

VEGETABLES: HOME VEGETABLE INSECT CONTROL

Alton N. Sparks, Jr., Extension Entomologist

NOTE: Insecticide registrations can change rapidly and can vary with the specific product or formulation of the product used (e.g. not all products containing malathion are labeled for use on the same crops; not all formulations of Sevin have the same use patterns). Always carefully read and follow the label instructions for the specific product being applied. If using transplants, make sure plants are free of pests before purchasing.

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
All crops	Multiple pests	<i>pyrethrins</i> <i>pyrethrins+PBO</i>	RTU	0	Provides rapid knock down and suppression of most pests directly contacted. Little or no residual activity.
	Soil pests	<i>bifenthrin</i> <i>0.115% granular</i>	1 lb/500 sq ft		Apply prior to planting and work into top 4-6" of soil. (May also be applied to bifenthrin-labeled crops with PHI same as foliar applications).
	Slugs and Snails	<i>metaldehyde</i>	See label		Do not contact plants with material.
		<i>iron phosphate</i>	See label		Do not contact plants with material.
	Fire Ants	Esteem Ant Bait is registered for use in many vegetable crops (see label). Spinosad products may be used as a mound drench in crops where foliar applications are allowed (see label). Other ant baits may be used around the garden, which for small gardens is frequently adequate.			
	Leafminers	No general-use insecticides provide control of leafminer larvae inside leaves. Spinosad products may provide some suppression on registered crops. Leafminer problems are frequently caused by overuse of insecticides. Hand-pick mined leaves.			
Asparagus	asparagus beetle, cutworms	<i>carbaryl</i> Sevin 22.5%	1.5 oz	1	Also available as a ready-to-use product.
		<i>permethrin</i> 2.5% 0.25% dust	1.5 oz Dust plants lightly	1	
		<i>spinosad</i> 0.5%	2 oz	60	Post-harvest treatment only.
Beans, Peas	aphids	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	green 3 dry 21	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions.	0	No residual activity. Thorough coverage is essential.
		<i>malathion</i> 50%	2 tsp	beans 1 peas 3	
	bean beetles (Mexican bean beetle, bean leaf beetle), caterpillars (corn earworm), cowpea curculio, stink bugs	<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	fresh 3 dry 21	Also available as a ready-to-use product. Not for stink bugs or caterpillars.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	green 3 dry 21	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	7	Also available as a ready-to-use product.
		<i>spinosad</i> 0.5%	2 oz	green 3 dry 28	For caterpillar pests only. Will also suppress thrips and leafminers.
		NOTE: For cowpea curculio make 3 applications at 5-day intervals starting when pods are ½-inch long.			
	spider mites	<i>malathion</i> 50%	1 Tbsp	beans 1 peas 3	Marginal control of this pest.

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
Beans, Peas <i>(continued)</i>	spider mites <i>(continued)</i>	sulfur 90%	2 Tbsp	0	Do not use if temperature is above 95°F. Do not use within 3 weeks of oil spray.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
		NOTE: Bifenthrin applied at high rates may provide suppression of mites.			
	whitefly	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
		<i>pyrethrins</i> + PBO	RTU	0	No residual activity.
Beets	flea beetles	<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	Roots 7 Tops 14	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		<i>malathion</i> 50%	1 Tbsp	7	
Broccoli, Brussels Sprouts, Cabbage, Cauliflower	aphids, whiteflies	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
	aphid	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	3	Not for use on Brussels Sprouts. Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	1	Also available as a ready-to-use product.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	1	Also available as a ready-to-use product.
		<i>malathion</i> 50%	1.5-2 tsp	broccoli 3 others 7	
		<i>permethrin</i> 2.5% 0.25% dust	1 oz Dust plants lightly	1	
		caterpillars on foliage, cutworms	<i>Bacillus thuringiensis</i> Dipel, Thuricide and other formulations	Follow label directions	0
	<i>bifenthrin</i> 0.3%		1.5 oz	7	Also available as a ready-to-use product.
	<i>carbaryl</i> 22.5% 5% dust		1.5 oz Dust plants lightly	3	Also available as a ready-to-use product
	<i>cyfluthrin</i> 0.75%		1 Tbsp	0	Also available as a ready-to-use product.
	<i>esfenvalerate</i> 0.425%		2 Tbsp	3	Not for use on Brussels Sprouts. Also available as a ready-to-use product.
	<i>gamma-cyhalothrin</i> 0.08%		3 Tbsp	1	Also available as a ready-to-use product.
	<i>lambda-cyhalothrin</i> 0.5%		1 Tbsp	1	Also available as a ready-to-use product.
	<i>permethrin</i> 2.5% 0.25% dust		1 oz Dust plants lightly	1	Not registered for cutworms.
<i>spinosad</i> 0.5%	2 oz		1	Not registered for cutworms.	

