

# Ornamental and Flowering Plants

## BULBS

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
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

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
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

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.
	Arena 50WDG (clothianidin)			
	°Distance 0.86 EC (pyriproxyfen)	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	
	*Flagship 25 WG (thiamethoxam)		2.0-4.0 ounces	For greenhouses, shade houses and field nurseries.
	Safari (dinotefuran)		4.0-8.0 ounces	Follow label.
	Malathion (57% EC)	2.0 teaspoons	1.5 pints	
	Mavrik Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces	
	*Merit 75WP (imidacloprid)	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.

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Caterpillars</b>	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)	-		
	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)	-	-	
	*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		
<b>Mealybugs</b>	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	

### AZALEA

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Bark scales</b>	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter 1.0-2.5 ounces summer		Scales: Do not use during flowering; use only 4 times during growing season; do not use on stressed plants.
	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)	
<b>Crotch scales, azalea mealybugs</b>	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	
	*Merit 75 WP (imidacloprid)	1.0 teaspoon/10.0 gallons	3.5 tablespoons	
	Orthene TTO/75S (acephate)		2/3 pound (10.5 ounces)	
	Orthene TTO/97S (acephate)	0.5 teaspoon		

# Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks	
	*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.	
<b>Leafminers, Leafrollers, Leaf tiers</b>	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		
<b>Peony scales</b>	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.	
<b>Spider mites</b> <i>(all species)</i>	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.	
	Malathion (57% EC)	1.0 tablespoons	1.5 pints		
	*MesuroI 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	Repeat treatment as necessary when populations build up again. Alternating materials will provide better control than using the same material each time mites occur.	
	Floramite 50% (bifenazate)	1/3-2/3 teaspoon	2.0-4.0 ounces		
	Conserve SC (spinosad)	0.2 fluid ounce	22.0 fluid ounces		
	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	Do not use with oils or spreader stickers. Treat when symptoms first appear.
		*Judo (spiromesifen)		2.0-4.0 ounces	
		Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter 1.0-2.5 ounces summer		Do not use during flowering. Use only four times during growing season. Do not use on stressed plants.
		*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		

# Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Thrips, lace bugs</b>	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 Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon	4-10 ounces	
	*Merit 75 WP (imidacloprid)	1.0 teaspoon/ 10.0 gallons	3.5 tablespoons	
	Merit 2.5G (imidacloprid)	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 (imidacloprid)		1.6 ounces	
<b>Tea scales, Camellia scales</b>	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	Sprays for scale control are most effective if applied during the crawler stages. Prune nongrowing branches on inside of plants. Remove heavily infested leaves.
	°°Distance 0.86 EC (pyriproxyfen)	2/3-1.5 teaspoons	8.0-12.0 ounces	
	Safari (dinotefuran)		8.0-12.0 ounces	
	Summer oil emulsion	5.0 tablespoons	2.0 gallons	Follow label.
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Merit 75WP (imidacloprid)	2.0 teaspoons/ 10.0 gallons	3.5 tablespoons	
	Merit 2.5G (imidacloprid)	Rate based on plant height		
	Zenith (imidacloprid)		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	
	°°Distance 0.86 EC (pyriproxyfen)	0.5-2/3 teaspoon	8.0-12.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter		

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
		1.0-2.5 ounces summer		
<b>Peony scales</b>	Same for tea scale and camellia scale.			Prune dead and non-growing branches. Spray stems thoroughly about May to June.
<b>Spider mites</b>	Same for spider mites on azaleas.			Same as for azaleas.
<b>Rust mites</b>	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	
<b>Aphids</b>	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 (imidacloprid)		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	
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10.0 gallons	
	*Merit 75WP (imidacloprid)	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
	∞Distance IGR (pyriproxyfen)		6.0-8.0 ounces	
<b>Cranberry root worm beetles</b>	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	
<b>Euonymous scales</b>	Same as Tea scales			Prune out dead and dying branches then spray.

