



## Integrated Pest Management Program

Department of Plant Science and Landscape Architecture  
UConn Extension

### Selected Insecticides and Miticides Labeled for Insects and Mites on Vegetable Bedding Plants/Transplants

If any information in this table is inconsistent with the label, then follow the label.

Insecticide	Target Pests	Labeled Crops	Comments
Acetamiprid (Tristar 8.5SL) 12 hr. REI Group 4A	Aphids, beetles, caterpillars, fungus gnat larvae, leafminers, leafhoppers, plant bugs, thrips, whiteflies	Bulb, Cole, cucurbit, fruiting, and leafy vegetable transplants.	Contact insecticide with high absorption and upward systemic mobility.
Afidopyropen (Ventigra) 12 hr. REI Group 9D	Aphids, whiteflies, mealybugs	Cole, cucurbit, fruiting and leafy vegetable transplants for the home consumer market.	Contact insecticide with ingestion and translaminar activity. For vegetable transplants sold for consumer market only, not for commercial agriculture.
Azadirachtin (Aza-Direct) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnat larvae, plant bugs, leafminers, leafhoppers, thrips, mites, whiteflies	Bulb, cucurbit, fruiting and leafy and miscellaneous vegetable transplants.	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.
Azadirachtin (AzaGuard) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnat larvae, leafminers, leafhoppers, mites, shore flies, thrips, whiteflies	Cole crops, cucurbit, eggplant, pepper, tomato and other miscellaneous crops.	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.
Azadirachtin (Azatin O) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnat larvae, plant bugs, leafminers, leafhoppers, shore fly larvae, thrips, whiteflies	Bulb, Cole crops, cucurbit, fruiting and leafy vegetable transplants.	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.
Azadirachtin (Molt X) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnat larvae, leafminers, shore fly larvae, thrips, whiteflies	Cole Crops, cucurbits, eggplant, pepper, tomato and other miscellaneous crops.	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.
Azadirachtin (Ornazin 3% EC) 12 hr. REI	Aphids, beetles, caterpillars, fungus gnat larvae, leafhoppers, leafminers, shore fly larvae, thrips, whiteflies	Cole crops, cucurbit, eggplant, pepper, tomato and other miscellaneous crops.	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.

Azadirachtin (Neemix 4.5) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnat larvae, leafhoppers, leafminers, whiteflies	Vegetables	Contact insecticide. Insect growth regulator for immature stages of insects. Repeat applications needed.
Azadirachtin & pyrethrins (Azera Pro) 12 hr. REI Group unknown and 3A OMRI-certified product	Aphids, beetles, caterpillars, fungus gnats, leafhoppers, leafminers, shore flies, thrips, whiteflies	Bulb, leafy, Brassica leafy, fruiting and cucurbit vegetable transplants.	Insect growth regulator and contact insecticide combined.
<i>Bacillus thuringiensis subsp.</i> <i>aizawai</i> (XenTari) (Agree WG) 4 hr. REI Group 11A OMRI-certified products	Caterpillars (see labels for specific types)	Agree: Greenhouse vegetables: Cole Crops, tomato and pepper. Xentari: leafy, Cole leafy and fruiting vegetables.	Stomach poison that must be ingested to be active. Most effective against small newly hatched larvae. Insects stop feeding and die 1 to 5 days later.
<i>Bacillus thuringiensis subsp.</i> <i>kurstaki</i> (BT Now) (Dipel Pro DF) (Javelin WG) (Thuricide N/G) 4 hr. REI Group 11A OMRI-certified products	Caterpillars	Many vegetables.	Stomach poison that must be ingested to be active. Most effective against small, newly hatched larvae. Insects stop feeding and die 1 to 5 days later. Thorough spray coverage needed.
<i>Bacillus thuringiensis subsp.</i> <i>israelensis</i> (Gnatrol WDG) 4 hr. REI Group 11A OMRI-certified product	Fungus gnat larvae	Leafy and Cole crops, cucumber, pepper, tomato, eggplant.	Stomach poison that must be ingested to be active. Most effective against first instar larvae. Apply as a drench.
<i>Beauveria bassiana</i> ANT-O3 (BioCeres WP) 4 hr. REI OMRI-certified product	Aphids, plant bugs, thrips, whiteflies	Brassica leafy, bulb, cucurbit, fruiting and leafy vegetables.	Contact insecticide. Active ingredient is an insect-killing fungus.

