Insect pest management for greenhouses

R. Chris Williamson, Samuel Soper and P.J. Liesch

			Active	Formulation			Signal	REI (Hours)	Restricted Use	Vegetables	Organic	Aphids	Caterpillars	Fungus Gnats	Leafminers¹	Mealybugs	Scales	Mites ²	Thrips	Whiteflies	Shoreflies	Slugs and Snails
1	Common Name Abamectin	Trade Name Avid 0.15 EC	2	EC	Manufacturer Syngenta	Chemical Class Avermectin	Word Warning	12		×	Ō	<u>₹</u>	Ü	고	٦	Σ	Sc	Z	=	>	S	S
		Abamectin 0.15 EC Abamectin 0.15 ECand others	2 1.9	EC EC	Prime Source Quali-Pro	Avermectin Avermectin	Warning Warning	12 12				S S			0				S S	S S		
2	Abamectin + Bifenazate	Sirocco	43.2 + 2.2	SC	OHP	Avermectin + Bifenazate	Warning	12				S							S	S		
3	Acephate	1300 Orthene TR Orthene Turf, Tree, &	12 75	V WSP	BASF AMVAC	Organophosphate Organophosphate	Caution Caution	24 24														
		Ornamental Orthene 97	97.4	SP	AMVAC	Organophosphate	Caution	24				٥				٥						
4	Acequinocyl	and others Shuttle O	15.8	SC	OHP	Acequinocyl	Caution	12														
5	Acetamiprid	Kanemite Tristar 8.5 SL	15.8 8.5	SC SL	Arysta Nufarm	Acequinocyl Neonicotinoid	Caution	12														
6	Azadirachtin	Azatin O	4.5	EC	OHP	Botanical	Caution	4														
		Azatrol Ornazinand others	1.2	EC EC	Gordon's SEPRO	Botanical Botanical	Caution Warning	12														
7	Azadirachtin + Pyrethrins	Azera	1.2 +	EC	MGK	Botanical + Botanical	Caution	12														
8	Bacillus thuringiensis	Gnatrol	37.4	WDG	Valent	Microbial	Caution	4														
9	subsp. israelensis Bacillus thuringiensis	Dipel Pro DF	54	DF	Valent	Microbial	Caution	4														
10	subsp. kurstaki Beauveria bassiana (strain GHA)	BotaniGard ES BotaniGard 22WP	11.3	ES WP	Bioworks Bioworks	Microbial Microbial	Caution	4														
11	<u>, </u>		22				Caution	12														
11	Bifenazate Bifenthrin	Floramite SC Attain TR	22.6	WSP V	BASF	Carbazate Pyrethroid	Caution Warning	12		Т												
		Menace Talstar Sand others	7.9 7.9	F F	Nufarm FMC	Pyrethroid Pyrethroid	Caution Caution	12 12						0								
13	Buprofezin	Talus DF	70	DF	SEPRO	Insect growth regulator	Caution	12		Т												
14 15	Cyantraniliprole Chlorfenapyr	Mainspring Pylon L	18.66 21.4	SC L	Syngenta BASF	Diamide Pyrrole	NA Caution	12														
16	Chlorpyrifos	Pylon TR Chlorpyrifos SPC 4	4.5	V	BASF Nufarm	Pyrrole Organophosphate	Warning	12		ā				S				<u>.</u>	S			
		Duraguard ME	20	ME	BASF	Organophosphate	Caution	24														
17	Chlorpyrifos + Cyfluthrin	Duraplex TR	8.0 + 1.6	V	BASF	Organophosphate + Pyrethroid	Warning	24														
18	Clofentazine	Ovation SC Ovation SC	42 42	SC SC	Everris Scotts	Tetrazine Tetrazine	Caution Caution	12 12														
19	Cyfluthrin	Decathlon 20 WP	20	WP	ОНР	Pyrethroid	Caution	12														
20	Cyfluthrin + Imidacloprid	Discus N/G	0.7 + 2.94	SC	OHP	Pyrethroid + Neonicotinoid	Caution	12											S			
21	Cyromazine	Citation	75	WSP	· · ·	Cyromazine	Caution	12														
22 23	Diflubenzuron Dinotefuran	Adept Safari	25 20	WSP SG	OHP Valent	Benzoylurea Neonicotinoid	Caution Caution	12 12											S	S		
24 25	Etoxazole Fenazaquin	TetraSan Magus	5 18.79	WDG EC	Valent Gowan	Etoxazole METI acaricide	Caution Warning	12 12														
26	Fenbutatin-oxide	ProMite	50	WP	SEPRO	Organotin miticide	Danger	48														
		Meraz Vendex	50 50	WSP WSP	UPI UPI	Organotin miticide Organotin miticide	Danger Danger	48 48														
27 28	Fenpropathrin +	Tame Tame/Orthene TR	30.9 1.0 +	EC V	Valent BASF	Pyrethroid +	Warning Warning	24														
29	Acephate	Akari 5 SC	1.5	SC	SEPRO	Organophosphate METI acaricide		12					_			S						
30	Fenpyroximate Flonicamid	Aria	5 50	WDG	FMC	Flonicamid	Warning Caution	12								<u></u>			S			
31	Fluvalinate	Beleaf Mavrik	50 22.3	SG F	FMC Wellmark	Flonicamid Pyrethroid	Caution Caution	12 12														