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS	
Broccoli, Brussels Sprouts, Cabbage, Cauliflower (continued)	flea beetles, stink bugs, harlequin bug	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Also available as a ready-to-use product.	
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	3	Not for use on Brussels Sprouts. Also available as a ready-to-use product.	
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	1	Also available as a ready-to-use product.	
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	1	Also available as a ready-to-use product.	
		<i>permethrin</i> 2.5% 0.25% dust	1 oz Dust plants lightly	1		
Cantaloupe, Cucumber, Pumpkin, Squash, Watermelon. Apply sprays late in the day to reduce kill of pollinating insects.	aphid	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	3	Also available as a ready-to-use product.	
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.	
		<i>malathion</i> 50%	2 tsp	Pumpkin 3 Others 1	Use and registration varies with specific product. Do not apply unless leaves are dry.	
		<i>permethrin</i> 0.25% dust	Dust plants lightly	0		
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
	cucumber beetle adults, squash bug, pickleworm, melonworm, rindworms	<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product.	
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Also available as a ready-to-use product.	
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	3	Also available as a ready-to-use product.	
		<i>permethrin</i> 0.25% dust	Dust plants lightly	0		
		<i>spinosad</i> 0.5%	2 oz	Cucumber 1 Others 3	For caterpillar control only.	
		NOTE: Late-planted crops are heavily attacked by pickleworm and melonworm. Begin treatments at first bloom and repeat weekly as needed.				
	Squash vine borer	<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product. Direct sprays at base of plants.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	3	Also available as a ready-to-use product. Direct sprays at base of plant.	
	Spider mites	insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
		<i>malathion</i> 50%	1 Tbsp	Pumpkin 3 Others 1	Use and registration varies with specific product. Marginal control of this pest. Do not apply unless leaves are dry.	
		NOTE: Bifenthrin applied at high rates may provide suppression of mites.				

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS	
Cantaloupe, Cucumber, Pumpkin, Squash, Watermelon <i>(continued)</i>	whitefly	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.	
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
		<i>pyrethrins</i> +PBO	RTU	0	No residual activity.	
Collards	aphids, whiteflies	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.	
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
	aphid	<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.	
		<i>malathion</i> 50%	2 tsp	7	Use and registration varies with specific product.	
	caterpillars on foliage	<i>Bacillus thuringiensis</i> Dipel, Thuricide, other formulations	Follow label directions	0	Treat as soon as damage is found and repeat as needed. Susceptible larvae will stop feeding soon after eating treated foliage but may not die for several days..	
		<i>carbaryl</i> 22.5% 5% dust	1.5 ozs Dust plants lightly	14	Also available as a ready-to-use product.	
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.	
		<i>spinosad</i> 0.5%	2 oz	1		
	flea beetles, harlequin bug, stink bugs	<i>carbaryl</i> 22.5% 5% dust	1.5 ozs Dust plants lightly	14	Also available as a ready-to-use product.	
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.	
	Corn, Sweet	corn earworm, fall armyworm, European corn borer flea beetle, cucumber beetle, stink bug	<i>bifenthrin</i> 0.3%	1.5 oz	3	Also available as a ready-to-use product.
			<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	2	Not for stink bug control. Also available as a ready-to-use product.
<i>cyfluthrin</i> 0.75%			1 Tbsp	0	Also available as a ready-to-use product.	
<i>esfenvalerate</i> 0.425%			2 Tbsp	1	Also available as a ready-to-use product.	
<i>gamma-cyhalothrin</i> 0.08%			3 Tbsp	21	Also available as a ready-to-use product.	
<i>lambda-cyhalothrin</i> 0.5%			1 Tbs	21	Also available as a ready-to-use product.	
<i>permethrin</i> 2.5% 0.25% dust			1.5 oz Dust plants lightly	1		
<i>spinosad</i> 0.5%			2 oz	1	For control of caterpillar pests only.	
NOTE: For caterpillar pests of ears, begin treatment when silks appear. Repeat at 2-day intervals with sprays directed at ears.						

