

Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks	
BULBS					
Leaf-feeding caterpillars	Acelepryn (chlorantraniliprole)	-	1.0-2.0 ounces	Follow label. Treat when insect appears as small larvae.	
	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/ 1,000 square feet		
	Arena 50WDG (clothianidin)	-	Variable		
	Sevin 10% dust (carbaryl)	-	-		
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds		
	Conserve SC (spinosad)	0.06 fluid ounce	6.0 fluid ounces		
AFRICAN VIOLET					
Cyclaman mites	Forbid 4F (spiromesifen)		1.4-4.0 ounces	May be used alone for thrips, whiteflies, mealybugs, mites and aphids or in combination with the above insecticides.	
	Ultra-Fine oil (paraffinic oil)	2/3-2.5 ounces			
	*Judo (spiromesifen)	3.0-6.0 milliliters/ 5 gallons	2.0-4.0 ounces		
ANNUAL FLOWERING PLANTS					
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.	
	Arena 50WDG (clothianidin)				
	°°Distance 0.86 EC (pyrproxyfen)	0.5-2/3 teaspoon	6.0-12.0 ounces		
	Orthene TTO/75S (acephate)		2/3 pound		
	Orthene TTO/97S (acephate)	0.25-0.5 teaspoon	0.25 to 0.5 pound		
	Duraguard ME (chlorpyrifos)	0.5 ounce	1.0-1.5 quarts	For greenhouses, shade houses and field nurseries.	
	*Flagship 25 WG (thiamethoxam)		2.0-4.0 ounces		
	Safari (dinotefuran)		4.0-8.0 ounces		
	Malathion (57% EC)	2.0 teaspoons	1.5 pints		
	Mavrik Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces		
	*Merit 75WP (imidicloprid)	1.0 teaspoon/gallon	3.5 tablespoons		
	Endeavor 50WP (pymetrozine)	1/3-2/3 teaspoon	2.5-5.0 ounces		
	Tristar 70SW (acetamiprid)		1 packet		
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter			
		1.0-2.5 ounces summer			
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/ acre.	
Caterpillars	Acelepryn (chlorantraniliprole)	-	1.0-2.0 ounces		

*Professional use only; °Biological; °°IGR; WP = Wettable Powder; EC = Emulsifiable Concentrate

Note: Ultra-Pure oils and Ultra-Fine oils can be used with insecticides to enhance pest management on most ornamentals.

Rates vary with time of year. Do not spray oils during bloom.

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	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/ 1,000 square feet	
	Arena 50WDG (clothianidin)	-		Follow label.
	Mavrik Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces	
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	Sevin 10% Dust (carbaryl)	-	-	Follow label.
	*Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons/ 3.0 gallons	4.0-8.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)	0.25-0.5 teaspoon	0.25-0.5 pound	
	°Condor XL (<i>Bacillus thuringiensis</i>)		0.75-1.75 pints/ acre	
	°Crymax XL (<i>Bacillus thuringiensis</i>)		0.5-1.5 pounds/ acre	
Mealybugs	Same as for aphids	Same as for aphids	Same as for aphids	Treat when crawlers appear; re-treat once dry.
	Tristar 70SW (acetamiprid)		1 packet	
	Kontos (spirotetramat)	1.7-3.4oz/100	5-8 ounce/Acre	
	Celero (clothianidin)		2-4 ounce	Aphids, Whiteflies, Mealy bugs
AZALEA				
Bark scales	*Supracide 25 WP (methidathion)		2.0 pounds	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		Scales: Do not use during flowering; use only 4 times during growing season; do not use on stressed plants.
		1.0-2.5 ounces summer		
	Ultra-Fine oil (paraffinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	Talstar 10W (bifenthrin)	1.0 teaspoon	0.6-1.6 ounces/10.0 gallons (3.0-8.0 tablespoons/ 10.0 gallons)	
Crotch scales, azalea mealybugs	Summer oil emulsion plus	5.0 tablespoons plus 2.0 gallons plus		Sprays for scale control are most effective if they are made during crawler stages. Spray April 1 to June 1 and October. <u>Time of application</u> is most important. Repeat application in 3-4 weeks.
	Malathion (57% EC)	1.0 tablespoon	2.0 pints	
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Supracide (methidathion)		2.0 pints	
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/10.0 gallons	3.5 tablespoons	

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	Orthene TTO/75S (acephate)		2/3 pound (10.5 ounces)	
	Orthene TTO/97S (acephate)	0.5 teaspoon		
	*Flagship (thiamethoxam)		2.0-4.0 ounces or 4.0-8.0 ounces	Not closer than 7-day intervals; for use in greenhouses, shade houses and field nurseries.
	Safari (dinotefuran)		4.0-8.0 ounces	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
Leafminers, Leafrollers, Leaf tiers	Acelepryn (chlorantraniliprole)	-	1.0-2.0 ounces	Follow label.
	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)	-	Variable	
	Avid 0.15 EC (abamectin)	0.5 teaspoon	8.0 ounces	
	°Azatin XL (azadirachtin)		10.0-16.0 ounces	
	*Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons	4.0-8.0 ounces	
	Orthene TTO/75S (acephate)	0.5 teaspoon	4.0 ounces	
	Orthene TTO/97S (acephate)			
	°Conserve SC (spinosad)	0.06 fluid ounce	6.0 fluid ounces	
	Citation (cyromazine)	-	2.66 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
Peony scales	Same as bark scale	Same as bark scale	Same as bark scale	Spray about May 1 to June 1. Repeat application in 3-4 weeks.
Spider mites (all species)	Avid 0.15 EC (abamectin)	0.25 teaspoon	4.0 ounces	Follow label instructions. Make application when mites first appear and repeat in 7-10 days. Repeat treatment as necessary when populations build up again. Alternating materials will provide better control than using the same material each time mites occur. Do not use with oils or spreader stickers. Treat when symptoms first appear.
	Malathion (57% EC)	1.0 tablespoons	1.5 pints	
	*Mesurol 75 WP (methiocarb)		0.5-1 pound/50 gallons/acre	
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/10.0 gallons	
	Floramite 50% (bifenazate)	1/3-2/3 teaspoon	2.0-4.0 ounces	
	Conserve SC (spinosad)	0.2 fluid ounce	22.0 fluid ounces	

