

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

The following table provides home garden vegetable insect control recommendations with pesticides for use by the homeowner. All chemical information provided below is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions.

Insecticides listed below are identified by common chemical name. A trade name in parentheses may also be listed as a convenience for the reader. Additional trade names that may be available locally are listed in the HOMEOWNER INSECTICIDE PRODUCT LIST beginning on page 271.

The complete Organic Materials Review Institute (OMRI) products list can be viewed by visiting this link <http://www.omri.org/OMRI_products_list.php>.

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
ASPARAGUS	Asparagus beetle, Japanese beetle, grasshopper, aphids	carbaryl (various)	see label	1	Repeat applications as necessary up to a total of 3 times prior to harvest or a total of 5 times per crop but not more often than once every 7 days. Sevin is not effective against aphids.	
		permethrin (various brands) 2.5% EC	1.5 oz	3		
		pyrethrin EC	1-2 tsp	0		
BEAN	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		malathion (various) 57% EC	see label	1		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		
	Corn earworm	carbaryl (various)	see label	see label	3/14/21	Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh beans or peas or within 21 days of harvest of dried beans or peas, seed or hay.
			spinosad (Naturalyte) 0.5% F	4 Tbsp	3	
	Mexican bean beetle, bean leaf beetle, flea beetle, Japanese beetle, cucumber beetle	carbaryl (various)	see label	see label	3/14/21	Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh beans or peas or within 21 days of harvest of dried beans or peas, seed, or hay.
			pyrethrin EC	1-2 tsp	0	
	Potato leafhopper, fleahopper, lygus, stink bug	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Leafhopper ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
			malathion (various) 57% EC	see label	1	
			pyrethrin EC	1-2 tsp	0	
	Spider mite	malathion 57% EC	see label	see label	1	Apply treatment at first sign of mites and speckled plants.
			pyrethrin EC	1-2 tsp	0	
soap (insecticidal, M-Pede) 49 EC			2 Tbsp	0		

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
BEAN (cont.)	Thrips, leafminer	carbaryl (various)	see label	3/14/21	Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh beans or peas or within 21 days of harvest of dried beans or peas, seed or hay.
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Thrips ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrellin EC	1-2 tsp	0	On foliage as needed. Do not feed treated vines to livestock.
	Whitefly	<i>Beauveria bassiana</i> (Mycotrol WP)	1/4 lb/20 gal water	0	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrellin EC	1-2 tsp	0	Apply when whiteflies are observed. Repeat in 4- to 5-day intervals.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	
BEET	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Flea beetle, beet webworm, blister beetle	carbaryl (various)	see label	7	Repeat applications as necessary up to a total of 6 times but not more often than once every 7 days.
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Flea beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
BROCCOLI, CAULIFLOWER, BRUSSELS SPROUTS, RUTABAGA	Aphids, flea beetle	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7). Not labeled on rutabaga.
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	7	On foliage as needed.
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.
	Cabbage looper, diamondback moth, imported cabbageworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7). Not labeled on rutabaga.
		<i>Bacillus thuringiensis</i> (DiPel) 2 X 4 L (Javelin) WG	1 Tbsp 2 tsp 2 tsp	0	On foliage as needed.
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	3	On foliage as needed.
		pyrethrin EC	1-2 tsp	0	On foliage as needed. Not diamondback moth.
		spinosad (Naturalyte) 0.5%	4 Tbsp	1	On foliage as needed.
Harlequin bug		acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7). Not labeled on rutabaga.
	malathion (various) 57% EC	see label	7	On foliage as needed.	
Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
CABBAGE	Aphids	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	7	
		pyrethrin EC	1-2 tsp	0	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	

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CABBAGE (cont.)	Cabbage looper, imported cabbageworm, diamondback moth, cutworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> (DiPel) 2X	1 Tbsp	0	Start control program when worms are small, and treat foliage every 5 to 7 days.
		4 L (Javelin) WG	2 tsp		
		carbaryl (various)	see label	3	Repeat applications as needed up to a total of 4 times but not more than once every 7 days.
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	3	
		λ-cyhalothrin (Triazide) 0.5% EC	1 Tbsp	1	
	pyrethrin EC	1-2 tsp	0	Not diamondback moth.	
	spinosad (Naturalyte) 0.5% F	4 Tbsp	1		
	Flea beetle, thrips	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		carbaryl (various)	see label	3	Repeat applications as needed up to a total of 4 times but not more than once every 7 days.
imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%		0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
malathion (various) 57% EC		see label	7		
pyrethrin EC		1-2 tsp	0		
Harlequin bug	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
	λ-cyhalothrin (Triazide) 0.5% EC	1 Tbsp	1	On foliage as needed.	
	malathion (various) 57% EC	see label	7	On foliage as needed.	
Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
CANTALOUPE	Aphids, thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	1	
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.