32 33	Hexythiazox	Hexygon Imidacloprid 2F	50 21.8	WP F	Gowan Quali-Pro	Hexythiazox Neonicotinoid	Caution Caution	12 12		T									S			
	Imidacloprid	Marathon 60 WP Marathon II and others	60 21.4	WP F	OHP OHP	Neonicotinoid Neonicotinoid	Caution Caution	12 12		0 0		0		0	0.0	0 0)		S S	0		
34	Iron Phosphate + Spinosad	Sluggo Plus T & O	0.97 + 0.97	G	Brandt	Inorganic + Spinosyn	Caution	4														
35	<i>Isaria fumosorosea</i> Apopka Strain 97 [ATCC 20874]	Preferal PFR-97	20 20	WDG WDG		Microbial Microbial	Caution Caution	4 4										0	0			
36	Kinoprene	Enstar AQ	18.4	EC	Wellmark	Juvenile hormone analogue	Caution	4														
37	Lambda-cyhalothrin	Lambda GC-O Scimitar GC	9.7 9.7	EC EC	Quali-Pro Syngenta	Pyrethroid Pyrethroid	Warning Caution	24 24														
38	Metaldehyde	Metaldehyde 7.5 Deadline Bullets	12 12	G P	Durham Amvac	Aldehyde molluscicide Aldehyde molluscicide	Caution Caution															
39	Methiocarb	Beadline M-Ps Mesurol 75-W	12 75	P WP	Amvac Gowan	Aldehyde molluscicide Carbamate	Caution Danger	24														
40	Mineral oil	Purespray Green SuffOil-X Ultra-Pure Oil	98 80 98	Oil Oil Oil	Petro-Canada BioWorks BASF	Oil Oil Oll	Caution Caution Caution	4 4	<u> </u>	<u> </u>	0	000		0 0	0	0		000				
		and more						4														
41 42	Naled Neem oil	Dibrom 8 Triact 70	62 70	EC Oil	AMVAC OHP	Organophosphate Botanical	Danger Caution	24														
43	Novaluron	Pedestal	10	SC	Chemtura	Benzoylurea	Caution	12							S							
44	Paecilomyces fumosoroseus strain FE 9901	NOFLY WP	18	WP	Novozymes	Microbial	Caution	12														
45	Permethrin	Astro Perm-Up	36.8 36.8	EC EC	FMC UPI	Pyrethroid Pyrethroid	Caution Caution	12 12				0	0	0	0	0				0		
46	Potassium salts of fatty acids	DES-X M-Pede	47 49	L	Certis Gowan	Insecticidal soap Insecticidal soap	Warning Warning	12 12														
47	Pymetrozine	Endeavor	50	WDG	Syngenta	Pymetrozine	Caution	12														
48	Pyrethrins	Tersus Pyganic	5.0 1.4	SC EC	MGK MGK	Botanical Botanical	Caution Caution	12 12											0			
49	Pyrethrins + Piperonyl butoxide	Pyreth-It Pyrethrum TR Stryker and others	6+ 60 4+ 16 6+	EC V EC	BASF BASF CSI	Botanical Botanical Botanical	Caution Caution Caution	12 12 12		000		0 0	000	000				000				
50	Pyridaben	Sanmite	60 75	WP	Gowan	METI acaricide	Warning	12														
51	Pyridalyl	Overture	35	WSP	Valent	Pyridalyl	Caution	12														
52 53	Pyriproxyfen Spinetoram +	Distance XXpire	11.23 20 +	EC WG	Valent Dow	Juvenile hormone analogue Spinosyn +	Caution Caution	12 12				S				S		S				
54	Sulfoxaflor Spinosad	Conserve	20 11.6	SC	AgroSciences Dow AgroSciences	Sulfoxaflor Spinosyn	NA	4														
55	Spiromesifen	Judo	45.2	F	ОНР	Tetronic acid derivative	Caution	12														
56 57	Spirotetramat Thiamethoxam	Kontos Flagship 25 WG	22.4	F WDG	OHP Syngenta	Tetronic acid derivative Neonicotinoid	Caution	24 12														
		Flagship 0.22 G	0.22	G	Syngenta	Neonicotinoid	Caution	12												ū		

Formulation Types:

DF Dry Flowable; **EC** Emulsifiable Concentrate; **ES** Emulsifiable Suspension; **F** Flowable; **G** Granules; **L** Liquid; **ME** Microencapsulated; **Oil** Oil; **P** Pellets; **SC** Suspension Concentrate; **SG** Soluble granule; **SL** Soluble Concentrate; **SP** Soluble Pellets; **V** Vapor, pressurized total release; **WDG; WG** Water Dispersible Granules; **WP** Wettable Powder; **WSP** Water Soluble Packets

- 1. Both Dipteran and Lepidopteran leafminers exist. Consult the pesticide label to ensure that your particular pest is controlled.
- 2. Many different types of mites can occur in greenhouses. Consult the pesticide label to ensure that your particular pest is controlled.
- S Product provides suppression of selected pestT Vegetable use limited to tomatoes only

References to pesticide products in this poster are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.



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