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS	
Eggplant	aphid	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.	
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.	
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.	
		<i>malathion</i> 50%	2 tsp	3	Use and registration varies with specific product.	
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
	Caterpillars on foliage Colorado potato beetle flea beetle	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Also available as a ready-to-use product.	
		<i>cyfluthrin</i> 0.75%	1 Tbsp	7	Also available as a ready-to-use product.	
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.	
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.	
		<i>permethrin</i> 2.5% 0.25% dust	3 oz Dust plants lightly	3		
		<i>spinosad</i> 0.5%	2 oz	1	Not for use against flea beetles..	
	lacebug	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Also available as a ready-to-use product.	
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.	
	spider mite	insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.	
		<i>malathion</i> 50%	1 Tbsp	3	Use and registration varies with specific product. Marginal control of this pest.	
		NOTE: Bifenthrin applied at high rates may provide suppression of mites.				
	whitefly	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.	
		<i>imidacloprid</i> 0.235%	Follow label directions.	21	Apply at or shortly after plant emergence or transplanting.	
		insecticidal soap	Follow label directions.	0	No residual activity. Thorough coverage is essential.	
		<i>pyrethrins</i> +PBO	RTU	0	No residual activity.	
	Lettuce, Spinach	aphids, whiteflies	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
			<i>imidacloprid</i> 0.235%	Follow label directions.	21	Apply at or shortly after plant emergence or transplanting.
			insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
aphid		<i>bifenthrin</i> 0.3%	1.5 oz	7	For use on head lettuce only. Also available as a ready-to-use product.	
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	1	For use on lettuce only. Also available as a ready-to-use product.	
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	1	For use on lettuce only. Also available as a ready-to-use product.	
		<i>malathion</i> 50%	2 tsp	lettuce 14 spinach 7	Use and registration varies with specific product.	

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
Lettuce, Spinach (continued)	caterpillars on foliage, flea beetles, harlequin bug, and stink bug	<i>Bacillus thuringiensis</i> Dipel, Thuricide, Other Formulations	Follow label directions	0	For control of caterpillar pests only. Treat as soon as damage is found and repeat as needed. Susceptible larvae will stop feeding soon after eating treated foliage but may not die for several days.
		<i>bifenthrin</i> 0.3%	1.5 oz	7	For use on head lettuce only. Also available as a ready-to-use product.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	14	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	1	For use on lettuce only. Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	1	For use on lettuce only. Also available as a ready-to-use product.
		<i>permethrin</i> 2.5% 0.25% dust	2 oz Dust plants lightly	1	
		<i>spinosad</i> 0.5%	2 oz	1	For control of caterpillar pests only.
Mustard greens	aphids, whiteflies	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions.	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions.	0	No residual activity. Thorough coverage is essential.
	aphid	<i>malathion</i> 50%	2 tsp	7	Use and registration varies with specific product.
	caterpillars on foliage	<i>Bacillus thuringiensis</i> Dipel, Thuricide, Other Formulations	Follow label directions.	0	Treat as soon as damage is found and repeat as needed. Susceptible larvae will stop feeding soon after eating treated foliage but may not die for several days.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	14	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>spinosad</i> 0.5%	2 oz	1	
	flea beetles	<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	14	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
Okra	aphids, whiteflies	<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
	aphid	<i>malathion</i> 50%	2 tsp	1	Use and registration varies with specific product.
	caterpillar pests	<i>carbaryl</i> 22.5%	1.5 oz	3	
		<i>spinosad</i> 0.5%	2 oz	1	

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
Onions	thrips	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	14	Also available as a ready-to-use product.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	14	Also available as a ready-to-use product.
		<i>malathion</i> 50%	1 Tbsp	3	Use and registration varies with specific product.
Peppers	aphids, whiteflies	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
	aphid	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.
		<i>malathion</i> 50%	2 tsp	3	Use and registration varies with specific product.
	caterpillar pests, flea beetle	<i>bifenthrin</i> 0.3%	1.5 oz	7	Also available as a ready-to-use product.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	7	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.
		<i>permethrin</i> 2.5% 0.25% dust	2 oz Dust plants lightly	3	
		<i>spinosad</i> 0.5%	2 oz	1	For control of caterpillar pests only.
	spider mites	insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
		<i>malathion</i> 50%	1 Tbsp	3	Use and registration varies with specific product. Marginal control of this pest.
		NOTE: Bifenthrin applied at high rates may provide suppression of mites.			
Potatoes, Irish	aphid	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
		<i>malathion</i> 50%	2 tsp	0	
		<i>permethrin</i> 2.5% 0.25% dust	1.5 oz Dust plants lightly	14	
		insecticidal soap	Follow label directions	0	No residual activity Thorough coverage is essential.