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CANTALOUPE	Cucumber beetle (spotted and striped), pickleworm, squash bug, squash vine borer	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days. For optimum control of squash bugs, apply sufficient spray volume for thorough coverage and time sprays for early morning or late afternoon.	
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	3		
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Cucumber beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Spider mite	soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.	
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
CARROT	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Armyworm, leafminer, leafhopper	<i>Bacillus thuringiensis</i> (DiPel) 2X	1 Tbsp	0	<i>B.t.</i> will not control leafhoppers.	
		4L (Javelin) WG	2 tsp			
		carbaryl (various)	see label	7		
			cyfluthrin (Bayer Advanced) 0.75%	1 Tbsp	0	
			imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Leafhopper ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
			pyrethrin EC	1-2 tsp	0	
	Flea beetle	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
CARROT (cont.)	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
CELERY	Aphids, flea beetle, leafminer, flea hopper, looper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	45	Aphids and flea beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	7	On foliage as needed.
		permethrin (various brands) 2.5% EC	1.5 fl oz	3	On foliage as needed.
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	45	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	45	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	45	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
COLLARD	Aphids, flea beetle	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	7	On foliage as needed.
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.
	Cabbage looper, diamondback moth, imported cabbageworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> (DiPel) 2X	1 Tbsp	0	Begin foliage treatments early and repeat as necessary. Include a spreader/sticker.
		(DiPel) 4L	2 tsp		
		(Javelin) WG	2 tsp		
		pyrethrin EC	1-2 tsp	0	Not diamondback moth.
	spinosad (Naturalyte) 0.5% F	4 Tbsp	1		
Harlequin bug	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
	malathion (various) 57% EC	see label	7		

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
COLLARD	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
CORN (SWEET)	Aphids	pyrethrin EC	1-2 tsp	0	
	Corn earworm, sap beetle, flea beetle, Japanese beetle	carbaryl (various)	see label	2/14/48	Do not apply within 2 days of harvest of ears or within 14 days of harvest or grazing of forage or within 48 days of harvest of fodder.
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	1	
		pyrethrin EC	1-2 tsp	0	
	Corn earworm, European corn borer, fall armyworm	<i>Bacillus thuringiensis</i> (various)	2 tsp	0	Consult specific label. <i>B.t.</i> is effective while worms are feeding on the foliage.
		carbaryl (various)	see label	2/14/48	Do not apply within 2 days of harvest of ears or within 14 days of harvest or grazing of forage or within 48 days of harvest of fodder.
		cyfluthrin (Bayer Advanced) 0.75%	1 Tbsp	0	
		esfenvalerate (Ortho) 0.425% EC	4 Tbsp	1	
		λ-cyhalothrin (Triazicide) 0.5% EC	1 Tbsp	1	
		permethrin (various brands) 2.5% EC	1.5 fl oz	3	
spinosad (Naturalyte) 0.5% F		2 Tbsp	1		
CUCUMBER	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Cucumber beetle (spotted and striped), pickleworm, squash bug	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days. For optimum control of squash bugs, apply sufficient spray volume for thorough coverage and time sprays for early morning or late afternoon.
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	3	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Cucumber beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrethrin EC	1-2 tsp	0	

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CUCUMBER (cont.)	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Spider mite	pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.
	EGGPLANT	Aphids, thrips	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7
imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%			0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
malathion (various) 57% EC			see label	3	On foliage as needed.
pyrethrin EC			1-2 tsp	0	On foliage as needed.
soap (insecticidal, M-Pede) 49 EC			2 Tbsp	0	On foliage as needed.
Colorado potato beetle, hornworm, corn earworm		acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> var. <i>tennebrionus</i> (Trident II)	2-4 Tbsp	0	Colorado potato beetle ONLY. Treat when small larvae are present. Not effective against adults or large larvae.
		carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Colorado potato beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		spinosad (Naturalyte) 0.5% F	4 Tbsp	1	
Flea beetle		acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.	

