MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Insect Controls for the Greenhouse Industry Michigan State University Michigan State University Extension Replaces NCR 558 David R Smitley and Terrance W. Davis, Department of Entomology Revised November 2000 1 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.

Insect Controls for the Greenhouse Industry

Note: An X in the table below indicates which insect and mite pests are listed on product labels by the company selling the product. It does not guarantee that the insecticidal products will provide adequate control of the pests listed on the label. For more information on how well insecticidal products worked in research trials, contact a greenhouse Extension agent in your area.

	Trate name	Common tool	Formation	Wannesting	010	sine sine	wate	verstatile's	He He	in the second	AD IN ST	ALL STOLES	astrines a	Ale of the of th	sale insert	and this	mins	ATININS CISS	Hubes
1	Avid 0.15EC	abamectin	0.15 lb ai/gal	Novartis	1.9	warning		12		X		X			X	X	X	actinomycete fermentation	Will suppress populations of aphids, whitefly and thrips. Young immatures must be contacted by spray.
2	Conserve SC	spinosad	1.0 lb ai/gal	Dow AgroSciences	11.6	caution		4				x			x	X		actinomycete fermentation	Do not apply more than 10 times in a 12 month period. Do not apply to vegetables. Do not apply more than 3 times in a row without rotating with a different chemistry. Follow label directions for spider mite control.
3	Endeavor	pymetrozine	50 WDG	Novartis	50.0	caution		12		X							X	azomethine	
4	BotaniGard ES	Beauveria bassiana	80 billion spores/gal	Mycotech	11.3	warning	0	12		X			X			X	X	biological	Treat every 7 days while insects are active. Do not tank mix with fungicides.
5	Gnatrol	<i>Bacillus thuringiensis</i> Israelenis	2.19 BIU/gal	Valent	0.6	caution		4			X							biological	Make 3 weekly applications when all stages present, sufficiently wet the soil surface above & below benches where larvae found. Applications must be timed for a stage of development when larvae are present in the soil.
6	Naturalis-O	Beauveria bassiana	7.16%	Troy Biosciences	7.2	caution		4		Х	x		X		X	X	X	biological	Treat every 7 days while insects are active. Do not tank mix with fungicides.
7	Closure	bendiocarb	76 WP	Scotts - Sierra	76.0	warning		12		X			X	X		X		carbamate	Check label for species list. Do not apply to cardoon, coleus, gloxinia or espiscia as injury may occur.
8	Mesurol 75-W	methiocarb	75 W	Gowan	75.0	warning		24	R	X	(X)				X	X		carbamate	
9	Floramite	bifenazate	50 WSP	Uniroyal	50.0	caution		12							X			diphenyl carbamate	
10	Adept	diflubenzuron	25 W	Uniroyal	25.0	caution		12			X							insect growth regulator	Do not apply to Poinsettia, hibiscus and Reiger begonia. Adept will also provide whitefly suppression.
11	Citation	cyromazine	75 WP	Novartis	75.0	caution		12			X	X						insect growth regulator	
12	Distance	pyriproxyfen	0.86 lb ai/gal	Valent Biosciences	11.2	caution		12			X		(X)	X	_		X	insect growth regulator	Don't apply more than 2 times per cropping cycle or per 6 months. Do not apply to salvis, ghost plant, boston fern, schefflera or coral bell. Can be used for aphid suppression.
13	Enstar II	kinoprene	.625 lb/pint	Wellmark	65.1	warning		4		Х	x			X			X	insect growth regulator	Apply pre-bloom
14	Precision	fenoxycarb	25 WP	Novartis	25.0	caution		12			X			X		X	X	insect growth regulator	
15	Preclude TR	fenoxycarb	aerosol	Whitmire Micro-gen	0.6	caution		12		Х				X		X	X	insect growth regulator	
16	Insecticidal Soap	soap	liquid	Olympic	49.5	warning	0	12		X				X	X	X	X	insecticidal soap	Do not use on chrysanthemum, bleeding heart, jade, lantana, lillies or sweetpeas. Some varieties of azaleas, begonias, camellias, fuschias, gardenias, orchids and impatiens have shown sensitivity. Do not use on poinsettia after bract formation.
17	Azatin XL	azadirachtin	0.265 lb ai/gal	Olympic	3.0	caution	0	4		X	X	X	X			X	X	neem extract	Must contact insect. Aphid suppression only.
18	Neemazad	azadirachtin	liquid	Thermo Trilogy	0.3	caution		12		X		X	X			X	X	neem extract	Most effective when applied 2-3 times. Do not apply to stressed plants
19	Triact 70	neem extract	5.46 lb ai/gal	Olympic	70.0	caution		4		X				X	X		X	neem extract	Also controls a number of fungal diseases.
20	Marathon 1% Granular	imidacloprid	1 G	Olympic	1.0	caution		12		Х	(X)	X	X	X	-	X	X	neonicotinoid	Not to be used more than once every 16 weeks. Thrips in buds will only be suppressed. Don't apply to soils which are water-logged, or saturated. Don't apply to bedding plants intended to be used as food crops.