# Ornamental and Flowering Plants

## CANNA LILY

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
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	Orthene (acephate)		10 2/3 ounces	Homeowners
	Merit 2F (imidacloprid)		1.5 ounce	
	Spinosad		8 ounce	
	Tristar (acetamiprid)		3-6 sol pkg	Nursery and Landscape Maintenance
	Safari (dinotefuran)		3/4 -1.5 pounds	
	*Flagship (thiamethoxam)		8 ounces	
	Avid (abamectin)		8 ounces	
	Aria (flonicamid)		3-4 packets	Greenhouse Nursery and Landscape Materials
	Pylon (chlorfenapyr)		10-20 ounces	
Overture (pyridalyl)		8 ounce		

## CHRYSANTHEMUM

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	Treat when aphids first appear.
	Malathion (57% EC)	1.0 tablespoons	1.0 quart	
	Mavrik Aquaflow (tau-fluvalinate)	0.25-0.6 teaspoon.	4-10 ounces	
	*Merit 75 WP (imidacloprid)	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 (pyriproxyfen)	1/3-2/3 teaspoon	6.0-12.0 ounces	
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter 1.0-2.5 ounces summer		
	Zenith 75 (imidacloprid)		1.6 ounces	
	Safari (dinotefuran)		4.0-8.0 ounces	

# Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.
<b>Caterpillars</b>	Acelepryn (chlorantraniliprole)		1.0-2.0 ounces	Watch for small caterpillars feeding in terminal buds or under leaves and treat when first appearing and weekly thereafter.
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	Sevin 10% Dust (carbaryl)	-	-	
	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	
<b>Mealybugs</b>	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	Follow label.
	Arena 50WDG (clothianidin)			Treat when insects appear. Follow label.
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	
	Talstar 10 WP (bifenthrin)	0.6-1.6 ounces/10 gallons		
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*Merit 75 WP (imidacloprid)	1 teaspoon/10 gallons	3.5 tablespoons	
	Kontos (spirotetramat)	1.7-3.4 ounces/100 gallons	5-8 ounces/Acre	
	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	
	Safari (dinotefuran)		4.0-8.0 ounces-spray 12.0-24.0 ounces-drench	
	Zenith 75 (imidacloprid)		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
<b>Termites</b>	Dursban 4 EC (chlorpyrifos)	1.0 fluid ounce	1.0 quart	
<b>Thrips</b>	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	

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	*Merit 75WP (imidicloiprid)	1.0 teaspoon/10.0 gallons	3.5 tablespoons	2 sprays; 5 days apart.
	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Overture 35WP (pyridalyl)		8.0 ounces	
	*Mesurol 75WP (methiocarb)		0.5-1.0 pound/ 50 gallons/acre	
	Conserve SC (spinosad)	0.06 fluid ounce	6.0 fluid ounces	
	Zenith 75 (imidacloprid)		1.6 ounces	
	Spinosad		6.0-11.0 ounces	
<b>Leafminers</b>	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	
	°Citation (cyromazine)		2.66 ounces/acre	
	°Azatin XL (azadirachtin)			
	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	
<b>Spider mites</b>	Malathion (57% EC)	1.0 tablespoons	3.0 pints	Treat when mites first begin to appear on foliage.
	Forbid 4F (spiromesifen)		1.4-4.0 ounces	
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	
	*Mesurol 75 WP (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 1.0-2.5 ounces summer		One application per crop cycle in greenhouse, lath, shade houses or outdoor ornamentals.
	Avid (abamectin)		4 ounces	



# Ornamental and Flowering Plants

## CRAPE MYRTLE

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Aphids</b>	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.  Treat when aphids first appear to prevent sooty mold stain.
	Arena 50WDG (clothianidin)			
	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	
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	
	Endeavor 50 WP (pymetrozine)	1/3-2/3 teaspoon/gal	2.5-5.0 ounces	
	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	For greenhouses, shade houses and field nurseries.
	Malathion	1.0 tablespoon	3.0 pints	
	*Merit 75 WP (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
	*Flagship 25WG (thiamethoxam)		2.0-4.0 ounces	
	Zenith 75 (imidacloprid)		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.	
<b>Bark scales</b>	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 (imidacloprid)	Follow labeled rate for drench application		
	Meridian 25 WG (thiomethoxam)	Follow labeled rate for drench application		

