipulated on the label. If possible, remove infested plants from living and eating areas prior to spray application. Place plants outdoors or in an area not likely to come in contact with people, pets, or food while spraying and while plants are wet. In most situations, plants can be returned to original location when they are dry. If plants cannot be removed, follow label precautions.

Phytotoxicity (damage to the plant as a result of the application of a chemical) is an important consideration in controlling pests of ornamentals. Phytotoxicity is generally expressed as damage to the leaves, flowers, or stems and is observed as “burn” (browning of tissue), “chlorosis” (yellowing or bleaching of tissue), or modification of growth by deformation or stunting. There are many species and cultivars of ornamental plants with varying sensitivity to chemicals. Other environmental conditions, such as your particular growing conditions, will also affect phytotoxicity. You are encouraged to evaluate a pesticide for phytotoxicity on a few plants under your particular conditions before treating all plants.

Insect or Mite	Insecticide and Formulation	Amount Per 100 Gallons of Water	Amount Per Gallon	Comments
<b>Aphid</b>	<i>Beauveria bassiana</i>			
	BotaniGard ES	0.5-1 lb	0.08-1.6 oz	
	Naturalis-O	30-100 fl oz	0.30-1.0 fl oz	
	cyfluthrin			Follow label directions.
	Decathlon	1.3-1.9 oz	1/4 tsp	
	flonicamid 50 WDG			Repeat application every 7-28 days as necessary. 12-hour restricted entry interval.
	Aria 0.7 oz package	1-6 packets (0.7-4.3 oz)		
	fluvalinate			Follow label directions.
	Mavrik	4-10 oz	1/2-1 tsp	
	horticultural oil	1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pest to be effective.
	Sunspray Ultrafine			
	Saf-T-Side			
	Triact 90EC			
	imidacloprid			Per label directions.
	Merit 75WP			
Merit 75WPS				
Marathon II				
insecticidal soap	1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray 3 times at 5- to 7-day interval. Soap could make floor slippery.	
M-Pede				
pymetrozine			Follow label directions.	
Endeavor	2-5 oz	1/4-1/2 tsp		
pyriproxyfen			Follow label directions.	
Distance	6-8 fl oz	0.02 oz (0.6 mL)		
s-kinoprene			Follow label directions.	
Enstar 5E	6-10 oz	1/2 tsp		
spirotetramat			See label for drench instructions. 24-hour restricted entry interval.	
Kontos 2F	1.7 fl oz			
thiamethoxam			Reapply as needed but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.	
Flagship 25WG	4-8.5 oz	0.04-0.085 oz		
<b>Caterpillars (leaf feeding)</b>	chlordantraniliprole			Foliar application only. Follow label directions.
	Acelepryn	1.0-16.0 fl oz		
<b>Clearwing Borers</b>	chlordantraniliprole			Bark treatment application only. Follow label directions.
	Acelepryn	4.0-32 fl oz		

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<b>Fungus Gnats</b>	<i>Bacillus thuringiensis</i> Gnatrol	16-32 oz 64-128 oz	1-2 tsp 4-8 tsp	For light infestation. For heavy infestation. Follow label directions.	
	cyromazine Citation 75% WP	2.66 oz	1/2 tsp	Follow label directions.	
	diflubenzuron Adept 25WSB	16-24 oz	0.04-0.08 (1-2 grams)	Follow label directions.	
	pyriproxyfen Distance	3-6 fl oz	0.02 (0.6 mL)	Follow label directions.	
	s-kinoprene Enstar II 5E	6-10 oz	1/2 tsp	Follow label directions.	
	<i>Steinernema feltiae</i> Entonem NemaShield Nemasys Scan Mask			Follow label directions.	
	thiamethoxam Flagship 25WG	4-8.5 oz	0.04-0.085 oz	Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.	
	<b>Lace Bug</b>	chlorantraniliprole Acelepryn			Soil treatment only. Follow label directions.
		thiamethoxam Flagship 25WG	4-8.5 oz	0.04-0.085 oz	Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.
	<b>Leafminer (Birch leafminer)</b>	chlorantraniliprole Acelepryn			Soil treatment only. Follow label directions.
thiamethoxam Flagship 25WG		4-8.5 oz	0.04-0.085 oz	Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.	
<b>Mealybug</b>	<i>Beauveria bassiana</i> BotaniGard ES	0.5-1 lb	0.08-1.6 oz		
	cyfluthrin Decathlon	1.3-1.9 oz	1/4 tsp	Follow label directions.	
	flonicamid 50 WDG Aria 0.7 oz package	1-6 packets (0.7-4.3 oz)		Repeat application every 7-28 days as necessary. 12-hour restricted entry interval.	
	horticultural oils Sunspray ultrafine Saf-T-Side Triact 90EC	1%-2%	1%-2%	Care must be taken because some plants are sensitive to oils. Thorough coverage is necessary, but do not over apply. Use fine spray.	

