

Table E-6. Insecticides and Miticides Labeled for Use on Greenhouse Vegetables

Pesticides are listed in alphabetical order by Active Ingredient. The IRAC number refers to the Mode of Action, see section E 3.2. “Insecticide Mode of Action: Reducing the Risk of Insecticide Resistance”

IRAC Group	Active Ingredient Product Name(s)	Target Pests	Labeled Crops	PHI (d)	REI (h)	Comments
20B	acequinocyl Kanemite 15SC, Shuttle O	Two spotted spider mites	Fruiting vegetables, except cucurbits	1	12	Use at least 100-gal water/A 2 applications per year No surfactant or adjuvant use
4A	acetamiprid TriStar 30SG	Aphids, leafhoppers, mealybugs, caterpillars, plant bugs, whiteflies, fungus gnat larvae, thrips, beetles, leafminers	Leafy vegetables, fruiting vegetables, cole crops, cucurbits, onions and bulb vegetables	7	12	For vegetables grown as transplants only. Treat small area to test for phytotoxicity first.
18b	azadirachtin Azatin XL, Azatrol EC, Neemix, Ornazin, Azahar, Aza-Direct	Immature stages of whiteflies, aphids and other listed insects; fungus gnat larvae (as soil drench)	Most vegetables including fruiting vegetables and cucurbits, herbs, spices and others	0	4 or 12 Check label	Botanical insect growth regulator (some products OMRI listed). Can be applied via chemigation. Spray water pH should be between 5.5 and 6.5. REI 12 for Neemix and Ornazin
11	Bacillus thuringiensis var <i>aizawai</i> XenTari, Agree	Armyworms, beet armyworm, cabbage looper, tomato fruitworm	Most vegetables including fruiting vegetables and cucurbits, herbs, spices and others	0	4	Lepidopteran larvae only - most effective against early instars.
11	Bacillus thuringiensis var <i>israelensis</i> Gnatrol	Fungus gnats (larvae only)	All vegetables	0	4	Drench. Repeat applications may be needed.
11A	Bacillus thuringiensis var <i>kurstaki</i> Dipel, Javelin, Deliver, Biobit	Armyworms, beet armyworm, cabbage looper, tomato fruitworm,	Most vegetables including fruiting vegetables and cucurbits, herbs, spices and others	0	4	Lepidopteran larvae only - most effective against early instars.
n/a	Beauveria bassiana strain GHA Mycotrol O (OMRI listed) BotaniGard ES, BotaniGard WP	Aphids, thrips, whiteflies, certain other pests	All vegetables, herbs, spices and others	0	4	Slow acting, fungus infects insects. Repeat applications at 5-10-day intervals may be needed. Note storage and other restrictions. Do not use BotaniGard ES on tomatoes.
25	bifenazate Floramite SC	Spider mites, clover mites	Tomatoes	3	12	No more than 2 applications per crop per season for tomatoes that are greater than 1” in diameter at maturity. Maintain spray water pH 5.5-6.5. Do not use an adjuvant.
16	buprofezin Talus 40SC	Leafhoppers, mealybugs, whiteflies	Tomatoes	1	12	Insect growth regulator for immature stages only. Maximum 2 applications per season at least 5 d apart. Will reduce egg viability.
13	chlorfenapyr Pylon	Caterpillars, spider mites (<i>Tetranychus</i> spp.), broad mites, western flower and melon thrips	Tomato, tomatillo, ground cherry, peppers, eggplant, pepinos	0	12	Do not use on tomato varieties with mature fruit less than 1 inch in diameter. No more than 3 applications per crop.
28	cyantraniliprole Exirel	Thrips, Whitefly	Tomato, eggplant, peppers	1	12	For whitefly add effective adjuvant. Only suppresses thrips