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
EGGPLANT	Flea beetle	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		malathion (various) 57% EC	see label	3		
	Lace bug, spider mite, whitefly	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Whitefly ONLY. Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench		21	Whitefly ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label		3	On foliage as needed.
		pyrellin EC	1-2 tsp		0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp		0	On foliage as needed.
Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench		21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
KALE	Aphids	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench		21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label		7	On foliage as needed.
		pyrellin EC	1-2 tsp		0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp		0	On foliage as needed.
	Cabbage looper, diamondback moth, imported cabbageworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> (DiPel) 2X (Javelin) WG	1 Tbsp 2 tsp		0	On foliage as needed.
		pyrellin EC	1-2 tsp		0	Not diamondback moth.
		spinosad (Naturalyte)	4 Tbsp		1	
	Harlequin bug	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Maximum applications per season (4). Days to wait to reapply (7).
malathion (various) 57% EC		see label		7	On foliage as needed.	
pyrellin EC		1-2 tsp		0		

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
KALE (cont.)	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Vegetable weevil	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Maximum applications per season (4). Days to wait to reapply (7).
		pyrellin EC	1-2 tsp	0	On foliage as needed.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.		
LETTUCE	Aphids	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		malathion (various) 57% EC	see label	14 leaf 7 head	On foliage as needed.	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.	
		pyrellin EC	1-2 tsp	0	On foliage as needed.	
	Cabbage looper, corn earworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
		<i>Bacillus thuringiensis</i> (DiPel) 2X (Javelin) WG	1 Tbsp 1 tsp	0	On foliage as needed.	
		carbaryl (various)	see label	14	Repeat applications as needed up to a total of 5 times but not more than once every 7 days. Will not control cabbage looper.	
		pyrellin EC	1-2 tsp	0	On foliage as needed.	
		spinosad (Naturalyte) 0.5% F	4 Tbsp	1	On foliage as needed.	
Leafhopper	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).		
	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.		

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
LETTUCE	Leafhopper	malathion (various) 57% EC	see label	14 leaf 7 head	On foliage as needed.
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
LIMA BEANS	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Lima bean vine borer, plant bug, Mexican bean beetle, corn earworm	carbaryl (various)	see label	3/14/21	Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh beans or peas or within 21 days of harvest of dried beans or peas, seed or hay.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
MUSTARD GREENS	Aphids, flea beetle	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	7	On foliage as needed.
		pyrethrin EC	1-2 tsp	0	On foliage as needed.
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.
	Cabbage looper, diamondback moth, imported cabbageworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> (DiPel) 2X (Javelin) WG	1 Tbsp 2 tsp	0	Begin foliage treatments early and repeat as necessary.
	pyrethrin EC	1-2 tsp	0	Not diamondback moth.	
	spinosad (Naturalyte) 0.5% F	4 Tbsp	1		

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
MUSTARD GREENS (cont.)	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Vegetable weevil	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)			7	Maximum applications per season (4). Days to wait to reapply (7).
		pyrethrin EC	1-2 tsp	0	On foliage as needed.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.		
OKRA	Aphids, leafminer	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Aphids ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		malathion (various) 57% EC	see label	1	Do not apply malathion after pods start to form.	
		pyrethrin EC	1-2 tsp	0		
	Corn earworm, European corn borer, flea beetle, stink bug	carbaryl (various)	see label	3		
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Flea beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Stink bug	malathion (various) 57% EC	see label	1		
		pyrethrin EC	1-2 tsp	0		
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
ONION	Onion thrips	λ-cyhalothrin (Triazicide) 0.5% EC	1 Tbsp	14		
		malathion (various) 57% EC	see label	3 (including green)		
		pyrethrin EC	1-2 tsp	0		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
PEAS	Aphids, leafminer	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Aphids ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	3	
		pyrethrin EC	1-2 tsp	0	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	
	Cowpea curculio	carbaryl (various)	see label	3/14/21	Suppression ONLY. Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh beans or peas or within 21 days of harvest of dried beans or peas, seed or hay.
		esfenvalerate (Ortho) 0.425% EC	ready-to-use	21	
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	PEPPER	Aphids, leafminer, thrips	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7
esfenvalerate (Ortho) 0.425% EC			2 Tbsp	1	
imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%			0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	
malathion (various) 57% EC			see label	3	
pyrethrin EC			1-2 tsp	0	
soap (insecticidal, M-Pede) 49 EC			2 Tbsp	0	
European corn borer, flea beetle, tomato fruitworm, hornworm, stink bug		acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7). Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
		carbaryl (various)	see label	3	
		cyfluthrin (Bayer Advanced) 0.75%	1 Tbsp	7	
		esfenvalerate (Ortho) 0.425%	2 Tbsp	1	