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<b>Mealybug</b>	imidacloprid Merit 75WP Merit 75 WSP Marathon II			Follow label directions.	
	insecticidal soap M-Pede	1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray 3 times at 10- to 14-day intervals. Soap could make floor slippery.	
	pyrethrum PT 1600A Pyrenone	aerosol		Follow label directions.	
	pyriproxyfen Distance	8-12 fl oz	0.02 (0.6 mL)	Follow label directions.	
	s-kinoprene Enstar II 5E	6-10 oz	1/2 tsp	Follow label directions.	
	spirotetramat Kontos 2F	1.7 fl oz		See label for drench instructions. 24-hour restricted entry interval.	
	thiamethoxam Flagship 25WG	4-8.5 oz		Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre	
	<b>Mites</b>	<i>Beauveria bassiana</i> Naturalis-O	30-100 fl oz	0.30-1.0 fl oz	
		bifenazate Floramite	2-4 oz	1/4-1/2 tsp	Follow label directions.
cyflumetofen Sultan		13.7 fl oz		12 hour REI. IRAC Group 25. DO NOT exceed the maximum seasonal use rate of 27.4 fl oz of Sultan per crop growing cycle. DO NOT make more than 2 applications of Sultan per crop growing cycle. <b>Sultan has selective activity on the Tetranychid family of mites but is not active on other species such as broad mite, cyclamen mite, flat mite or rust mite.</b>	
fenazaquin (Magus)		12-24 oz	0.12-0.24 oz	Follow label directions.	
fenproximate Akari 5SC		16-24 oz	0.16-0.24 oz (4.527 mL)	Follow label directions.	
fluvalinate Mavrik		4-10 oz	1/2-1 tsp	Follow label directions.	
insecticidal soap M-Pede		1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5- to 7-day intervals. Soap could make floor slippery.	
pyrethrum PT 1600A Pyrenone		aerosol		Follow label directions.	
<b>Scale</b>		cyfluthrin Decathlon	1.3-1.9 oz	1/4 tsp	Follow label directions.
	horticultural oil Sunspray ultrafine Saf-T-Side Triact 90EC	1%-2%	1%-2%	Care must be taken because some plants are sensitive to oils. Thorough coverage is necessary, but do not over apply. Use fine spray.	

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<b>Scale</b> (cont.)	insecticidal soap M-Pede	1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pests to be effective. Soap could make floor slippery.
	pyrethrum PT 1600A Pyrenone	aerosol		Follow label directions.
	pyrifluquinazon Rycar	6.4 oz	0.064 oz	Follow label directions. IRAC Group: UN
	pyriproxyfen Distance	8-12 fl oz	0.02 oz (0.6 mL)	Follow label directions.
	spirotetramat Kontos 2F	1.7 fl oz		See label for drench instructions. 24-hour restricted entry interval.
	thiamethoxam Flagship 25WG	4-8.5 oz	0.04-0.085 oz	Soft scale only. Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.
	<b>Thrip</b>	azadirachtin Azatin		
<i>Beauveria bassiana</i> BotaniGard ES Naturalis-O		1-2 lb 30-100 fl oz	1.6-3.2 oz 0.30-1.0 fl oz	
cyfluthrin Decathlon		1.3-1.9 oz	1/4 tsp	Follow label directions.
flonicamid 50 WDG Aria 0.7 oz package		1-6 packets (0.7-4.3 oz)		Repeat application every 7-28 days as necessary. 12-hour restricted entry interval.
fluvalinate Mavrik		4-10 oz	1/2-1 tsp	
insecticidal soap M-Pede		1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5- to 7-day intervals. Soap could make floor slippery.
thiamethoxam Flagship 25WG		4-8.5 oz	0.04-0.085 oz	For leaf-feeding thrips. Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.

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<b>White Grubs</b>	chlorantraniliprole Acelepryn	0.184-0.367 fl oz per 1,000 sq ft		Soil treatment only. Follow label directions.
	thiamethoxam Flagship 25WG	6-8.5 oz	0.06-0.085 oz	Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.
<b>Whitefly</b>	azadirachtin Azatin			Follow label directions.
	<i>Beauveria bassiana</i> BotaniGard ES Naturalis-O	0.5-1 lb 30-100 fl oz	0.08-1.6 oz 0.30-1.0 fl oz	
	cyfluthrin Decathlon	1.3-1.9 oz	1/4 tsp	Follow label directions.
	diflubenzuron Adept 25WSB	16-24 oz	0.04-0.08 oz (1-2 grams)	Follow label directions.
	flonicamid 50 WDG Aria 0.7 oz package	1-6 packets (0.7-4.3 oz)		Repeat application every 7-28 days as necessary. 12-hour restricted entry interval.
	horticultural oils Sunspray ultrafine Saf-T-Side Triact 90EC	1%-2%	1%-2%	Care must be taken because some plants are sensitive to oils. Thorough coverage is necessary, but do not over apply. Use fine spray.
	imidacloprid Merit 75WP Merit 75WPS Marathon II			Follow label directions.
	insecticidal soap M-Pede	1%-2%	1%-2%	Thorough coverage is necessary. Spray must contact pest to be effective. Repeat spray 3 times at 5- to 7-day intervals. Soap could make floor slippery.
	pymetrozine Endeavor	2-5 oz	1/4-1/2 tsp	Follow label directions.
	pyrethrum PT 1600A Pyrenone	aerosol		Follow label directions.
	pyriproxyfen Distance	6-8 fl oz	0.02 oz (0.6 mL)	Follow label directions.
	s-kinoprene Enstar 5E	6-10 oz	1/2 tsp	Follow label directions.
	spirotetramat Kontos 2F	1.7 fl oz		See label for drench instructions. 24-hour restricted entry interval.
	thiamethoxam Flagship 25WG	4-8.5 oz	0.04-0.085 oz	Reapply as needed, but no sooner than every 7 days. DO NOT exceed 17 oz/acre per crop or year.