# Ornamental and Flowering Plants

## DAHLIA

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
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			

## DAYLILY

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	Follow label.
	Arena 50WDG (clothianidin)			
	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 (pyriproxyfen)	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 (imidacloprid)	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
Floramite (bifenazate)		2.0-4.0 ounces/acre	1/3-2/3 teaspoon/gal	
*Mesurol 75WP (methiocarb)			0.5-1 pound/50 gallons/acre	

# Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	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

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Whiteflies</b>	Kontos (spirotetramat)	1.7-3.4 ounces/100	5-8 ounce/acre	Follow label.
	Arena 0.25G (clothianidin)	-	3.0-3.6 pounds/1,000 square feet	
	Arena 50WDG (clothianidin)	-		
	Forbid 4F (spiromesifen)		2.0-4.0 ounces	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter 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 (imidacloprid)		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 (imidacloprid)	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	
	°Azatin XL (azadirachtin)		6.0-10.0 ounces	
	°°Distance 0.86 EC (pyriproxyfen)	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.	

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Malathion (57% EC)	1.0 tablespoons	1.5 quarts	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	Drench, 6.0-17.0 ounces/acre.

### HOLLY

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Tea scales</b>	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	
<b>San Jose scales, camellia scales</b>	Orthene TTO/75S (acephate)		2/3 pound	
	Orthene TTO/97S (acephate)		8.0 ounces	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	
<b>Spider mites</b>	Ultra-Fine oil (parafinic oil)	2.5-5.0 ounces	1.0-2.0 gallons	Follow label.
	*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	
	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

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Aphids</b>	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	Follow label.
	Arena 50WDG (clothianidin)			
	Talstar 10WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	
	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.

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	*Merit 75 WP (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
	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	
<b>Scales</b>	Winter oil emulsion	0.5 pint	6.0 gallons	Apply during dormant season.

### POINSETTIA

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Whiteflies</b>	Arena 0.25G (clothianidin)		3.0-3.6 pounds/1,000 square feet	Follow label.
	Arena 50WDG (clothianidin)			
	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	
	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 (pyriproxyfen)	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	
	Tristar 70WSP (acetamiprid)		2.0-4.0 packets	
	Meridian 25WG (thiamethoxam)		2.0-8.5 ounces	
*Merit 75 WP (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons		

# Ornamental and Flowering Plants

## PYRACANTHA

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
Aphids, lace bugs	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.
	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	
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	
	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 (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	

## ROSE

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks	
Aphids	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	Follow label.	
	Ultra-Pure oil (mineral oil)	2.5-4.0 ounces winter 1.0-2.5 ounces summer			
	Zenith 75 (imidacloprid)		1.6 ounces/300		
	*Merit 75 WP (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons		
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons		
	Malathion (57% EC)	1.0 tablespoons	3.0 pints		
	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

# Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	*MesuroI 75 WP (methiocarb)		0.5-1.0 pound/ 50 gallons/acre	Follow label.
	Malathion (57% EC)	1.0 tablespoons	3.0 pints	
	Talstar 10 WP (bifenthrin)	1.0 teaspoon	3.0-8.0 tablespoons/ 10 gallons	
	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	
	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	
<b>Thrips – outside/ greenhouse</b>	Orthene TTO/75S (acephate)		2/3 pound	Treat plants at 3-day intervals when buds begin to show. Make 2 applications, 5 days apart; alternate with other materials.
	Orthene TTO/97S (acephate)		4.0 ounces	
	Orthene + Tame (acephate + fenpropathrin)		10 2/3 ounces	
	Sevin 10% Dust (carbaryl)	--	--	
	Sevin 50% WP (carbaryl)	2.0 tablespoons	2.0 pounds	
	*MesuroI 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 (imidacloprid)	1.0 teaspoon/ 10 gallons	3.5 tablespoons	
	Spinosad		6.0-11.0 ounces	
	Overture 35WP (pyridalyl)		8 ounce	
<b>Beetles</b>	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	
<b>Stinging caterpillars</b>	Acelepryn (chlorantraniliprole)		1.0-2.0 ounces	Apply when damage appears on foliage.
	Arena 0.25G (clothianidin)		3.0-3.6 pounds/ 1,000 square feet	
	Sevin Carbaryl (10% Dust) (carbaryl)	-	-	
	Sevin Carbaryl (50% WP) (carbaryl)	2.0 tablespoons	2.0 pounds	
	Orthene TTO/75S (acephate)		2/3 pound	