21	Marathon 60 WP	imidacloprid	60 WP	Olympic	60.0	caution		12		X	(X)	X	X	X		X	X	neonicotinoid	Not to be used more than once every 16 weeks. Thrips in buds will only be suppressed. Don't apply to soils which are water-logged, or saturated. Don't apply to bedding plants intended to be used as food crops.
22	Fulex Nicotine Fumigator	nicotine	smoke	Fuller System	14.0	danger		***	R	Х		1				Х		nicotine	Can be used on tomato, cucumbers and lettuce.
23	Sunspray Ultra-Fine	petroleum oil	liquid	Sun Corp.	98.8	caution	0	4		X		X	X	X	X		X	oil	Do not spray plants under stress. Target pest must be completely covered with spray.
24	Fulex Thiodan Smoke	endosulfan	smoke	Fuller System	15.0	danger		***		x							x	organochlorine	Can be used on tomatos and cucumbers. Only controls adult whiteflies.
25	Gowan Endosulfan 3EC	endosulfan	3 EC	Gowan	34.0	danger	0	24		X							X	organochlorine	Do not apply to "Bonnafon Deluxe". "Fred Shoesmith" or "White Knight" chrysanthemums
26	Gowan Endosulfan	endosulfan	50 WSB	Gowan	50.0	danger	0	24		X		-					X	organochlorine	Do not apply to "Bonnafon Deluxe", "Fred Shoesmith" or "White Knight" chrysanthemums
27	Kelthane T/O	dicofol	50 WP	Rohm & Haas	50.0	caution		12				-			x			organochlorine	Not available for purchase after Feb 1, 2001, All stock must be used by Feb 1, 2002.
28	Pinpoint	acephate	15 G	Valent Biosciences	15.0	caution		12		x			X				(X)	organophosphate	Only for use on azalea, holly, pyracantha, photinia, crape myrtle and poinsettia.
29	Duraplex TR	chlorpyrifos/cyfluthrin	aerosol	Whitmire Micro-gen	8.0/1.6	warning		12		x		4	X	x		X	X	organophosphate /	
																		synthetic pyrethroid	
30	1300 Orthene TR	acephate	aerosol	Whitmire Micro-gen	3.0	warning		24		X	X	X	X	X	X	X	X	organophosphate	
31	Address 1/U	acephate	75 WP & 75 WSP	Konm & Haas	75.0	caution		24		X		<u>k</u> -	X	X		X	X	organophosphate	For use on roses, follage plants, orchids, anthuriums, cacti, poinsettia, carnations and chrysanthemum. Damage has occurred on some varieties of chrysanthemum. Scale control is for crawler stage.
32	Duraguard ME	chlorpyrifos	liquid	Whitmire Micro-gen	20.0	caution		12		X	X	X	X	X	X	X		organophosphate	
33	Fulex DDVP Fumigator	dichlorvos	smoke	Fuller System	12.0	danger		***	R	X			X			X		organophosphate	Can also be used on tomatos, radishes, cucumbers and lettuce.
34	Fulex Dithio Smoke Fumigant	suifotep	SMOKE	Fuller System	14.0	danger			R	X			X		X	X	X	organophosphate	Fulex Dithio Smoke Fumigant will be manufactured through Sept. 30, 2002. It can be used until Sept. 30, 2004.
35	KnoxOut GH	diazinon	2 lb ai/gal	Cleary	23.0	caution		12		X	x	x	X	x	x	X	X	organophosphate	Will not control whitefly - suppression only. Check the label for the list of plants that can be treated and for the plants exhibiting a phytotoxic reaction.
36	Orthene Turf, Tree & Ornamental Spray 97	acephate	97 PE	Valent Biosciences	97.0	caution		24		X		(X)	X	X		X	X	organophosphate	A number of varieties of chrysanthemum have exhibited phytotoxic reactions. Only labelled for use on anthurium, cacti, carnation, rose, orchids, some foliage plants, young poinsettia zz and some varieties of chrysanthemum.
37	Orthene Turf, Tree & Ornamental Spray	acephate	75 WSP	Valent Biosciences	75.0	caution		24		X		(X)	X	X		X	X	organophosphate	A number of varieties of chrysanthemum have exhibited phytotoxic reactions. Only labelled for use on anthurium, cacti, carnation, rose, orchids, some foliage plants, young poinsettia and some varieties of chrysanthemum.
38	Ovation SC	clofentazine	4 lb ai/gal	Scotts - Sierra	42.0	caution		12							X			tetrazine	
39	1100 Pyrethrum TR	pyrethrin & PBO	aerosol	Whitmire Micro-gen	1.5	caution	0	12		X	X		X	X	X	X	X	synthetic pyrethroid	
40	Astro	permethrin	3.2 lb ai/gal	FMC	36.8	caution		12		Х	X	X	X				X	synthetic pyrethroid	Direct application to blooms may cause browning of petals. Marginal leaf burn may occur on salvia, diffenbachia and Pteris fern.
41	Attain TR	bifenthrin	aerosol	Whitmire Micro-gen	0.5	caution		12		X	X	<i></i>	X	X	X	X	X	synthetic pyrethroid	
42	Decathlon 20 WP	cyfluthrin	20 WP	Olympic	20.0	caution		12		X	X	ć.	X	X		X	X	synthetic pyrethroid	
43	Mavrik Aquaflow	fluvalinate	2 lbs/gal	Wellmark	22.3	caution		12		X					X	X	X	synthetic pyrethroid	
44	Talstar GH	bifenthrin	0.67 lb ai/gal	Whitmire Micro-gen	7.9	caution		12		X	X	X	X	X	X	X	X	synthetic pyrethroid	
45	Flowable	DITENTIN	0.66 F	wnitmire Micro-gen	7.9	caution		12		X	X	X	X	X	X	X	X	synthetic pyrethroid	
46	Tame 2.4 EC Spray	fenpropathrin	2.4 lb ai/gal	Valent Biosciences	30.9	warning		24	R	X			X		X	X	X	synthetic pyrethroid	
47	Sanmite	pyridaben	75 WP	BASF	75.0	danger		12							X		X	pyridizinone	