<i>Beauveria bassiana</i> PPRI5539 (Velifer) 12 hr. REI	Aphids, mites, thrips and whiteflies	Vegetable transplants for the home consumer market.	Contact insecticide. Active ingredient is an insect killing fungus.
<i>Beauveria bassiana</i> GHA (BotaniGard ES and 22WP) 4 hr. REI	Aphids, leafhoppers, thrips, whiteflies	Many vegetables. Do not use ES formulation on tomatoes.	Contact insecticides. Active ingredient is an insect-killing fungus.
<i>Beauveria bassiana</i> GHA (Mycotrol WPO, ESO) 4 hr. REI OMRI-certified products	Aphids, leafhoppers, plant bugs, thrips, whiteflies	Many vegetables.	Contact insecticides. Active ingredient is an insect-killing fungus.
<i>Burkholderia ssp.</i> A396 (Venerate GC) 4 hr. REI OMRI-certified product	Aphid (suppression), caterpillars, mites, thrips, whiteflies	Cole crops, cucurbits and fruiting vegetable transplants.	Contact insecticide & stomach poison that disrupts insect exoskeleton interfering with molting.
Canola oil & pyrethrins (Pycana) 12 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, fungus gnats, leafhoppers, leafminers, plant bugs, spider mites, thrips, whiteflies	Bulb, leafy, fruiting, cucurbit, Brassica leafy vegetable transplants.	Combination of a botanical oil and pyrethrins. See label for plant safety information.
Chlorfenapyr (Pylon) 12 hr. REI Group 13	Broad mites, caterpillars, spider mites, thrips	Tomato, tomatillo, ground cherry, peppers, eggplant.	Insecticide/miticide with contact and translaminar activity.
Chlorfenapyr (Pylon TR) 12 hr. REI Group 13	Caterpillars, mites, thrips	Greenhouse fruiting vegetables such as eggplant, pepper and tomato.	Insecticide/miticide with contact and translaminar activity.
<i>Chromobacterium subtsugae</i> (Grandevo GC) 4 hr. REI OMRI-certified product	Aphids, beetles, caterpillars, leafhoppers, plant bugs, mites, thrips, whiteflies	Cole leafy, bulb, cucurbit, fruiting and leafy vegetable transplants.	Contact biological fungicide for young immature stages. See label for plant safety information.
Cyflumetofen (Sultan) 12 hr. REI Group 25	Two-spotted spider mites	Cucumber, pepper and tomato transplants for home consumer market (see supplemental labels).	Contact miticide.

Cyromazine (Citation) 12 hr. REI Group 17	Dipterous leafminer ( <i>Liomyza</i> sp.), fungus gnat and shore fly larvae	Vegetable transplants (brassica leafy, bulb, cucurbit, leafy vegetables, pepper and tomato) grown for sale to consumers.	Insect growth regulator. Available in water-soluble packets. Applied to growing media for fungus gnat larvae.
Dinotefuran (Safari 20 SG) 12 hr. REI Group 4A	Aphids, leafminers, thrips (suppression), whiteflies	Cucurbit, fruiting, Cole and leafy vegetable transplants grown in enclosed structures.	Contact and systemic insecticide for foliar application.
Flupyradifurone (Altus) 4 hr. REI Group 4D	Aphids, leafhoppers, whiteflies	Cucumber, lettuce, pepper and tomato transplants.	Systemic and translaminar insecticide applied as a drench or spray. Do not rotate with Group 4A products. See label for precautions on cucumbers.
Hexythiazox (Hexygon IQ) 12 hr. REI Group 10A	Spider mites	Pepper, eggplant and tomato transplants.	Ovicide (egg killing activity). Most active on eggs and immature stages.
Imidacloprid (Marathon) 12 hr. REI Group 4A	Aphids, leafhoppers, leafminers, fungus gnat larvae, thrips (suppression), whiteflies	Vegetable transplants intended for resale to consumers.	Systemic insecticide. Do not rotate with other products in Group 4A.
Insecticidal Soap (Kopa Insecticidal Soap) 12 hr. REI OMRI-certified product	Aphids, mites, plant bugs, whiteflies	Bulb, Cole, cucurbit, fruiting, leafy and other vegetable transplants.	Contact insecticide. Short residual activity. See label for plant safety information.
Insecticidal Soap (M-Pede) 12 hr. REI OMRI-certified product	Aphids (suppression), broad mites, leafhoppers, leafminers, plant bugs, spider mites, thrips, whiteflies	Bulb, Cole, cucurbit, leafy and fruiting vegetable transplants.	Contact insecticide. Short residual activity. See label for plant safety information.
Iron phosphate (Sluggo) 0 hr. REI OMRI-certified product	Slugs, snails	Cole crops, lettuce, onion, eggplant, pepper, tomato and others.	Bait. Best applied in the evening. Can be used around pets and wildlife.
Iron phosphate & spinosad	Cutworms, slugs, snails	Bulb, Cole, cucurbit, leafy and	Bait.