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	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	
	°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		



# Ornamental and Flowering Plants

## Greenhouse-Grown Ornamentals

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks	
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	Follow label.	
	Arena 50WDG (clothianidin)				
	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 (imidacloprid)	3.0 pounds/cubic yard of growing media		Follow label for amounts to use in individual containers.	
	Ultra-Fine oil (parafinic oil)	2.5-5.0 tablespoons/gal		Follow label.	
	Marathon 60WP (imidacloprid)				
	Marathon II (imidacloprid)				
	*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		
Spider mites	Forbid 4F (spiromesifen)		2.0-4.0 ounces		
Broad mites	Ultra-Fine oil (parafinic 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 or 10.0 ounces/acre	Aphids and whiteflies. Not for carnation, dianthus, calanchoe, poinsettia, rose, salvia, zinnia; do not 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	

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Beet armyworms, loopers, thrips, leafhoppers, leafminers.</b>	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.
<b>Whiteflies</b>	Forbid 4F (spiromesifen)		2.0-4.0 ounces	Whiteflies only.
<b>Armyworms, leafrollers, loopers, spider mites, whiteflies, fungus gnats, thrips</b>	Tristar 70WSP (acetamiprid)		1-4 packets/100	Greenhouse Roses
	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	
	*MesuroI 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	
<b>Imported fire ants</b>	Transport (acetamiprid + bifenthrin)	1 packet		Perimeter treatment – 1,000 square feet; follow label.
	Over'n Out (fipronil)	2.0 pounds/1,000 square feet		
	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.

# Ornamental and Flowering Plants

## Nursery Stock (Field Grown)

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Beet armyworms, loopers, thrips, leafhoppers, leafminers, whiteflies</b>	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.
<b>Whiteflies, aphids, thrips, caterpillars, fungus gnats, sawflies</b>	°°Ornazin (IGR) (azadirachtin)	0.25-0.5 teaspoon	8.0-16.0 ounces	
<b>Aphids, whiteflies</b>	Endeavor (pymetrozine)	0.25-0.5 teaspoon	2.5-5.0 ounces 10.0 ounces/acre	
<b>Fire ants</b>	Talstar T&O 0.2G, Flowable (bifenthrin)			Varies with bulk density of potting media.
	°°Distance (pyriproxyfen)	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.
	Extinguish (methoprene)	3.0-5.0 tablespoons/mound to perimeter of 4 feet		
<b>Imported fire ants</b>	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.

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	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		
	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 (pyriproxyfen)	1.5 pounds/acre		
	°°Logic/Award II (abamectin)	1.5 pounds/acre		
	Grenade ER (lambda-cyhalothrin)	0.2-0.4 ounce/gal		
	Premise (imidacloprid)	1.0-1.5 pounds/acre		

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
	Esteem (pyriproxyfen)	2.0-4.0 tablespoons/mound	2.0 pounds/acre	
	°Distance 0.86EC (pyriproxyfen)	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.
<b>Whiteflies</b>	Talstar 10WP (bifenthrin)	1.0 tablespoon/2.0 gallons 3.0-8.0 tablespoons/10 gallons		Follow label.
<b>Two-spotted mites</b>	Endeavor 50% (pymetrozine)	-	10.0 ounces/acre	Mites only.
	°Conserve SC (spinosad)	0.2 ounce	22.0 ounces/acre	
<b>Mealybugs</b>	Judo (spiromesifen)	2.0-4.0 ounces or 4.0-8.0 ounces		Aphids and whiteflies.
<b>Aphids</b>	*Flagship (thiamethoxam)	-	2.0-4.0 ounces	Mealybugs and aphids.
<b>Leafrollers</b>	Talstar 10WP (bifenthrin)	3.0-8.0 tablespoons/4 gallons 5.0-12.0 tablespoons/10 gallons		
<b>Pill bugs</b>	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		
<b>Armyworms</b>	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)		