*** reentry = 0 after greenhouse is reventilated.

X = Insect pest is listed on label

(X) = Insecticide may provide good control of the insect or mite even though it is not on the label.

o = Can be used on vegetables

R = restricted use pesticide



PESTICIDE EMERGENCY INFORMATION

For any type of an emergency involving a pesticide, immediately contact the following emergency information centers for assistance. Current as of August 2000

Human Pesticide Poisoning

MICHIGAN POISON CONTROL SYSTEM

From anywhere in Michigan, call

1 - 8 0 0 - P 0 | S 0 N 1 1 - 8 0 0 - 7 6 4 - 7 6 6 1

Special Pesticide Emergencies

Animal Poisoning	Pesticide Fire	Traffic Accident	Environmental Pollution	Pesticide Disposal Information		
Your veterinarian:	Local fire department:	Local police department or sheriff's department:	Pollution Emergency Alerting System (PEAS), Michigan Department of Environmental Quality:	Michigan Department of Environmental Quality. Waste Management Division. Monday– Friday: 8 a.m.–5 p.m. (517) 373-2730		
Phone No.	Phone No.	Phone No.	District MDEQ Office Phone No.			
or	and	and	and			
Animal Health Diagnostic Laboratory (Toxicology) Michigan State University: (517) 355-0281	Fire Marshal Division, Michigan State Police: M – F: 8–12, 1–5 (517) 322-1924	Operations Division, Michigan State Police: *(517) 336-6605	For environmental emergencies: * 1-800-292-4706 also	National Pesticide Telecommunications Network Provides advice on recognizing		
	* Telephone Number	Operated 24 Hours	*1-800-405-0101 Michigan Department of Agriculture Spill Response	and managing pesticide poisoning, toxicology, general pesticide information and emergency response assistance. Funded by EPA, based at Oregon State University		
				7 days a week; excluding holidays 6:30 a.m. – 4:30 p.m. Pacific Time Zone 1-800-858-7378 FAX: 1-541-737-0761		

ons izing isoning, response , based at

Insect Controls for the Greenhouse Industry

Extension Bulletin - E-2696, Revised November 2000

By David R. Smitley and Terrance W. Davis Department of Entomology Michigan State University

The Michigan Department of Agriculture (MDA) requires that chemicals used in the greenhouse must have Worker Protection Standards and list "greenhouse" or "glasshouse" in a location on the label other than the "Agricultural Use Requirements" box.

The MDA has also ruled that if the site, host plant and chemical are listed on the label, insects not on the label may be treated. Any other use inconsistent with the label can lead to injury of crops, humans, animals and the environment and can lead to fines and/or condemnation of the crop.

Vegetables include any plants being used as food or that will be transplanted as food crops later.

Always check the label for updated information. Labels change often. Some chemicals listed in this bulletin may be dropped by the manufacturer or distributor after publication of this bulletin. If you have questions about the legality and/or the registration status of pesticides, contact your county Extension office, pesticide dealer or manufacturer.

Do not apply chemicals to plants that are stressed (by water, high temperatures or high humidity) because this increases the possibility of phytotoxicity. Always treat a small portion of plants of each variety with any new chemical (or combination of chemicals) and check them for damage 7 days later — before treating the whole crop. Chemicals that may not cause phytotoxicity when applied by themselves may cause damage when mixed together.

MICHIGAN STATE UNIVERSITY **EXTENSION**

MSU is an Affirmative-Action Equal-Opportunity Institution. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, mar-ital status, or family status. I Issued in furtherance of Extension work in agriculture and home economics, acts of May 8 and June 20, 1914, in cooperation with the U.S. Department of Agriculture. Arlen Leholm, Extension Director, Michigan State University, E. Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned. This bulletin becomes pub-lic property upon publication and may be printed verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.

Major Revision (destroy old) 11:00-1.2M-KMF/GP