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	Ornamite (propargite)	1.0 ounce/6.25 gallons	1.0 pound	
	Ultra-Fine oil (paraffinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	*Judo (spiromesifen)		2.0-4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		Do not use during flowering. Use only four times during growing season. Do not use on stressed plants.
		1.0-2.5 ounces summer		
	*Ovation SC (clofentezine)		2.0 ounces	One application per crop cycle in greenhouses, lath, shade houses, or outdoor ornamentals.
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
	Kontos (spirotetramat)	1.7-3.4 ounces/100	5-8 ounce/Acre	
	Pylon (chlorfenapyr)		2.6-5.2 ounces	
Thrips, lace bugs	Acelepryn (chlorantraniliprole)	-	2.0-4.0 ounces	Follow label.
	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)	-	Variable	
	Malathion (57% EC)	1.0-1.5 teaspoons	1.0-1.5 pints	
	Mavrik Aquaflo (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces	
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/ 10.0 gallons	3.5 tablespoons	
	Merit 2.5G (imidicloprid)	Rate based on plant height		
	*Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons/ 3 gallons	4.0-8.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)	0.5 teaspoon	8.0 ounces	
	°Conserve SC (spinosad)	0.06-0.1 ounce	6.0-11.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Zenith (imidicloprid)		1.6 ounces	
Tea scales, Camellia scales	Ultra-Fine oil (paraffinic oil)	2.5-5.0 ounces	1.0-2.0 gallons	Can be used alone or in combination with insecticides.
	*Dursban 50W (chlorpyrifos)		2.0-4.0 pounds	
	°°Distance 0.86 EC (pyrproxyfen)	2/3-1.5 teaspoons	8.0-12.0 ounces	
	Safari (dinotefuran)		8.0-12.0 ounces	

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	Summer oil emulsion	5.0 tablespoons	2.0 gallons	
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Merit 75WP (imidicloprid)	2.0 teaspoons/ 10.0 gallons	3.5 tablespoons	
	Merit 2.5G (imidicloprid)	Rate based on plant height		
	Zenith (imidicloprid)		1.6 ounces	
	Meridian 25WP (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
	Orthene TTO/75S (acephate)		2/3 pound	(Crawlers only)
	Orthene TTO/97S (acephate)	0.5 teaspoon	8.0 ounces	
	*Supracide 25 WP (methidathion)		2 pounds	
	Supracide 2E (methidathion)		2.0 pints	
	°°Distance 0.86 EC (pyrproxyfen)	0.5-2/3 teaspoon	8.0-12.0 ounces	
	° Precision (fenoxycarb)	1.0-4.0 packets		
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Sprays for scale control are most effective if applied during the crawler stages. Prune nongrowing branches on inside of plants. Remove heavily infested leaves.			
Peony scales	Same for tea scale and camellia scale.			Prune dead and non-growing branches. Spray stems thoroughly about May to June.
Spider mites	Same for spider mites on azaleas.			Same as for azaleas.
Rust mites	Pylon (chlorfenapyr)		2.6-5.2 ounce	
	Sevin 2T (carbaryl)		2.0 pounds	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Avid (abamectin)		4.0 ounces	
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Treat when insects appear on young spring growth.
	Malathion (57% EC)	2.0 teaspoons	1.5 pints	
	Zenith 75 (imidicloprid)		1.6 ounces	
	*Flagship 25WG (thiamethoxam)		2.0-4.0 ounces	For greenhouses, shade houses, and field nurseries.
	Safari (dinotefuran)		4.0-8.0 ounces	
	Orthene (15.6% EC) (acephate)	1.0 tablespoons	3.0 pints	

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	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10.0 gallons	
	*Merit 75WP (imidicloprid)	1.0 teaspoon/ 10.0 gallons	3.5 tablespoons	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)	0.25-0.5 teaspoon	0.25-0.5 pound	
	Endeavor 50WP (pymetrozine)	1/3-2/3 teaspoon	2.5-5.0 ounces	
	Tristar 70SP (acetamiprid)		1 packet	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Meridian 25WP (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
	∞Distance IGR (pyrproxyfen)		6.0-8.0 ounces	
Cranberry root worm beetles	Sevin 10% Dust (carbaryl)	-	-	Apply in late afternoon.
	Sevin 80% WP (carbaryl)	4.0 teaspoons	1.25 pounds	
	Malathion (57% EC)	2.0 teaspoons	1.5 pints	
Euonymous scales	Same as Tea scales			Prune out dead and dying branches then spray.
CANNA LILY				
Leafrollers	Sevin 10% Dust (carbaryl)	-	-	Treat weekly as long as insects are present.
	°Azatin XL (azadirachtin)			
	Battle WP (lambda- cyhalothrin)	1.0-2.0 gms	1.2-4.8 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
CHILI THRIPS				
Homeowners:				
	Orthene (acephate)		10 2/3 ounces	
	Merit 2F (imidacloprid)		1.5 ounce	
	Spinosad		8 ounce	
Nursery and Landscape Maintenance:				
	Tristar (acetamiprid)		3-6 sol pkg	
	Safari (dinotefuran)		3/4 -1.5 pounds	
	*Flagship (thiamethoxam)		8 ounces	
	Avid (abamectin)		8 ounces	

