

Insect and Mite Control For Commercial Ornamental Greenhouses

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Insect and mite control in commercial greenhouses is often difficult because the artificial conditions found in most greenhouses create a favorable environment for the rapid development and multiplication of these pests. Monitoring for pests is very important.

Much too often, insect and mite populations are overlooked, resulting in the increase in population levels and subsequent damage to ornamentals. Greenhouses should be scouted for insect pests on a regular basis to reduce economic damage.

The following table lists suggested materials for use against insects and mites in commercial greenhouses. This table is not exhaustive and the chemicals listed serve only as a guideline. Some chemicals may be phytotoxic to certain varieties of plants. Therefore, read the chemical label for a list of plants susceptible to phytotoxicity. Horticultural oil such as SunSpray Ultra-Fine Spray Oil should not be used more than once per week and should not be used on poinsettias after the bracts start to show color.

Pest	Insecticide and Formulation	
APHIDS	flonicamid	- Aria 50 WDG
	fenpropathrin	- Tame 2.4 EC
	horticultural oil	- SunSpray Ultra-Fine Oil 98.8 EC
	acephate	- Orthene Turf, Tree & Ornamental Spray 75SP 1300 Orthene TR 12A
	azadirachtin	- Azatin XL, Ornazin
	neem oil	- Triact 70
	bifenthrin	- Talstar Nursery 7.9F Talstar 7.9F Attain TR 0.5A
	dinotefuran	- Safari 20 SG
	fluvalinate	- Mavrik Aquaflow 22.3F
	insecticidal soap	- M-Pede
	pyrethrins plus piperonyl butoxide	- Natural Pyrethrin Concentrate Pyrenone 1100 Pyrethrum TR
	cyfluthrin	- Decathlon 20WP
	chlorpyrifos plus cyfluthrin	- Duraplex TR 8A
	permethrin	- Perm-Up 3.2 EC
	kinoprene	- Enstar II
	chlorpyrifos	- DuraGuard 20% ME
	imidacloprid	- Marathon II Marathon 60WP Marathon 1% Granular
	lambda-cyhalothrin	- Scimitar GC 9.7 ME
	pymetrozine	- Endeavor 50 WDG
	<i>Beauveria bassiana</i>	- BotaniGard ES Naturalis H&G
thiamethoxam	- Flagship 25WG	
acetamiprid	- Tristar 30SG	
CABBAGE LOOPER	<i>Bacillus thuringiensis</i>	- Javelin WG Dipel 2X
	fluvalinate	- Mavrik Aquaflow 22.3F
	permethrin	- Perm-Up 3.2 EC
	naled	- Dibrom 8 Emulsive
	acephate	- 1300 Orthene TR 12A

Pest	Insecticide and Formulation		
CABBAGE LOOPER (cont'd)	spinosad	-	Conserve 1 SC
CUCUMBER BEETLE	fluvalinate	-	Mavrik Aquaflow 22.3F
CUTWORMS	carbaryl	-	Sevin 4SL
	fluvalinate	-	Mavrik Aquaflow 22.3F
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	permethrin	-	Perm-Up 3.2 EC
BROAD MITE	pyridaben	-	Sanmite 75 WSB
	dicofol	-	Kelthane 50 WSP
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F
	chlorfenapyr	-	Pylon 2L
	spiromesifen	-	Judo 4 F
	abamectin	-	Avid 0.15 EC
CYCLAMEN MITE	hot water (115 F)	-	submerge for 15 minutes Plunge plant into cold tap water immediately after treatment
	dicofol	-	Kelthane 50 WSP
	chlorfenapyr	-	Pylon 2L
	spiromesifen	-	Judo 4 F
	abamectin	-	Avid 0.15 EC
FUNGUS GNATS (refer to publication SP341C)	permethrin	-	Perm-Up 3.2 EC
	cyfluthrin	-	Decathon 20 WP
	pyrethrin	-	Pyrenone, Natural Pyrethrin Concentrate, 1100 Pyrethrum TR
	<i>Steinernema feltiae</i> parasitic nematode	-	ScanMask, Entonem, Nemasys
	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i>	-	Apply as soil drench, Gnatrol
	cryomazine	-	Citation 75WP
	dinotefuran	-	Safari 20 SG
	kinoprene	-	Enstar II
	acephate	-	1300 Orthene TR 12A