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
PEPPER (cont.)	European corn borer, flea beetle, tomato fruitworm, hornworm, stink bug	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	Flea beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		permethrin (various brands) 2.5% EC	2 fl oz	3		
		spinosad (Naturalyte) 0.5% F	4 Tbsp	1		
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
POTATO, IRISH	Aphids	malathion (various) 57% EC	see label	0	Repeat applications as necessary up to a total of 6 times but not more often than once every 7 days.	
		pyrethrin EC	1-2 tsp	0		
	European corn borer	carbaryl (various)	see label	7		
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	1		
	Potato leafhopper, potato flea beetle, Colorado potato beetle, blister beetle, stink bug	<i>Bacillus thuringiensis</i> var. <i>san diego</i> (M-Trak)	1.5-3 Tbsp	0		Colorado potato beetle ONLY. Treat when small larvae are present. Not effective against adults or large larvae.
		var. <i>tennebrionus</i> (Trident II)	2-4 Tbsp			
		carbaryl (various)	see label	7		
			phosmet (Imidan) 70 W	follow label		7
Potato tuberworm	<i>Bacillus thuringiensis</i> (DiPel) 2X 4L		1 Tbsp	0		
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	1		
PUMPKIN	See SQUASH and PUMPKIN.					
RADISH	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		malathion (various) 57% EC	see label	7		On foliage as needed.
		pyrethrin EC	1-2 tsp	0		On foliage as needed.

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
RADISH	Flea beetle, imported cabbageworm	carbaryl (various)	see label	7	Repeat applications as necessary up to a total of 6 times but not more often than once every 7 days.	
		cyfluthrin (Bayer Advanced) 0.75%	1 Tbsp	0		
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21		Flea beetle ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.		
SPINACH	Aphids, thrips, leafminer	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21		Aphids and thrips ONLY. This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrethrin EC soap (insecticidal, M-Pede) 49 EC	1-2 tsp 2 tsp	0 0		
	Corn earworm, loopers	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
		<i>Bacillus thuringiensis</i> (Dipel) 2X 4L	1 Tbsp 2 tsp	0		
		spinosad (Naturalyte) 0.5% F	4 Tbsp	1		
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
SQUASH PUMPKIN	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	1 (squash) 3 (pumpkin)	
		pyrethrin EC	1-2 tsp	0	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	
	Cucumber beetle (spotted and striped), flea beetle, leafhopper	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days.
		esfenvalerate (Ortho) 0.425%	2 Tbsp	3	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	
	pyrethrin EC	1-2 tsp	0		
	Pickworm	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days.
		esfenvalerate (Ortho) 0.425%	2 Tbsp	3	
spinosad (Naturalyte) 0.5% F		4 Tbsp	3		
Squash bug	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days. For optimum control of squash bugs, apply sufficient spray volume for thorough coverage and time sprays for early morning or late afternoon.	
	malathion (various) 57% EC	see label	1 (squash) 3 (pumpkin)		
	pyrethrin EC	1-2 tsp	0		
Squash vine borer	pyrethrin EC	1-2 tsp	0		
Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
SWEET POTATO	Wireworm				No effective registered control measures.

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Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
TOMATO	Aphids	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		malathion (various) 57% EC	see label	1	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	
		pyrellin EC	1-2 tsp	0	
	Cutworm (surface type)	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	1	
	Flea beetle, Colorado potato beetle	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> var. <i>san diego</i> (M-Trak)	1.5-3.0 Tbsp	0	Colorado potato beetle ONLY. Treat when small larvae are present. Not effective against adults or large larvae.
		var. <i>tennebrionus</i> (Trident II)	2-4 Tbsp		
		carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	spinosad (Naturalyte) 0.5%	4 Tbsp	1		
	Grasshopper	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
		malathion (various) 57% EC	see label	1	
Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
Leafminer	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
	pyrellin EC	1-2 tsp	0	On foliage as needed.	
Spider mite	malathion (various) 57% EC	see label	1	On foliage as needed.	
	soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	On foliage as needed.	
	pyrellin EC	1-2 tsp	0	On foliage as needed.	