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28 + 6	cyantraniliprole + abamectin Minecto Pro	Leafminer, Spider mites, Tomato russet mite, Tomato psyllid, Whitefly	Tomatoes	1	12	Tomatoes only. Foliar feeding thrips suppression only. Thorough coverage is essential to obtain best results.
17	cyromazine Citation	Leafminers, fungus gnats, shore flies	Only for vegetable transplant production grown for consumers	7	12	Do not apply within 7 d of shipping to market. No more than 6 applications per crop
4A	dinotefuran Safari 20 SG	Aphids, leafminers, mealybugs, whiteflies	Cucurbits, fruiting vegetables, head and stem brassicas, leafy vegetables	1 or 7	12	One application/crop. For vegetable transplants only. May be applied via a chemigation system. PHI 7 for leafy vegetables, PHI 1 for all other.
10B	etoxazole TetraSan 5WDG	Spider Mites	Tomatoes only	1	12	Do not make more than 2 applications per season. Do not use with an adjuvant.
21A	fenpyroximate Akari	Two spotted spider mites (suppresses whiteflies)	Cucumbers	7	12	One application per growing season. Do not use adjuvants.
29	flonicamid Beleaf 50 SG	aphids, plant bugs, GH whitefly	Cucumbers	0	12	Allow a minimum of 7-days between applications. Whitefly suppression only
4D	flupyradifurone Altus 1.67 SL	Aphids, whiteflies, chili thrips, squash bug, psyllids, leaf hoppers	Cucumbers, Lettuce, Tomatoes, Peppers, Many vegetable transplants	1-all but Pepper-3	4	Do not make more than 1 (one) application to transplants per season
10A	hexythiazox Onager miticide IEC	Two spotted spider mites, European red mites	Tomatoes	1	12	Do not make more than 1 (one) application per year
4A	imidacloprid Marathon	Aphids, fungus gnat larvae, leafhoppers, whiteflies	Cole crops, collards, kale, kohlrabi, lettuce, mustard greens, pepper, tomato, eggplant.	-	12	Use on vegetable plants intended for resale only. May be applied via a chemigation system.
4A	imidacloprid Admire PRO	Aphids, whiteflies	Tomato and cucumber only in production greenhouses.	0	12	Only for plants growing in field soil, potting media or mixes. Do not apply to plants growing hydroponically or in rock wool, perlite or other soil-less mix. May be applied as drench or chemigation system. Label notes possible repellent effect on bumblebees and some beneficials (<i>Orius</i> sp.)
n/a	iron phosphate Sluggo-AG, Escar-Go	Slugs and snails	All vegetables	0	0	OMRI listed. Bait; scatter around plants or perimeter of plantings.
1B	malathion Gowan Malathion 8F	Japanese beetles, thrips, onion maggots	Succulent beans, cucumbers, eggplant, lettuce, green and bulb onions, sweet corn, tomatoes (crops vary depending on label)	1 to 7	12	See label for specific crops. May be applied through a chemigation system.
n/a	paraffinic oils Sunspray Ultra-fine SuffOil-X	Aphids, two spotted spider mites, leafminers, thrips, whitefly	Tomato, pepper, lettuce, cucurbits, radish, squash, herbs, spices	1	4	Do not exceed 4 applications a growing season. Allow 2 w between applications.

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n/a	potassium salts of fatty acids insecticidal soap M-Pede	Aphids; leafminer; spider, broad and russet mites; thrips; whiteflies; plant bugs; leafhopper; powdery mildew (cucumber only)	Many vegetables (see label for specifics), herbs, spices	0	12	Works well on whiteflies, mites and aphids if coverage is good but has no residual control. Note label cautions about application frequency, water quality and tank mixing. OMRI listed
3a	pyrethrins Pyrenone Crop Spray, Pyronyl Crop Spray, PyGanic, Pyrethrum PT	All	All vegetables, herbs, spices	0	12	Pyrenone and Pyronyl include PBO synergist; PyGanic is OMRI listed.
21	pyridaben Sanmite	Two spotted spider mite, whiteflies, leafhoppers, European red mite, some aphid species, broad mite	Tomatoes (PHI 2) and Cucumbers (PHI 1)	1 or 2	12	Only 2 applications per crop per year. Allow 30 days between sequential applications.
7c	pyriproxyfen Distance	Whiteflies, aphids, fungus gnats, shoreflies	Fruiting vegetables (except non-bell peppers)	1	12	Insect growth regulator. Do not use on tomato varieties with mature fruit less than 1 inch in diameter. Spray, sprench or drench.
n/a	rosemary oil + peppermint oil Ecotec	Aphids, beetles, mites, thrips, plant bugs, others	Many vegetables, herbs, spices	0	0	OMRI listed. Can be applied in drip for soil pests.
23	spirotetramat Kontos	Aphids, leafhoppers, mealybugs, psyllids, spider mites, spittlebugs, whiteflies	Vegetable transplants only (see label for list)	-	24	Apply as drench or via an irrigation system to plants in containers. Not for use in vegetable production.
4a	thiamethoxam Flagship 25WG	Whiteflies, leafhoppers, Colorado potato beetle, stinkbugs	Fruiting vegetables and cucurbits	-	12	ONLY use for vegetable transplants intended for resale