Pest	Insecticide and Formulation		
FUNGUS GNATS (cont'd)	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F Attain TR 0.5 A
	fenoxy carb	-	Precision 25WP
	pyriproxyfen	-	DISTANCE 0.86 EC
	acephate	-	1300 Orthene TR 12A
	azadirachtin	-	Azatin XL Plus 0.265EC, Ornazin
	chlorpyrifos	-	DuraGuard 20 ME
	chlorpyrifos plus cyfluthrin	-	Duraplex TR 8A
	diflubenzuron	-	Adept 25 WSP
LEAFMINERS	abamectin	-	Avid 0.15EC
	permethrin	-	Perm-Up 3.2 EC
	novaluron	-	Pedestal 10 SC suppression only
	dinotefuron	-	Safari 20 SG
	acephate	-	Orthene Turf, Tree & Ornamental Spray 75SP 1300 Orthene TR 12A
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F
	cyromazine	-	Citation 75WP
	spinosad	-	Conserve 1 SC
	diflubenzuron (for lepidopterous leafminers)	-	Adept 25 WSP
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	fenoxy carb (for lepidopterous leafminers)	-	Precision 25 WP
	acetamiprid	-	TriStar 30 SG
LEAFROLLERS	acephate	-	1300 Orthene TR 12A Orthene Turf, Tree & Ornamental Spray 75 SP
	naled	-	Dibrom 8 Emulsive
	permethrin	-	Perm-Up 3.2 EC
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	spinosad	-	Conserve 1 SC
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F Attain TR 0.5 A
ARMYWORM SPECIES	novaluron	-	Pedestal 10SC

Pest	Insecticide and Formulation		
MEALYBUGS (refer to publication SP290S)	flonicamid	-	Aria 50 WDG
	acephate	-	Orthene Turf, Tree & Ornamental Spray 75 SP 1300 Orthene TR 12A
	bifenthrin	-	Talstar, Nursery 7.9F Talstar 7.9 F Attain TR 0.5A
	cyfluthrin	-	Decathlon 20 WP
	chlorpyrifos plus cyfluthrin	-	Duraplex TR 8A
	kinoprene	-	Enstar II
	fenpropathrin	-	Tame 2.4 EC spray
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	insecticidal soap	-	M-Pede
	horticultural oil	-	SunSpray Ultra-Fine Oil 98.8 EC
	imidacloprid	-	Marathon II Marathon 60 WP Marathon 1 Granular
	thiamethoxam	-	Flagship 25WG
	buprofezin	-	Talus 70WSP
	dinotefuran	-	Safari 20 SG
	acetamiprid	-	TriStar 30 SG
MILLIPEDES	malathion	-	Malathion 5 EC (57% EC)
SCALE INSECTS	acephate	-	Orthene Turf, Tree & Ornamental Spray 75SP 1300 Orthene TR 12A
	horticultural oil	-	SunSpray Ultra-Fine Oil 98.8EC
	kinoprene	-	Enstar II
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F Attain TR 0.5 A
	dinotefuran (labeled for both soft scale and armored scale)	-	Safari 20 SG
	insecticidal soap	-	M-Pede
	chlorpyrifos	-	DuraGuard 20 ME
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	fenoxycarb	-	Precision 25 WP Preclude TR 4.8A
	imidacloprid (better control of soft scale than armored scale)	-	Marathon 60WP Marathon 1 Granular Marathon II