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Greenhouse Nursery and Landscape Materials:				
	Aria (flonicamid)		3-4 packets	
	Pylon (chlorfenapyr)		10-20 ounces	
	Overture (pyridalyl)		8 ounce	
CHRYSANTHEMUM				
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	Follow label.
	Malathion (57% EC)	1.0 tablespoons	1.0 quart	Treat when aphids first appear.
	Mavrik Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon.	4-10 ounces	
	*Merit 75 WP (imidicloprid)	1 teaspoon/10 gallons	3.5 tablespoons	
	Tristar 70SP (acetamiprid)		1 packet	
	Endeavor 50 WP (pymetrozine)	1/3-2/3 teaspoon/gal	2.5-5.0 ounces	
	°Distance 0.86 EC (pyrproxyfen)	1/3-2/3 teaspoon	6.0-12.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		4.0 ounces	
	Celero (clothianidin)	2-4 ounce/100		
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Zenith 75 (imidicloprid)		1.6 ounces	
	Safari (dinotefuran)		4.0-8.0 ounces	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
Caterpillars	Acelepryn (chlorantraniliprole)		1.0-2.0 ounces	
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Sevin 10% Dust (carbaryl)	-	-	Watch for small caterpillars feeding in terminal buds or under leaves and treat when first appearing and weekly thereafter.
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		4.0 ounces	
	*Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons/ 3.0 gallons	4.0-8.0 ounces	
	Conserve SC (spinosad)	0.06 fluid ounce	6.0 fluid ounces	

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Mealybugs	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	Treat when insects appear. Follow label.
	Talstar 10 WP (bifenthrin)	0.6-1.6 ounces/ 10 gallons		
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Merit 75 WP (imidicloprid)	1 teaspoon/10 gallons	3.5 tablespoons	
	Kontos (spirotetramat)	1.7-3.4 ounces/100 gallons	5-8 ounces/Acre	
	Celero 16WVG (clothianidin)		2-4 ounces	
	Tristar 70SP (acetamiprid)		2 packet	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	*Flagship 25WG (thiamethoxam)		2.0-4.0 ounces	For greenhouses, shade houses and field nurseries.
	Safari (dinotefuran)		4.0-8.0 ounces-spray	
			12.0-24.0 ounces- drench	
	Zenith 75 (imidicloprid)		1.6 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre
Termites	Dursban 4 EC (chlorpyrifos)	1.0 fluid ounce	1.0 quart	
Thrips	Malathion (57% EC)	2 teaspoons	1.5 pints	Start spraying when thrips first appear.
	Safari (dinotefuran)		4.0-8.0 ounces	
	Mavrik Aquaflo (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces	
	*Merit 75WP (imidicloprid)	1.0 teaspoon/10.0 gallons	3.5 tablespoons	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Overture 35WP (pyridalyl)		8.0 ounces	
	°Precision (fenoxycarb)	1.0-4.0 packets		Based on volume and square footage.
	*Mesuroil 75WP (methiocarb)		0.5-1.0 pound/ 50 gallons/acre	2 sprays; 5 days apart.
	Conserve SC (spinosad)	0.06 fluid ounce	6.0 fluid ounces	

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	Zenith 75 (imidicloprid)		1.6 ounces	
	Spinosad		6.0-11.0 ounces	
Leafminers	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	°Citation (cyromazine)		2.66 ounces/acre	
	°Azatin XL (azadirachtin)			
	°Precision (fenoxycarb)	1.0-4.0 packets		Based on volume and square footage.
	Avid 0.15 EC (abamectin)	0.5 teaspoon	8.0 ounces	
	Conserve SC (spinosad)	0.2 fluid ounce	22.0 fluid ounces	
	*Astro 3.2 EC (permethrin)	1-2 teaspoons/ 3 gallons	4.0-8.0 ounces	
	Pounce 3.2 EC (permethrin)	1.0 teaspoon	20.0 ounces	
	Spider mites	Malathion (57% EC)	1.0 tablespoons	3.0 pints
Forbid 4F (spiromesifen)			1.4-4.0 ounces	
Talstar 10 WVP (bifenthrin)		1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	
*Mesurol 75 WVP (methiocarb)			0.5-1 pound/ 50 gallons/acre	
Floramite (bifenazate)		1/3-2/3 teaspoon/gal	2.0-4.0 ounces	
Ultra-Fine oil (parafinic oil)				
M-PEDE (potassium salts of fatty acids)		3.0 tablespoons	0.5-2.0 gallons	
*Judo (spiromesifen)			2.0-4.0 ounces	
*Ovation SC (chlorfentezine)			2.0 ounces	
Ultra-Pure oil (mineral oil)		2.5-4.0 ounces winter		One application per crop cycle in greenhouse, lath, shade houses or outdoor ornamentals.
		1.0-2.5 ounces summer		
Avid (abamectin)			4 ounces	
CRAPE MYRTLE				
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Talstar 10 WVP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	Follow label.
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	Treat when aphids first appear to prevent sooty mold stain.
	Endeavor 50 WVP (pymetrozine)	1/3-2/3 teaspoon/gal	2.5-5.0 ounces	