## Ornamental and Flowering Plants

Pest	Insecticide	To Make 1 gallon	To Make 100 gallons	Remarks
<b>Mites</b>	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	
<b>Grasshoppers</b>	Decathlon 20WP (cyfluthrin)		1.3-1.9 ounces	Greenhouse and nursery.
<b>Crickets</b>	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		
	Tempo SC Ultra (beta-cyfluthrin)		1.5-5.4 ounces	
<b>Millipedes, centipedes</b>	Transport (acetamiprid + bifenthrin)	1 packet/1,000 square feet		Follow label.

# 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.

### For Quarantine Treatments

Chemical	Application Method	Rate	Interval	Comments
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		Following Imidacloprid Treatment	Apply with Ultra-Fine oil or other oil; follow-up treatments as needed.
Acephate (such as Orthene)	Foliar application		Following Imidacloprid Treatment	May be applied in conjunction with Bifenthrin unless phytotoxicity prohibits.

### For Preventative/Prophylactic Treatments\*

Chemical	Application Method	Rate	Interval	Comments
Acephate (such as Orthene)	Foliar application	See label rates	As needed	Follow-up treatments as needed.
Acetamiprid (such as Tristar) Thiamethoxam (such as Flagship)				Apply with Ultra-Fine oil or other oil; follow-up treatments as needed.
Bifenthrin (such as Talstar)				Apply with Ultra-Fine oil or other oil.
Imidacloprid (Marathon-Merit)				Follow-up treatments as needed.
Buprofezin (such as Talus) IGR				Follow-up treatments as needed.
Imidacloprid + Cyfluthrin (such as Discus)				Follow-up treatments as needed.
Insecticidal soaps				Follow-up treatments as needed.
Pesticidal oils, Ultra-Fine oils				Follow-up treatments as needed.
Pyriproxyfen (such as Distance) IGR				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.

\*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.

# Mosquito Control Products

## Mosquito Larvicides

### (Professional Applicators)

Active ingredient	Formulation	Product Names
<i>Bacillus thuringiensis israeliensis</i>	Granules and pellets	Aquabac 200G, Aquabac 400G, Fourstar WSP, Fourstar SBG, Teknar CG, Teknar G, VectoBac GR, VectoBac GS, VectoPrime FG
	Aqueous suspension	Aquabac XT, Teknar SC, Teknar HP-D
	Briquets	Fourstar Briquets (45 and 180 days), Fourstar Sustained release briquettes (45 and 150 day)
<i>Bacillus sphaericus</i>	Granules	VectoLex CG, VectoLex FG, VectoLex WDG, Spheratax SPH
	Water-soluble pouch	VectoLex WSP
<i>Bacillus thuringiensis israeliensis</i> and <i>Bacillus sphaericus</i> combined	Granules	VectoMax FG or CG, Fourstar CRG, Fourstar MBG,
	Water-soluble pouch	VectoMax WSP
	Briquets	Fourstar Briquets (90 days)
Methoprene (insect growth regulator)	Liquid larvicide	Altosid Liquid Larvicides (SR-5 and SR-20)
	Pellet	Metalarv S-PT, Altosid Pellets, Altosid Pellets WSP
	Briquets	Altosid 30 day Briquet, Altosid XR Briquet
	Granules	Altosid XR-G, Altosid SBG-II
Larviciding oils	Monomolecular surface films	Agnique MMF ( <i>discontinued</i> )
	Petroleum distillates	Cocobear, BVA 2, Kontrol Mosquito Larvicide
Spinosad	Emulsifiable concentrate	Natular 2EC
	Tablet	Natular DT, Natular T30, Natular XRT
	Granule	Natular G, Natular G30