Pest	Insecticide and Formulation		
SCALE INSECTS (cont'd)	thiamethoxam (for soft scales)	-	Flagship 25WG
	pyriproxyfen	-	DISTANCE 0.86 EC
	buprofezin	-	Talus 70WSP
SHORE FLIES buprofezin	fluvalinate	-	Mavrik Aquaflow 22.3F
	pyrethrins plus piperonyl butoxide	-	Natural Pyrethrin Concentrate Pyrenone 1100 Pyrethrum TR
	fenoxycarb	-	Precision 25WP
	cyromazine	-	Citation 75WP
	pyriproxyfen	-	DISTANCE 0.86 EC
	diflubenzuron	-	Adept 25 WSP
SLUGS AND SNAILS	metaldehyde	-	Bait
	methiocarb	-	Mesurool 75WP
SPIDER MITES (refer to publication SP290D)	abamectin	-	Avid 0.15EC
	acequinocyl	-	Shuttle 15 SC
	naled	-	Dibrom 8 Emulsive
	fluvalinate	-	Mavrik Aquaflow 22.3 F
	insecticidal soap	-	M-Pede
	horticultural oil	-	SunSpray Ultra-Fine Oil 98.8 EC
	dicofol	-	Kelthane 50WSP
	pyridaben	-	Sanmite 75WSB
	bifenazate	-	Floramite 50 WP
	clofentezine	-	Ovation SC
	fenproximate	-	Akari 5SC
	chlorfenapyr	-	Pylon 2L
	etoxazole	-	TetraSan 5WDG
	spiromesifen	-	Judo 4 F
hexythiazox	-	Hexygon	
THRIPS	acephate	-	Orthene Turf, Tree & Ornamental Spray 75SP 1300 Orthene TR 12A
	fluvalinate	-	Mavrik Aquaflow 22.3F
	abamectin	-	Avid 0.15 EC
	fenoxycarb	-	Precision 25 WP Preclude TR 4.8A

Pest	Insecticide and Formulation		
THRIPS (cont'd)	pyrethrins plus piperonyl butoxide	-	Pyrenone 1100 Pyrethrum TR Natural Pyrethrin Concentrate
	lambda-cyhalothrin	-	Scimitar GC 9.7 ME
	cyfluthrin	-	Decathlon 20WP
	chlorpyrifos plus cyfluthrin	-	Duraplex TR 8A
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9F Attain TR 0.5A
	chloryprifos	-	DuraGuard 20ME
	methiocarb	-	Mesurol 75W [FIFRA 2 (ee) recommendation]
	spinosad	-	Conserve SC
	<i>Beauveria bassiana</i>	-	BotaniGard ES Naturalis H&G
	novaluron	-	Pedestal 10SC
	flonicamid	-	Aria 50 WDG - thrips suppression on flowers Best management achieved with application on foliage when insects first appear.
	acetamiprid	-	TriStar 30 SG
WHITEFLIES (refer to publication SP290R) (Greenhouse whitefly & sweet potato whitefly)	flonicamid	-	Aria 50 WDG
	fluvalinate	-	Mavrik Aquaflo 22.3 F
	kinoprene	-	Enstar II
	naled	-	Dibrom 8 Emulsive
	bifenthrin	-	Talstar Nursery 7.9F Talstar 7.9 F Attain TR 0.5 A
	acephate	-	Orthene Turf, Tree & Ornamental Spay 75 SP Address T/O 75 SP 1300 Orthene TR 12 A
	fenoxycarb	-	Preclude TR 4.8 A Precision 25 WP
	cyfluthrin	-	Decathlon 20 WP
	chlorpyrifos plus cyfluthrin	-	Duraplex TR 8A
	pyrethrins plus piperonyl butoxide	-	Pyrenone 1100 Pyrethrum TR Natural Pyrethrin Concentrate
	combinations	-	Tame & Orthene Enstar II & Mavrik

Pest	Insecticide and Formulation	
WHITEFLIES	azadirachtin	- Azatin XL, Ornazin
(cont'd)	abamectin	- Avid 0.15 EC
	insecticidal soap	- M-Pede
	horticultural oil	- SunSpray Ultra-Fine Oil 98.8 EC (0.5-1% spray solution)
	imidacloprid	- Marathon II Marathon 60 WP Marathon 1 Granular
	pyridaben	- Sanmite 75WSB
	lambda-cyhalothrin	- Scimitar GC 9.7 ME
	permethrin	- Perm-Up 3.2 EC
	pyriproxyfen	- DISTANCE 0.86 EC
	pymetrozine	- Endeavor 50 WDG
	diflubenzuron	- Adept 25 WSP
	<i>Beauveria bassiana</i>	- BotaniGard ES - Naturalis H&G
	thiamethoxam	- Flagship 25WG
	novaluron	- Pedestal 10SC
	acetamiprid	- TriStar 30 SG
	buprofezin	- Talus 70WSP
	dinotefuron	- Safari 20 SG
	flonicamid	- Aria 50 WDG - suppression only of silverleaf whitefly
	spiromesifen	- Judo 4 F