(Brandt Antixx Plus Insect, Slug and Snail Bait) 4 hr. REI OMRI-certified product		fruiting vegetables.	
Iron phosphate & spinosad (Bug- N- Sluggo) 4 hr. REI OMRI-certified product	Cutworms, slugs, snails	Bulb, leafy, Cole crops, cucurbit and fruiting vegetables.	Bait.
<i>Isaria fumosorosea</i> Apopka 97 (Ancora) (PFR 97 20% WDG) 4 hr. REI OMRI-certified products	Aphids, leafminers, plant bugs, spider mites, thrips, whiteflies. Drench applications to thrips pupae.	Vegetables	Contact microbial insecticides. Apply when relative humidity is > 75%. See technical sheet & label for more information.
Mineral Oil (Organic JMS Stylet Oil) 4 hr. REI OMRI-certified product	Leafhopper, leafminers, mites, whiteflies	Cole crops, cucurbit, fruiting and leafy vegetable transplants.	Contact insecticide/miticide. Foliar injury may occur if applied during humid conditions. See label for plant safety information.
Mineral Oil (SuffOil- X) 4 hr. REI OMRI-certified product	Aphids, leafhoppers, leafminers, mites, thrips, whiteflies	Greenhouse vegetables such as cucumber, eggplant, melon, pepper, pumpkin, squash, and tomato.	Contact insecticide/miticide. Foliar injury may occur if applied during humid conditions. See label for plant safety information.
Mineral oil (Ultra-Pure Oil) 4 hr. REI OMRI-certified product	Aphids, leafhoppers, leafminers, mites, thrips, whiteflies	Cole crops, cucurbit, and fruiting vegetable transplants.	Contact insecticide/miticide. Foliar injury may occur if applied during humid conditions. See label for plant safety information.
Neem oil (Triact 70) 4 hr. REI OMRI-certified product	Aphids, broad mites, leafhoppers, spider mites, thrips suppression, and whiteflies	Bulb, Cole, cucurbit, fruiting and leafy vegetable transplants.	Contact insecticide. See label for plant safety information.
Parasitic Nematodes ( <i>Steinernema carpocapsae</i> ) (Millenium)	Shore fly larvae	Greenhouse Crops	Apply to moist growing media (55-86° F) during cloudy, overcast conditions. Remove screens and

Exempt from REI			filters from injectors, sprayers.
Parasitic Nematodes ( <i>Steinernema feltiae</i> ) (Entonem, NemaShield, Nemasys, ScanMask) Exempt from REI	Fungus gnat larvae, Thrips pupae in growing media	Greenhouse vegetables	Apply to moist growing media (50-86° F) during cloudy, overcast conditions. Remove screens and filters from injectors, sprayers.
Pymetrozine (Endeavor) 12 hr. REI Group 9B	Aphids, whiteflies	Many vegetables for home consumer market.	Insecticide with systemic and translaminar activity. Apply only to vegetable plants grown for sale to consumers.
Pyrethrins (PyGanic EC 1.4 11) (PyGanic EC 5.0 11) (PyGanic Specialty) 12 hr. REI Group 3A OMRI-certified products	Aphids, caterpillars, fungus gnat adults, leafhoppers, thrips, whiteflies	Bulb, Cole, cucurbit, fruiting and leafy vegetable transplants.	Contact insecticides. Provides rapid knockdown of pests.
Pyrethrins and <i>Beauveria bassiana</i> Strain GHA (BotaniGard Maxx) 12 hr. REI Group 3A and unknown	Aphids, beetles, caterpillars, fungus gnats, leafhoppers, plant bugs, spider mites, thrips, whiteflies	Bulb, leafy, brassica leafy, fruiting and cucurbit vegetable transplants.	Contact insecticides. Natural pyrethrum combined with insect killing fungus. Do not apply when beneficial insects are present.
Pyrethrins & PBO (Pyrethrum TR) 12 hr. REI Group 3A	Aphids, beetles, fungus gnat adults, plant bugs, leafhoppers, shore flies, thrips, whiteflies	Bulb, leafy, brassica leafy, fruiting and cucurbit vegetable transplants.	Contact insecticide. See label for specific directions for placement and use for successful application.
Pyrifluquinazon (Rycar) 12 hr. REI Group 9B	Whiteflies, aphids, and leafhoppers (except lettuce)	Cucumber, lettuce, pepper and tomato.	Contact insecticide with ingestion and translaminar activity. Thorough spray coverage is needed.
Pyriproxyfen (Distance) 12 hr. REI	Foliar spray for aphid & thrips suppression, and whiteflies. Sprench or drench for fungus	Indoor-grown fruiting vegetables. Do not apply to tomato varieties less than one inch in diameter.	Insect growth regulator. See label for plant safety information.

Group 7C	gnat and shore fly larvae.		
Spirotetramat (Kontos) 24 hr. REI Group 23	Aphids, (suppression), broad mites, cyclamen mites, leafhoppers, spider mites, immature thrips, whiteflies	Fruiting and leafy vegetable transplants for resale to consumers.	Systemic insecticide for foliar and drench applications. See label for plant safety information.
Sulfur (Microthiol Disperss) 24 hr. REI OMRI-certified product	Broad mite (pepper), spider mite	Many vegetables.	Contact miticide/fungicide.
Thiamethoxam (Flagship 25WG) 12 hr. REI Group 4A	Aphids, beetles, whiteflies	Foliar application to vegetable plants grown for resale to consumers.	Systemic insecticide for foliar or drench application for transplants only.

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OMRI-certified product: determined by the Organic Materials Review Institute (OMRI) to be suitable for use in certified organic production. Resistance Groups (number and letter) indicate products with a common mode of action based on the Insecticide Resistance Action Committee (IRAC) guidelines at <http://www.irac-online.org/>. For multiple applications to one crop, select products from different resistant groups.

**By:** Leanne Pundt, UConn Extension and Tina Smith (retired), UMass Extension. 2007. **Updated November 2020 by L. Pundt**

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