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	Orthene TTO/75S (acephate)		2/3 pound	Make slurry with 4.0 tablespoons Orthene and 1.0 tablespoons water. Paint band on trunks twice width of diameter in April and late May.
	°Endeavor (pymetrozine)	1/3-2/3 teaspoon	2.5-5.0 ounces	
	Malathion	1.0 tablespoon	3.0 pints	
	*Merit 75 WVP (imidicloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
	*Flagship 25WG (thiamethoxam)		2.0-4.0 ounces	For greenhouses, shade houses and field nurseries.
	Zenith 75 (imidicloprid)		1.6 ounces	
	Tristar 70SP (acetamiprid)		1 packet	
	Safari (dinotefuran)		4.0-8.0 ounces	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
Bark scales	Arena 0.25G (clothianidin)	Follow labeled rate for drench application		When treating multi-trunk trees, measure the circumference of each trunk at breast height and add the numbers together (16 + 15 + 17 = 48 inches). Divide this number by 3 if the label for the product you are using specifies the rate based on inches of trunk diameter, rather than circumference.
	Arena 50WDG (clothianidin)	Follow labeled rate for drench application		
	Safari (dinotefuran)	Follow labeled rate for drench application		
	Merit or Bayer Advanced Garden Tree and Shrub Insect Control (imidicloprid)	Follow labeled rate for drench application		
	Meridian 25 WG (thiomethoxam)	Follow labeled rate for drench application		
DAHLIA				
Spider mites	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Ultra-Fine oil (parafinic oil)			
	Avid 0.15 EC (abamectin)	0.25 teaspoon	4.0 ounces	
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
	Kontos (spirotetramat)	1.7-3.4 ounces/100	5-8 ounce/acre	
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	
	Floramite (bifenazate)	1/3-2/3 teaspoon/gal	2.0-4.0 ounces	
Termites	Same as for Chrysanthemum			

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Rates vary with time of year. Do not spray oils during bloom.

Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
DAYLILY				
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	Make 3 applications of Malathion.
	Talstar 10WP (bifenthrin)	0.6-1.6 ounces/10 gallons		Spray 4 weeks apart beginning in January.
	°Distance 0.86 EC (pyrproxyfen)	1/3-2/3 teaspoon	6.0-12.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Endeavor 50WP (pymetrozine)	1/3-2/3 teaspoon/gal	2.5-5.0 ounces	
	*Merit 75WP (imidicloprid)	1.0 teaspoon/10 gallons	3.5 tablespoons	
	Tristar 70WSP (acetamiprid)		1 packet/100	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
Spider mites	Avid 0.15 EC (abamectin)	0.25 teaspoon	4.0 ounces	Make two applications 2-3 weeks apart when mites appear. Do not use with oils or spreader stickers.
	Floramite (bifenazate)	2.0-4.0 ounces/acre	1/3-2/3 teaspoon/gal	
	*Mesurol 75WP (methiocarb)		0.5-1 pound/50 gallons/acre	
	Ultra-Fine oil (parafinic oil)			Apply as needed up to 8 pounds/acre/ year.
	*Judo (spiromesifen)		2.0-4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
GARDENIA				
Whiteflies	Kontos (spirotetramat)	1.7-3.4 ounces/100	5-8 ounce/acre	
	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)	-		Follow label.
	Forbid 4F (spiromesifen)		2.0-4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
		1.0-2.5 ounces summer		
	Ultra-Fine oil (parafinic oil)	2.5-5.0 ounces	1.0-2.0 gallons	Can be used alone or in combination with insecticides.
	Zenith 75 (imidicloprid)		1.6 ounces	
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/50.0 gallons	Treat when adults are emerging and laying eggs.
	*Judo (spiromesifen)		2.0-4.0 ounces	
	Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons/3.0 gallons	4.0-8.0 ounces	
	*Flagship 25 WG (thiamethoxam)		2.0-4.0 ounces	For greenhouses, shade houses and field nurseries.
	*Merit 75W (imidicloprid)	1.0 teaspoon/10.0 gallons	3.5 tablespoons	
	Tristar 70SP (acetamiprid)		1 packet	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Orthene + Tame (acephate + fenpropathrin)		10 2/3 ounces	
	Endeavor 50 WP (pymetrozine)	1/3-2/3 teaspoon/gal	2.5-5.0 ounces	
	°Precision (fenoxycarb)	1.0-4.0 packets		Based on volume and square footage.
	°Azatin XL (azadirachtin)		6.0-10.0 ounces	
	°Distance 0.86 EC (pyrproxyfen)	1/3-2/3 teaspoon	6.0-12.0 ounces	
	Summer oil emulsion	0.5 pint	2.0 gallons	Treat April 1, April 15 and October 1.
	Malathion (57% EC)	1.0 tablespoons	1.5 quarts	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
	Celero (clothianidin)		3-4 ounces	
GLADIOLA				
	Spinosad		6.0-11.0 ounces	
	Zenith 75 (imidicloprid)		1.6 ounces/300	
	Overture 35WP (pyridalyl)		8 ounces/100	
	Orthene TTO/75S (acephate)		2/3 pound	Spray or dust growing plants at weekly intervals beginning when leaves are 6 inches high.
	Orthene TTO/97S (acephate)		8 ounces	
	Sevin 10% Dust (carbaryl)	--	--	
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	Safari (dinotefuran)		4.0-8.0 ounces	
	*Merit 75WP (imidicloprid)	1.0 teaspoon/10 gallons	3.5 tablespoons	