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
Potatoes, Irish <i>(continued)</i>	Colorado potato beetle, flea beetles, potato tuberworm	<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	7	Not for control of potato tuberworm. Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
		<i>permethrin</i> 2.5% 0.25% dust	1.5 oz Dust plants lightly	14	
		<i>spinosad</i> 0.5%	2 oz	7	
	NOTE: For potato tuberworm, treat when foliage or tuber damage is noticed. Store tubers promptly after digging to avoid tuberworm infestation in storage.				
Potatoes, sweet	Flea beetles, cucumber beetles	<i>carbaryl</i> 22.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>malathion</i> 50%	1 Tbsp	3	
	Caterpillars on foliage	<i>Bacillus thuringiensis</i> Dipel, Thuricide, Other Formulations	Follow label directions	0	Treat as soon as damage is found and repeat as needed. Susceptible larvae will stop feeding soon after eating treated foliage but may not die for several days.
		<i>carbaryl</i> 22.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>spinosad</i> 0.5%	2 oz	7	
	sweet potato weevil	<i>carbaryl</i> 22.5%	1.5 oz	7	Also labeled as a pre-plant dip (follow label). Also available as a ready-to-use product.
<i>cyfluthrin</i> 0.75%		1 Tbsp	0	Also available as a ready-to-use product.	
Radishes	aphids, whiteflies	<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
	aphid	<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
		<i>malathion</i> 50%	2 tsp	7	
	flea beetle	<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	7	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	7	Also available as a ready-to-use product.
Tomato	aphid	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>bifenthrin</i> 0.3%	1.5 oz	1	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	1	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	5	Also available as a ready-to-use product.
		<i>malathion</i> 50%	2 tsp	1	PHI varies with specific product.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.

HOME VEGETABLE INSECT CONTROL

VEGETABLE	INSECT	COMMON NAME TRADE NAME	AMOUNT OF FORMULATION PER GALLON OF SPRAY	PHI (DAYS)	REMARKS AND PRECAUTIONS
Tomato <i>(continued)</i>	flea beetles, Colorado potato beetle, fruitworm, hornworm, tomato pinworm	<i>bifenthrin</i> 0.3%	1.5 oz	1	Also available as a ready-to-use product.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	3	Primarily for control of beetles. Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	1	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	5	Also available as a ready-to-use product.
		<i>permethrin</i> 2.5% 0.25% dust	1.5 oz Dust plants lightly	0	Not registered for cutworms.
		<i>spinosad</i> 0.5%	2 oz	1	Not registered for flea beetles or cutworms.
	spider mites	sulfur 90%	2 Tbsp	0	Do not use if temperature is above 95 degrees Fahrenheit. Do not use within 3 weeks of oil spray.
		insecticidal soap	Follow label directions.	0	No residual activity Thorough coverage is essential.
		NOTE: Bifenthrin applied at high rates may provide suppression of mites.			
	stink bug, leaffooted bug	<i>bifenthrin</i> 0.3%	1.5 oz	1	Weekly treatments may be needed for late season control.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>esfenvalerate</i> 0.425%	2 Tbsp	1	Also available as a ready-to-use product.
		<i>gamma-cyhalothrin</i> 0.08%	3 Tbsp	5	Also available as a ready-to-use product.
		<i>lambda-cyhalothrin</i> 0.5%	1 Tbsp	5	Also available as a ready-to-use product.
	NOTE: Weekly treatments may be needed for late season control.				
	whitefly	<i>acetamiprid</i> 0.5%	1.5 oz	7	Also available as a ready-to-use product.
		<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions	0	No residual activity. Thorough coverage is essential.
<i>pyrethrins</i> + PBO		RTU	0	No residual activity.	
Turnips	aphids, whiteflies	<i>imidacloprid</i> 0.235%	Follow label directions	21	Apply at or shortly after plant emergence or transplanting.
		insecticidal soap	Follow label directions.	0	No residual activity. Thorough coverage is essential.
	aphid	<i>malathion</i> 50%	2 tsp.	7	Use and registration varies with specific products.
	caterpillars on foliage	<i>Bacillus thuringiensis</i> Dipel, Thuricide, Other Formulations	Follow label directions	0	Treat as soon as damage is found and repeat as needed. Susceptible larvae will stop feeding soon after eating treated foliage but may not die for several days.
		<i>carbaryl</i> 22.5% 5% dust	1.5 oz Dust plants lightly	Tops 14 Roots 7	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.
		<i>spinosad</i> 0.5%	2 oz	1	
	flea beetles, harlequin bug	<i>carbaryl</i> 22.5% 5% dust	1.5 oz. Dust plants lightly	Tops 14 Root 7	Also available as a ready-to-use product.
		<i>cyfluthrin</i> 0.75%	1 Tbsp	0	Also available as a ready-to-use product.

HOME VEGETABLE DISEASE CONTROL

Elizabeth Little, Extension Home IPM Specialist

**Please note: This is not an all-inclusive list of products available to homeowners. It is a list of commonly used products available at local retail locations. This guide can be used to find additional products by referencing the active ingredient and searching for products containing that active ingredient at your local store. Remember to ALWAYS read the label carefully and follow ALL directions, restrictions, and precautions listed in the manufacturer's label! Obtain an accurate diagnosis of the problem before using any pesticide.