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks
TOMATO (cont.)	Stink bug	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		cyfluthrin (Bayer Advanced) 0.75%	1 Tbsp	7	Do not make more than 6 applications per season.
		λ-cyhalothrin (Triazicide) 0.5%	1 Tbsp	5	
		malathion (various) 57% EC	see label	1	
		permethrin (various brands) 2.5% EC	1.5 fl oz	7	Do not apply on cherry tomatoes or varieties less than 1 inch in diameter.
	pyrellin EC	1-2 tsp	0		
	Thrips	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
		pyrellin EC	1-2 tsp	0	
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0	
	Tomato fruitworm, cabbage looper, tomato hornworm	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).
		<i>Bacillus thuringiensis</i> (DiPel) 2X	1 Tbsp	0	Treat weekly, if necessary. Begin when fruits are 0.5 inch in diameter. Fruitworms are most serious after August 1. Do not tank mix <i>B.t.</i> formulations with Dyrene.
		4 L (Javelin) WG	2 tsp		
		(Biobit) FC	1-3 tsp		
		carbaryl (various)	see label	3	Repeat applications as needed up to a total of 7 times but not more than once every 7 days.
cyfluthrin (Bayer Advanced) 0.75%		1 Tbsp	7	Do not make more than 6 applications per season.	
esfenvalerate (Ortho) 0.425%		2 Tbsp			
λ-cyhalothrin (Triazicide) 0.5%		1 Tbsp	5		
permethrin (various brands) 2.5% EC		1.5 fl oz	7	Do not apply on cherry tomatoes or varieties less than 1 inch in diameter.	
spinosad (Naturalyte) 0.5% F	4 Tbsp	1			
Whitefly	acetamiprid (Ortho MAX Flower, Fruit and Vegetable Insect Killer RTU)		7	Maximum applications per season (4). Days to wait to reapply (7).	
	<i>Beauveria bassiana</i> (Mycotrol WP)	1/4 lb/20 gal water	0	Apply when whiteflies are observed. Repeat in 4- to 5-day intervals.	
	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
TOMATO	Whitefly	malathion (various) 57% EC	see label	1		
		pyrellin EC	1-2 tsp	0		
		pyrethrum products	follow label	0		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		
TURNIP, TURNIP GREENS	Aphids, flea beetle	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
		pyrellin EC	1-2 tsp	0		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		
	Cabbage looper, diamondback moth, imported cabbageworm	<i>Bacillus thuringiensis</i> (DiPel) 2X (Javelin) WG	1 Tbsp 2 tsp	0	On foliage as needed.	
		pyrellin EC	1-2 tsp	0	Not diamondback moth.	
		spinosad (Naturalyte) 0.5% F	4 Tbsp	1	On foliage as needed.	
	Harlequin bug	carbaryl (Sevin SL)	0.5-1.0 qt/acre	14	Repeat applications as needed up to a total of 4 times but not more than once every 7 days.	
		pyrellin EC	1-2 tsp	0	On foliage as needed.	
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Thrips	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Vegetable weevil	pyrellin EC	1-2 tsp	0	On foliage as needed.	
	Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	WATERMELON	Aphids	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
			pyrellin EC	1-2 tsp	0	
soap (insecticidal, M-Pede) 49 EC			2 Tbsp	0		

HOME GARDEN VEGETABLE INSECT CONTROL – Products for Use by the General Public

Commodity	Insect	Insecticide and Formulation	Amount of Formulation Per Gallon of Spray	Minimum Interval (Days) Between Last Application and Harvest	Precautions and Remarks	
WATERMELON (cont.)	Cucumber beetle (spotted and striped)	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days.	
		esfenvalerate (Ortho) 0.425% EC	2 Tbsp	3		
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21		This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.
	malathion (various) 57% EC	see label	1			
	Leafhopper	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.	
	Spider mite	pyrellin EC	1-2 tsp	0		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		
	Thrips	carbaryl (various)	see label	3	Repeat applications as needed up to a total of 6 times but not more than once every 7 days.	
		imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21		
		malathion (various) 57% EC	see label	1		
		pyrellin EC	1-2 tsp	0		
		soap (insecticidal, M-Pede) 49 EC	2 Tbsp	0		
Whitefly	imidacloprid (Bayer Advanced Fruit, Citrus and Vegetable Insect Control Concentrate) 0.235%	0.5 fl oz/1 qt of water/10 sq ft of row as a drench	21	This systemic insecticide dissolved in water moves down through the soil, where it is absorbed by the roots. Once absorbed, it moves up through the plant providing insect protection.		
WITHIN GARDEN TREATMENT (See labels for specific crops)	Red imported fire ant	S-methoprene (Extinguish)	3-5 Tbsp/mound	Mound-to-mound treatment rate	This product is an insect growth regulator (IGR).	
			1.0-1.5 lb/acre	Broadcast rate		
		pyriproxyfen (Esteem)	2-4 Tbsp/mound	Mound-to-mound treatment rate	This product is an insect growth regulator (IGR).	
			1.5-2.0 lb/acre	Broadcast rate		
			Spinosad (Eliminator Fire Ant Bait, Green Light Fire Ant Control, Ortho Fire Ant Bait, Safer Fire Ant Bait)	4-6 Tbsp/mound		Mound-to-mound treatment rate
2.5-5.0 lb/acre	Broadcast rate					