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
HOLLY				
Tea scales	*Supracide 25WP (methidathion)		2 pounds	
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Ultra-Fine oil (parafinic oil)	2.5-5.0 ounces	1.0-2.0 gallons	
San Jose scales, camellia scales	*Supracide 25WP (methidathion)		2 pounds	
	Supracide 2E (methidathion)		2.0 pints	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	
Spider mites	Ultra-Fine oil (parafinic oil)	2.5-5.0 ounces	1.0-2.0 gallons	
	*Mesurol 75WP (methiocarb)		0.5-1.0 pound/ 50 gallons/acre	
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 50 gallons	
	Avid 0.15EC (abamectin)	0.25 teaspoon	4.0 ounces	Follow label.
	Malathion 57% EC	2.0 teaspoons	1 1/3 pounds	
	Floramite (bifenazate)	1/3-2/3 teaspoon	2.0-4.0 ounces	
	*Judo (spiromesifen)		2.0-4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Kontos (spirotetramat)	1.7-3.4 ounces/100 gallons	5-8 ounces/acre	
PEACH AND QUINCE, FLOWERING				
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	Follow label.
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Malathion (57% EC)	1.0 tablespoon	3.0 pints	Treat when aphids appear.
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Tristar 70SP (acetamiprid)		1 packet	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
Scales	Winter oil emulsion	0.5 pint	6.0 gallons	Apply during dormant season.
	*Supracide 25WP (methidathion)		2 pounds	
POINSETTIA				
Whiteflies	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Forbid 4F (spiromesifen)		2.0-4.0 ounces	
	Celero (clothianidin)		3.0-4.0 ounces	
	Safari (dinotefuran)		4.0-8.0 ounces	
	Orthene TTO/75S (acephate)	1.0 teaspoon	2/3-1.0 pound	
	Orthene TTO/97S (acephate)	0.5 teaspoon	8.0-12.0 ounces	
	°Distance 0.86 EC (pyrproxyfen)	1/3-2/3 teaspoon	6.0-12.0 ounces	
	Mavrik Aquaflo (tau-fluvalinate)	--	4.0-10.0 ounces	
	Talstar 10 WP (bifenthrin)	--	3.0-8.0 tablespoons/ 10 gallons	
	Endeavor 50% (pymetrozine)	10.0 ounces/acre		
	Tame 2.4 EC + Orthene 75S (fenpropathrin + acephate)		10 2/3 ounces + 16.0 ounces	Whiteflies only.
	Tristar 70WSP (acetamiprid)		2.0-4.0 packets	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
PYRACANTHA				
Aphids, lace bugs	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	Follow label.

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	When insects appear.
	Ultra-Fine oil (parafinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Tristar 70WSP (acetamiprid)		1 packet	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/10 gallons	3.5 tablespoons	
ROSE				
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Zenith 75 (imidicloprid)		1.6 ounces/300	
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/10 gallons	3.5 tablespoons	
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/10 gallons	Follow label.
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	When insects appear.
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
	Tristar 70WSP (acetamiprid)		1 packet	
	Ultra-Fine oil (parafinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	Safari (dinotefuran)		4.0-8.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
Spider mites	M-PEDE (potassium salts of fatty acids)	3.0 tablespoons	0.5-2.0 gallons	
	*Mesurol 75 WP (methiocarb)		0.5-1.0 pound/50 gallons/acre	
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	When mites appear.
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/10 gallons	Follow label.
	Avid 0.15 EC (abamectin)	0.25 teaspoon	4.0 ounces	
	Floramite (bifenazate)	0.5-2/3 teaspoon/gal	2.0-4.0 ounces/acre	
	Ultra-Fine oil (parafinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	*Judo (spiromesifen)		2.0-4.0 ounces	

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Ultra-Fine oil (parafinic oil)	2.5-5.0 tablespoons	1.0-2.0 gallons	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
Thrips – outside/ greenhouse	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		4.0 ounces	
	Orthene + Tame (acephate + fenpropathrin)		10 2/3 ounces	
	Sevin 10% Dust (carbaryl)	--	--	Treat plants at 3-day intervals when buds begin to show. Make 2 applications, 5 days apart; alternate with other materials.
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Mesurol 75 WP (methiocarb)		0.5-1.0 pound/ 50 gallons acre	
	Mavrick 2E (tau-fluvalinate)	0.25-0.5 teaspoon	2.0-5.0 ounces	
	Malathion (57% EC)	1.0 tablespoons	1.0 quart	
	*Merit 75 WP (imidicloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
	Spinosad		6.0-11.0 ounces	
	Overture 35WP (pyridalyl)		8 ounce	
Beetles	Sevin 10% Dust (carbaryl)	-		Apply when damage appears on foliage.
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	Battle (lambda-cyhalothrin)		1.5-5.0 ounces	
Stinging caterpillars	Acelepryn (chlorantraniliprole)		1.0-2.0 ounces	
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Sevin Carbaryl (10% Dust) (carbaryl)	-	-	Apply when damage appears on foliage.
	Sevin Carbaryl (50% WP) (carbaryl)	2.0 tablespoons	2.0 pounds	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	*Astro 3.2 EC (permethrin)	1.0-2.0 teaspoons/ 3 gallons	4.0-8.0 ounces	
	Pounce 3.2 EC (permethrin)	0.5 teaspoon	4.0-8.0 ounces	
	°Condor XL (<i>Bacillus thuringiensis</i>)		0.75-1.75 pints/acre	Caterpillars only.

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Ornamental and Flowering Plants

Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	°Crymax XL (<i>Bacillus thuringiensis</i>)		0.5-1.5 pounds/acre	
	DeltaGard GC (deltamethrin)	1.0 teaspoon	4.0-8.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		
		1.0-2.5 ounces summer		