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
ASPARAGUS			
Cercospora Leaf spot	<i>mancozeb</i> Bonide Mancozeb Flowable	120	
Crown Rot and Root Rot (Phytophthora)	<i>phosphorous acid</i> Agrifos		Foliar systemic
Rust	<i>chlorothalonil</i> Ortho Garden Disease Control	7	See label.
	Sulfur (spray or dust)		Begin application during early bloom stage. With Top Cop, four applications are usually sufficient..
	<i>mancozeb</i> Bonide Mancozeb Flowable	180	Four applications are usually sufficient.
BEANS (Lima and Snap)			
Anthraxnose	<i>chlorothalonil</i> GardenTech Daconil Fungicide	7	Maximum Seasonal Application Rate is 9 pounds.
Bacterial Blight	copper soap Bonide Liquid Copper Fungicide	0	For protective sprays, begin application 2 weeks before disease normally appears.
Root rot and seedling disease (Rhizoctonia)	PCNB Terraclor 75%WP	Apply only at planting time	Apply as directed at planting time.
Rust	<i>sulfur</i>		Begin during early bloom or when disease first threatens.
	<i>chlorothalonil</i> Ortho Garden Disease Control		
White mold (Sclerotinia)	PCNB Terraclor 75%WP		Apply only at planting.
BEETS			
Downy Mildew, Leaf spots, and Blights	<i>sulfur</i> Copper Sulfate	0	Begin when disease appears and repeat every 7-10 days.
	<i>copper bonide</i> Liquid Copper Fungicide	0	
BROCCOLI, BRUSSELS SPROUTS, CABBAGE			
Wire Stem	PCNB Terraclor 75WP		Apply ½ pint of solution around each plant at transplanting.
Alternaria Leaf spot & Downy mildew	<i>chlorothalonil</i> Ortho Garden Disease Control		Apply to 500 square feet of garden area. Apply after transplant, emergence of seeded crop, or when conditions favor disease development.
	<i>copper</i> Bonide Copper Spray or Dust	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	0	
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>chlorothalonil</i> Hi-Yield Daconil	0	

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
CABBAGE			
Alternaria Leaf spot	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
Club Root	<i>PCNB</i> Terraclor 75%WP + hydrated lime		Broadcast and disc lime into soil 0-3 days before planting.
Damping-Off (plant bed)	<i>PCNB</i> Terraclor 75%WP		Sterilize seedbed soil. Drench seedbed after planting. If plants are purchased, be sure they are disease-free.
Seed-rot & Damping Off	<i>captan</i> Hi-Yield Captan Fungicide 50% WP seed		Not for use at or immediately before planting. Mix thoroughly in a paper bag or glass jar.
Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Apply every 14 days.
	<i>phosphorous acid</i> Agri-fos		
	<i>copper</i> Bonide Liquid Copper	None	
CANTALOUPE			
Alternaria Leafspot	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See Label.
	<i>copper sulfate</i> Bonide Copper Sulfate	0 up to day of harvest	Apply every 7 -10 days as needed.
	<i>copper</i> Bonide Liquid Copper Fungicide		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
Anthracnose	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Use western-grown seed. Apply fungicides when true leave fully expand. Continue every 7-14 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Downy mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper</i> Bonide Copper Sulfate	0	
	<i>phosphorous acid</i> Agri-fos		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Gummy Stem Blight	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Use western-grown seed. Apply fungicides when true leaves are fully expanded. Continue every 7-14 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
CANTALOUPE (continued)			
Powdery Mildew	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	up to day of harvest	
	<i>copper</i> Bonide Copper Spray or Dust	0	
	<i>chlorothalonil</i> Ortho Garden Disease Control	0	
Seed-rot & Damping Off	<i>captan</i> Hi-Yield Captan Fungicide 50% WP		Not for use at or immediately before planting.
CARROT			
Alternaria Blight	<i>chlorothalonil</i> Ortho Garden Disease Control	7	Apply every 7-14 days as needed.
	<i>copper-lime</i> Bonide Copper Fungicide Bordeaux	Until day of harvest	
Cercospora Leaf Blight	<i>copper</i> Hi-Yield Copper Fungicide	0	
	<i>chlorothalonil</i> Ortho Garden Disease Control Daconil 2787	See label.	
	<i>copper</i> Bonide Copper Spray or dust	See label.	
COLLARDS			
Alternaria Leafspot & Downy Mildew	<i>sulfur</i> Sulfur products	0	
	<i>sulfur</i> Safer Garden fungicide	0	
CORN (SWEET)			
Leaf Blights and Rust	<i>chlorothalonil</i> Ortho Garden Disease Control	7	See label.
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
Seed-rot & Damping Off	<i>captan</i> Hi-Yield Captan Fungicide 50%WP	7	Not for use at or immediately before planting. Mix thoroughly in a paper bag or glass jar.
CUCUMBER			
Angular Leafspot	<i>copper hydroxide</i> Bonide Copper Fungicide	0	
	<i>copper</i> Bonide Copper Spray or Dust	0	
	<i>chlorothalonil</i> Ortho Garden Disease Control	0	
	<i>mancozeb</i> Bonide Mancozeb	5	
Anthracnose	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Apply every 7-10 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>bordeaux</i> Bonide Copper Spray or Dust	0	
	<i>bonide</i> Mancozeb fungicide	5	