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Greenhouse-Grown Ornamentals				
Thrips, whiteflies, mealybugs, scales, caterpillars, sawflies, fungus gnats, aphids	Forbid 4F (spiromesifen)		1.4-4.0 ounces	White flies only.
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)			Follow label.
	Tristar 70WSP (acetamiprid)		1-4 packets	
	°Azatin XL (azadirachtin)		10.0-16.0 ounces	
	*Astro 3.2EC (permethrin)		1.0-2.0 teaspoons/ 3 gallons/4.0-8.0 ounces	
	Pedestal (novaluron)		6.0-8.0 ounces	Whiteflies, thrips, caterpillars.
	Marathon 1% G (imidicloprid)	3.0 pounds/cubic yard of growing media		Follow label for amounts to use in individual containers.
	Ultra-Fine oil (parafin oil)	2.5-5.0 tablespoons/gal		Follow label.
	Marathon 60WP (imidicloprid)			Follow label.
	Marathon II (imidicloprid)			Follow label.
	°Precision (fenoxycarb)		2.0-8.0 ounces	Thrips, scales, gnats, whiteflies; repeat at 7-day intervals as needed.
	*Flagship (thiamethoxam)		2.0-4.0 ounces	
	°Conserve SC (spinosad)	0.06-0.1 ounce	6.0-11.0 ounces	
	°°Ornazin (IGR) (azadirachtin)	0.25 teaspoon- 0.5 teaspoon	8.0-16.0 ounces	
	Endeavor 50% (pymetrozine)	1/3-2/3 teaspoon or 2.5-5.0 ounces or 10.0 ounces/acre		Aphids, whiteflies.
Leafminers	°Conserve SC (spinosad)	0.2 fluid ounce	22.0 fluid ounces	
	Pedestal (novaluron)		6.0-8.0 ounces	
Mites				
Spider mites	Forbid 4F (spiromesifen)		2.0-4.0 ounces	
Broad mites	Ultra-Fine oil (parafin oil)	2.5-5.0 tablespoons		Follow label for plants covered. Use in rotation with other miticides; no more than 2 consecutive applications; 3 total per year per crop.
	Pylon (chlorfenapyr)	0.25 teaspoon- 0.5 teaspoon	2.6-5.2 ounces	
Cyclamen mites	Tetrasan 5WDG (etoxazole)		8.0-16.0 ounces	
Rust mites	Avid 0.15EC (abamectin)	2/3 teaspoon	4.0 ounces	
	Endeavor 50% (pymetrozine)	1/3-2/3 teaspoon or 2.5-5.0 ounces		Aphids and whiteflies. Not for carnation, dianthus, calanchoe, poinsettia, rose, salvia, zinnia; do not

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
		or 10.0 ounces/acre		spray with oil, fertilizer or surfactants.
	Endeavor (pymetrozine)	1/4-1/2 teaspoon or 2.5-5.0 ounces or 10.0 ounces/acre		
	Floramite SC (bifenazate)	2/3-1.5 teaspoons	4.0-8.0 ounces	
	Talstar F (bifenthrin)	0.12-0.4 ounces	12.0-40.0 ounces	
Beet armyworms loopers, thrips leafhoppers leafminers	Acelepryn (chlorantraniliprole)	1.0-2.0 ounces		Caterpillars only.
	°Condor XL (<i>Bacillus thuringiensis</i>)	0.75-1.75 pints/acre		Caterpillars only.
	°Citation (cyromazine) (Leafminers)		2.66 ounces/100/acre	
	°Conserve SC (spinosad)	0.06-0.1 ounce	6.0-11.0 ounces	Thrips: use lower rates. Caterpillars and leafminers: use higher rates.
Whiteflies	Forbid 4F (spiromesifen)		2.0-4.0 ounces	Whiteflies only.
Greenhouse Roses				
Armyworms, leafrollers, loopers, spider mites, whiteflies, fungus gnats, thrips	Tristar 70WSP (acetamiprid)		1-4 packets/100	
	Pounce 3.2 EC (permethrin)		8.0 ounces (0.2 pounds/A.I.)	Follow label for varieties.
	*Astro 3.2 EC (permethrin)		4.0-8.0 ounces	
	*Mesurol 75 WP (methiocarb)		0.5-1.0 pound/50 gallons/acre	
	Attain TR (bifenthrin)			Release based on square footage.
	I 300 Orthene TR (acephate)		8.0 ounces	
	Preclude TR (fenoxycarb)			
	Orthene TTO/75S (acephate)			
	Ultra-Pure oil (mineral oil)	2/3-2.5 ounces	0.5-2.0 gallons	
	Ultra-Fine oil (parafinic oil)	2/3-2.5 ounces	0.5-2.0 gallons	
	oConserve SC (spinosad)		6.0-11.0 ounces/100	
	Flagship 25WG (thiamethoxam)		8 ounces/acre	
Outside				
Imported fire ants	Transport (acetamiprid + bifenthrin)	1 packet		Perimeter treatment – 1,000 square feet; follow label.
	Over'n Out (fipronil)	2.0 pounds/1,000 square feet		

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Orthene TTO/75S (acephate)	2.0 teaspoons/mound		Apply dry formulation as a dust to tops of mounds. Distribute as evenly as possible.
	Orthene TTO/75S (acephate)	1.0-2.0 ounces in 5.0 gallons water		Apply 1 gallon of finished mixture to mound covering 3-4-square-foot area around mound; may burn grass slightly.
	Top Choice (fipronil)	87.0 pounds/acre		
	Chipco Choice (fipronil)	12.5 pounds/acre	4.3 ounces/1,000 square feet	Follow label.
	Gardstar (permethrin)	5.0-10.0 milliliters/gallon/mound		Follow label.