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
CUCUMBER (continued)			
Alternaria Leafspot	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Apply every 7-10 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>copper</i> Bonide Copper Spray or Dust	Until day of harvest	
Corynespora Leafspot	<i>Chlorothalonil</i> Ortho Garden Disease Control	0	
	<i>Copper</i> Bonide Copper Spray or Dust	Until day of harvest	
Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Apply when disease threatens and every 7-10 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate		
	<i>copper</i> Hi-Yield Copper Fungicide	Until day of harvest	
	<i>copper</i> <i>Bonide Copper Spray or Dust</i>	Until day of harvest	
	<i>copper</i> <i>Bonide Liquid Copper Fungicide</i>		
	<i>phosphorous acid</i> Agri-fos		
	<i>mancozeb</i> Bonide Mancozeb Fungicide	5	
Fruit & Belly Rot	<i>chlorothalonil</i> Ortho Garden Disease Control (Suppression only)		See label
Gummy Stem Blight	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Use western-grown seed. Apply fungicides when true leaves fully expand. Continue every 7-14 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Powdery Mildew	<i>copper sulfate</i> Basic Copper Sulfate	0	Apply every 7-10 days as needed.
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>copper</i> Bonide Copper Spray or Dust	0	
	<i>chlorothalonil</i> Ortho Garden Disease Control Daconil 2787	0	
Scab	<i>chlorothalonil</i> Ortho Garden Disease Control	0	Apply every 7-10 days as needed.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Bonide Copper Spray or Dust	Until day of harvest	

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
EGGPLANT			
Damping-Off (plant bed)	<i>captan</i> Captan 50WP		Begin when all seeds have germinated and repeat at 10-day intervals.
Phomopsis, Alternaria, Anthracnose, Fruit Rots & Leaf Blights	<i>sulfur</i> Sulfur products		Apply at first sign of disease.
	<i>copper</i> Hi-Yield Copper Fungicide	0	
GARLIC (See ONION)			
IRISH POTATO			
Black Scurf	<i>PCNB</i> Terraclor 10 G		Apply according to label directions.
	<i>PCNB</i> Terraclor 75 WP		
Early Blight and Late Blight	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper</i> Bonide Copper Spray or Dust		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
KALE			
Powdery Mildew	<i>sulfur</i>	0	Spray when disease threatens; continue at 7-10 day intervals.
Alternaria Leafspot Downy Mildew	<i>sulfur</i> Sulfur products	0	
LETTUCE			
Downy Mildew	<i>copper</i> Hi-Yield Copper Fungicide	0 Fungicide	
OKRA			
Pod blight	No foliar fungicides available		Blight is associated with poor pollination – provide good air circulation.
ONION (DRY)			
Purple Blotch, Bacterial Leaf Blight, Botrytis Leaf Blight, and Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
ONION (GREEN AND GREEN BUNCHING) – GARLIC, LEEK, SHALLOT, ONION GROWN FOR SEED)			
Botrytis Leaf Blight, Downy Mildew, Neck Rot, and Purple Blotch	<i>chlorothalonil</i> Ortho Garden Disease Control	14	See label.
	<i>copper</i> Hi-Yield Copper Fungicide	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>mancozeb</i> Dragon Mancozeb Disease Control	7	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	7	
PEAS (ENGLISH)			
Powdery Mildew	<i>sulfur</i> Sulfur (spray or dust)		Start application at first sign of disease and repeat every 7-10 days. Do not apply when temperature is above 90°F or when plants are wet.
Seed-rot & Damping Off	<i>captan</i> Hi-Yield Captan Fungicide 50%WP		Not for use at or immediately before planting. Mix thoroughly in a paper bag or glass jar.

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
BLACK-EYED PEAS (SOUTHERN)			
Scab, Anthracnose, Mildew, and Rust	<i>sulfur</i>		Begin during early bloom or when disease first threatens.
Cercospora Leafspot, Powdery Mildew, and Rust	<i>sulfur</i> Sulfur products		Spray early bloom; repeat at 7-10 day intervals. See Label.
PEPPER			
Cercospora, Anthracnose, Phytophthora blight, Fruit Rots, and Bacterial Spot	<i>sulfur</i>		
	<i>copper</i>		
	<i>copper hydroxide</i> Hi-Yield Copper Fungicide		
	<i>copper</i> Bonide Liquid Copper Fungicide		
Blossom End Rot	<i>calcium</i> CAB		
Southern Blight	<i>PCNP</i> Terraclor or PCNBP 75W		Use ½ pint per plant when transplanting. Rotate with corn or other grasses. Deep plow to cover debris.
PUMPKIN			
Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control		See label
	<i>copper sulfate</i> Basic Copper Sulfate		Apply every 7-10 days as needed.
	<i>phorous acid</i> Agri-fos		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
	<i>copper</i> Bonide Copper Spray or Dust		
Anthracnose	<i>chlorothalonil</i> Ortho Garden Disease Control		Apply every 7-10 days as needed
	<i>copper sulfate</i> Basic Copper Sulfate		
	<i>mancozeb</i> Dragon Mancozeb Disease Control		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
	<i>copper</i> Bonide Copper Spray or Dust		
Gummy Stem Blight	<i>chlorothalonil</i> Ortho Garden Disease Control		See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	Apply every 7-10 days as needed.
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Powdery Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label. Apply every 7-10 days as needed. Do not apply when temperature exceeds 95°F.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>copper</i> Bonide Copper Spray or Dust	0	

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
PUMPKIN (continued)			
Alternaria Leafspot	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper</i> Basic Copper Sulfate	0	Apply every 7-10 days as needed.
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
Viruses	No chemical control available.		Use reflective mulches, plant resistant varieties, plant earlier in season, watch for insect vectors (such as aphids).
SPINACH			
Anthracnose & Cercospora Leafspot	<i>copper sulfate</i> Copper Sulfate	0	Begin at first sign of disease and repeat every 7 days.
Downy Mildew & White Rust	<i>sulfate</i> Sulfate		See label.
	<i>copper</i> Copper	0	
	<i>copper sulfate</i> Copper Sulfate		
	<i>copper hydroxide</i> Hi-Yield Copper Fungicide	0	
Seed-rot & Damping Off	<i>captan</i> Hi-Yield Captan Fungicide 50%WP		Not for use at or immediately before planting. Mix thoroughly in a paper bag or glass jar.
SQUASH			
Angular Leafspot	<i>copper</i> Copper	0	Apply every 7-10 days as needed.
	<i>copper</i> Bonide Copper Spray or Dust		
	<i>copper sulfate</i> Basic Copper Sulfate		
Anthracnose, Downy Mildew, Cercospora, Scab	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Powdery Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Bonide Liquid Copper Fungicide	Until day of harvest	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Seed-rot & Damping Of	<i>captan</i> Hi-Yield Captan Fungicide 50%WP		Not for use at or immediately before planting. Mix thoroughly in a paper bag or glass jar.
Viruses	No chemical control available.		Plant earlier in the season to avoid high insect populations. Row covers provide early-season protection. Select resistant varieties.

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
TOMATO			
Anthracnose, Early Blight, Gray Leaf Spot, Gray Leaf Mold, Late Blight, and Septoria Leaf Spot	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper</i> Bonide Copper Spray or Dust		
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide		
Bacterial Spot and Bacterial Spec	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>copper</i> Hi-Yield Copper Fungicide	up to day of harvest	
	<i>copper</i> Bonide Liquid Copper Fungicide	0	
	<i>copper</i> Bonide Copper Spray or Dust	Until day of harvest	
Botrytis (Gray Mold)	<i>chlorothalonil</i> Ortho Garden Disease Control		See label
TURNIPS			
Cercospora, Cercospora, Anthracnose, and Powdery Mildew	<i>copper</i> Copper	0	Do not make more than 3 applications per growing season.
	<i>sulfur</i> Sulfur	0	
TURNIPS, MUSTARD & COLLARDS			
Alternaria Leafspot and Downy Mildew	Copper	0	
	Sulfur	0	
Powdery Mildew	Wettable Sulfur 95%	0	Begin at first sign of disease. Apply every 7-10 days.
WATERMELON			
Anthracnose	<i>chlorothalonil</i> Ortho Garden Disease Control	5	See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Bacterial Fruit Blotch	<i>copper sulfate</i> Basic Copper Sulfate	0	Studies have shown that applying the half-rate of copper materials weekly is as effective as applying the full rate on a 14-day schedule.
	<i>copper</i> Hi-Yield Copper Fungicide	0	
Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>phosphorous acid</i> Agri-fos	5	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Fusarium Wilt	No chemical control.		Plant resistant varieties. Long rotations should be used (do not plant more than once every 5 years).