Nursery Stock (Field Grown)

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Beet armyworms, loopers, thrips, leafhoppers, leafminers, whiteflies	Acelepryn (chlorantraniliprole)	-	2.0-4.0 ounces	Caterpillars.
	Arena 0.25G (clothianidin)	-	133-160 pounds/acre	
	Astro 3.2EC (permethrin)		1.0-2.0 teaspoons/ 3 gallons/4.0-8.0 ounces	
	Avid 1.5 EC (abamectin)			
	°Crymax (<i>Bacillus thuringiensis</i>)			Caterpillars only.
	Pounce 3.2EC (permethrin)		4.0-8.0 ounces	Do not spray Salvia, Dieffenbachia or Pteris fern.
	Endeavor 50% (pymetrozine)		10.0 ounces/acre	Aphids, whiteflies.
	Talstar 10 WP (bifenthrin)	1.0-2.0 tablespoons	1.7-3.5 ounces	
	Judo (spiromesifen)		2.0-4.0 ounces	Mites or whiteflies only.
Whiteflies, aphids, thrips, caterpillars, fungus gnats, sawflies	°Ornazin (IGR) (azadirachtin)	0.25-0.5 teaspoon	8.0-16.0 ounces	
Aphids, whiteflies	Endeavor (pymetrozine)	0.25-0.5 teaspoon	2.5-5.0 ounces 10.0 ounces/acre	
Fire ants	Talstar T&O 0.2G, Flowable (bifenthrin)			Varies with bulk density of potting media.
	°Distance (pyrproxyfen)	1.0-4.0 tablespoons/mound Apply at 0.35 to 0.5 ounce/1,000 square feet		Not approved as quarantine treatment. Varies with bulk density of potting media.

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Rates vary with time of year. Do not spray oils during bloom.

Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Extinguish (methoprene)	3.0-5.0 tablespoons/mound to perimeter of 4 feet		
Imported fire ants	Meridian 25WG (thiamethoxam)	-	12.7-17.0 ounces/acre	1.0 gallons/6 inch, drench mound; larger use – 2.0-3.0 gallons, drench.
	Amdro or Siege fire ant bait (hydramethylnon)	1.0 to 1.5 pounds/acre or 5 level teaspoons/mound		Broadcast uniformly with ground equipment. Prolonged exposure to air will turn oil base rancid. Close container tightly after use. Use within 3 days after opening; apply when ants are active; distribute uniformly 3-4 feet around base of mound.
	Astro (permethrin))	17.0-34.0 ounces/acre, 0.4-0.8 ounce/1,000 square feet		
	Firestar (fipronil)	1.5-15.0 pounds/acre		
	Organic Solution Fire Ant Killer			Follow label.
	PT 370 Ascend (Clinch/Varsity)	5.0-7.0 tablespoons/mound or 1.0 pound/acre		Turf, lawns, noncrop areas
	Citrex			Organic.
	Citrex	8.0 ounces/gallon		Mound treatment.
	°Logic 1% (Award)	1.0-1.5 pounds/acre	1.0-3.0 tablespoons/mound	Follow label.
	Talstar G (bifenthrin)	100-200 pounds/acre	2.3-4.6 ounces/1,000 square feet	
	Talstar F (bifenthrin)	0.5-10.0 ounces/acre	20.0-40.0 ounces/acre	
	Scimitar GS, CS (lambda-cyhalothrin)	3.4-7.0 milliliters/1,000 square feet		Submerge container or ball until completely saturated. Do not remove container, burlap or plastic.
	Battle GS (lambda-cyhalothrin)	3.0-6.0 gms/1,000 square feet or 5.0-10.0 ounces/acre		
	Ceasefire (bifenthrin)	0.5-5.5 ounces/1,000 square feet or 1.5-15.0 pounds/acre		
	°Conserve SC (spinosad)	0.1 ounce	1.0 ounce/10 gallons	
		1.0-2.0 gallons/mound depending on size		

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Advion fire ant bait (indoxacarb)	0.5 ounces/1,000 square feet	1.5 pounds/acre	Do not disturb mounds prior to treatment
	Orthene TTO/75S (acephate)	2 teaspoons/mound		Mound treatment only. Apply dry formulation as a dust to tops of mounds; distribute as evenly as possible.
	Sevin 50WP (carbaryl)	3.0 pounds/100 gallons		Apply 2.0 gallons solution over mound.
	Sevin SL (carbaryl)	1.5 quarts/100 gallons		Thoroughly wet mound and surrounding area to 4-foot diameter.
	Sevin 80S (carbaryl)		2.0 pounds	For best results, apply in cool weather.
	Sevin XLR Plus (carbaryl)	3.0 tablespoons/2.0 gallons/mound		65 F-80 F early morning or late evening hours.
	Amdro Pro (hydramethylnon)			
	°Distance (pyrproxyfen)	1.5 pounds/acre		
	°Logic/Award II (abamectin)	1.5 pounds/acre		
	Grenade ER (lambda-cyhalothrin)	0.2-0.4 ounce/gal		
	Premise (imidicloprid)	1.0-1.5 pounds/acre		
	Esteem (pyriproxyfen)	2.0-4.0 tablespoons/mound	2.0 pounds/acre	
	°Distance 0.86EC (pyrproxyfen)	3.0-4.0 tablespoons/mound Apply at 0.35 to 0.5 ounces/1,000 square feet		Not approved as quarantine treatment.
	°Extinguish (methoprene)	3.0-5.0 tablespoons/mound to perimeter of 4.0 feet or 1.0-1.5 pounds/acre		Follow label.
	°Extinguish Plus (methoprene + hydramethylnon)	Same as Extinguish		These 2 are a combination of Amdro and Extinguish.
Whiteflies	Talstar 10WP (bifenthrin)	1.0 tablespoon/2.0 gallons 3.0-8.0 tablespoons/10 gallons		Follow label.
Two-spotted mites	Endeavor 50% (pymetrozine)	-	10.0 ounces/acre	Mites only.
	°Conserve SC (spinosad)	0.2 ounce	22.0 ounces/acre	
Mealybugs	Judo (spiromesifen)	2.0-4.0 ounces or 4.0-8.0 ounces		Aphids and whiteflies.
Aphids	*Flagship (thiamethoxam)	-	2.0-4.0 ounces	Mealybugs and aphids.

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Leafrollers	Talstar 10WP (bifenthrin)	3.0-8.0 tablespoons/4 gallons 5.0-12.0 tablespoons/10 gallons		
Pill bugs	Transport (acetamiprid + bifenthrin)	1 packet/1,000 square feet/acre		Follow label.
	Astro (permethrin)		4.0-8.0 ounces	Ants, aphids, worms, thrips, gnats, mealybugs, whiteflies.
	*Mesurol 75WP (methiocarb)	0.5-1.0 pound/50 gallons/acre		
Armyworms	Acelepryn (chlorantraniliprole)		2.0-4.0 ounces/ acre	
	Arena 0.25G (clothianidin)		80-160 pounds/acre	
	°Azatin XL (azadirachtin)	5.0-16.0 ounces/acre		Caterpillars only.
	°Crymax (<i>Bacillus thuringiensis</i>)	0.5-1.5 pounds/acre		Caterpillars only.
	°Condor XL (<i>Bacillus thuringiensis</i>)	0.75-1.75 pints/acre		Caterpillars only.
	*Mesurol 75WP (methiocarb)	0.5-1.0 pound/50 gallons/acre		
	Talstar 10WP (bifenthrin)	2.0 tablespoons (5.0-12.0 tablespoons/ 10 gallons)		
Mites	Avid 0.15EC (abamectin)		8.0 ounces	
	Floramite (bifenazate)	1/3-2/3 teaspoons	2.0-4.0 ounces/acre	
	Talstar 10WP (bifenthrin)	2.0 tablespoons	5.0-12.0 tablespoons/ 10 gallons	
	Conserve SC (spinosad)	0.2 ounce	22.0 ounces/acre	
	TetraSan 5WDG (etoxazole)		8.0-16.0 ounces/ acre	
Grasshoppers	Decathlon 20WP (cyfluthrin)		1.3-1.9 ounces	Greenhouse and nursery.
Crickets	Orthene TTO/97S (acephate)	0.5 ounce/1,000 square feet	1.31 pounds/acre	
	Sevin SL (carbaryl)	1.5-3.0 ounces/1,000 square feet	2.0-4.0 quarts/acre	
	Scimitar (lambda- cyhalothrin)	3.4-7.0 milliliters/ 1,000 square feet	5.0-10.0 ounces/acre	
	DeltaGard 5SC (deltamethrin)	0.4-0.6 ounce/1,000 square feet	17.5-26.0 ounces/acre	
	Battle (lambda-cyhalothrin)	1.5-5.0 ounces/93 gallons		
	Tempo 20WP (beta- cyfluthrin)	5.0 gms/93 gallons		

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Ornamental and Flowering Plants

Greenhouse				
Plant and Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Tempo SC Ultra (beta-cyfluthrin)		1.5-5.4 ounces	
Millipedes, centipedes	Transport (acetamiprid + bifenthrin)	1 packet/1,000 square feet		Follow label.

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Ornamental and Flowering Plants

Pink Hibiscus Mealybug Control Strategies and Current Chemical Control Recommendations

The following list of recommendations by the LSU AgCenter shows products that may be effective in treating pink hibiscus mealybug (*Maconellicoccus hirsutus*) in nurseries or stock dealers. Additional materials will be added, as available. For additional product information, labeled rates or guidelines for application, contact the local LSU AgCenter extension service office.

Chemical	Application Method	Rate	Interval	Comments
For Quarantine Treatments				
Imidacloprid (such as Marathon) Dinotefuran (such as Safari) Thiamethoxam (such as Flagship)	Soil drench	See label rates	Initial treatment	Soil drench must be followed by a foliar application of either Bifenthrin, Chlorpyrifos, or Acephate.
Bifenthrin (such as Talstar)	Foliar application	See label rates	Following Imidacloprid Treatment	Apply with Ultra-Fine oil or other oil; follow-up treatments as needed.
Acephate (such as Orthene)	Foliar application	See label rates	Following Imidacloprid Treatment	May be applied in conjunction with Bifenthrin unless phytotoxicity prohibits.
For Preventative/Prophylactic Treatments*				
Acephate (such as Orthene)	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Acetamiprid (such as Tristar) Thiamethoxam (such as Flagship)	Foliar application	See label rates	As needed	Apply with Ultra-Fine oil or other oil; follow-up treatments as needed.
Bifenthrin (such as Talstar)	Foliar application	See label rates	As needed	Apply with Ultra-Fine oil or other oil.
Imidacloprid (Marathon-Merit)				Follow-up treatments as needed.
Buprofezin (such as Talus) IGR	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Imidacloprid + Cyfluthrin (such as Discus)	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Insecticidal soaps	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Pesticidal oils, Ultra-Fine oils	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Pyrproxyfen (such as Distance) IGR	Foliar application	See label rates	As needed	Apply with Ultra-Fine oil or other oil; follow-up treatments as needed.
Dinotefuran (such as Safari)				

***Note:** Limited information is available concerning phytotoxicity of these products. Test on a few plants before application, or consult the Extension Service agent. When using new materials, phytotoxicity trials should be conducted in your nursery under your specific conditions. The use of trade names in this publication is solely for the purpose of providing specific information. The LSU AgCenter does not guarantee or warrant the products named and references to them in this publication. It does not signify our approval to the exclusion of other products of suitable composition. All chemicals should be used in accordance with directions on the manufacturer's label. Use pesticides safely. Read and follow directions on the manufacturer's label.

pH adjustments should be made for each spray application. Use a digital pH pen for accurate reading. Where needed, add a buffer to water mix, and re-check until pH is between 5.5 and 6.5 before adding insecticide to water. The average pH for Louisiana is 8.3 with a range of 4.6-12.0.

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