HOME VEGETABLE DISEASE CONTROL

COMMODITY DISEASE	COMMON NAME BRAND NAME	MINIMUM DAYS TO HARVEST	METHOD, SCHEDULE REMARKS
WATERMELON (continued)			
Anthracnose	<i>chlorothalonil</i> Ortho Garden Disease Control	5	See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	Apply every 7-10 days as needed
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Bacterial Fruit Blotch	<i>copper sulfate</i> Basic Copper Sulfate	0	Studies have shown that applying the half-rate of copper materials weekly is as effective as applying the full rate on a 14-day schedule.
	<i>copper</i> Hi-Yield Copper Fungicide	0	
Downy Mildew	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper sulfate</i> Basic Copper Sulfate	0	
	<i>phosphorous acid</i> Agri-fos	5	
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Fusarium Wilt	No chemical control.		Plant resistant varieties. Long rotations should be used (do not plant more than once every 5 years).
Gummy Stem Blight	<i>chlorothalonil</i> Ortho Garden Disease Control	0	See label.
	<i>copper sulfate</i> Basic Copper Sulfate		Apply every 7-10 days as needed
	<i>mancozeb</i> Bonide Mancozeb Plant Fungicide	5	
	<i>copper</i> Bonide Copper Spray or Dust	0	
Powdery Mildew	<i>copper</i> Bonide Liquid Copper Fungicide	0	
	<i>copper</i> Bonide Copper Spray or Dust	0	
	<i>chlorothalonil</i> Ortho Garden Disease Control	0	

Always check label for proper rates.

WEED CONTROL IN HOME VEGETABLE GARDENS

Jenna Smith – Weed Science
A. Stanley Culpepper, Extension Weed Scientist

APPLICATION/TIMING	HERBICIDE	CROPS	REMARKS AND PRECAUTIONS
Preplant or Preemergence	<i>glyphosate</i> Roundup, many others See label for specific product used.	Beans, Garden Beets, Broccoli, Brussels Sprouts, Cabbage, Carrot, Cauliflower, Celery, Collards, Garlic, Kale, Lettuce, Mustard Greens, Okra, Onion, Peas, Potato (Irish and sweet), Spinach, Tomato, Turnip. See label for use on additional crops.	Controls most annual weeds and suppresses or controls many perennial weeds. Apply at least 3 days prior to transplanting vegetables. Most weeds can be controlled by applying a 0.75-2% glyphosate-solution using a hand-held sprayer and spraying until wet; see label for exact rates for specific weed problems and application methods. For nutsedge and bermudagrass, sequential applications at 1.5-2% glyphosate solution will likely be necessary. Recommendations are valid for products containing glyphosate as the only active ingredient.
		Cantaloupe, Cucumber, Eggplant, Gourds, Melons (all), Muskmelon, Peppers, Pumpkin, Squash (summer, winter), Tomato, Watermelon	Allow at least 3 days after application before planting these crops. Information is valid for products containing glyphosate as the only active ingredient.
		All vegetables listed above	If growing vegetables on plastic or in high plant residues, care must be taken to remove the glyphosate from the plastic or plant residue prior to transplanting. Glyphosate can be removed by a single 0.5" application of water by irrigation or rainfall. Information is valid for products containing glyphosate as the only active ingredient.
Preplant incorporated, preemergence, or postemergence	<i>trifluralin</i> Weed Preventer, others See label for specific product used.	From Seed: Black eyed peas, Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Celery, Collard, Field peas, Green Peas, Kale, Lentils, Lima Beans, Mustard Greens, Okra, Snap Beans, Southern Pea, Radish, and Turnip Greens	DOES NOT CONTROL EMERGED WEEDS. From Seed: For residual control of annual grasses and small-seeded broadleaf weeds. Apply to prepared soil and incorporate 2 inches deep before planting. Be careful with use rate especially on broccoli, cabbage, cauliflower, turnip greens, mustard greens, collard and kale.
		Before Transplanting: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Celery, Eggplant, Onions, Pepper and Tomato	Before Transplanting: For residual control of annual grasses and small-seeded broadleaf weeds. Apply to prepared soil and incorporate 2" deep before planting.
		Post Emergence Directed: Cantaloupe, Cucumber and Watermelon	Post Emergence Directed: Provides residual control of annual grasses and small-seeded broadleaf weeds. Apply after plants have developed at least 5 leaves. Apply between plants, taking care to limit spray drift on plants. Do not apply within 30 days of harvest, except for watermelon, which has a 60 day preharvest interval.
		After planting: Potato	After planting but before emergence: Use care not to damage seed pieces in cultivating nor to allow treated soil to contact emerged plant foliage.
		All vegetables listed above	In all cases, cultivate into the soil after application using care not to damage emerged crops.
Row middle	<i>trifluralin</i> Treflan HFP	Cucurbits	Provides residual control of annual grasses and small-seeded broadleaf weeds. Apply after plants have reached the 3-4 leaf stage of growth. Apply as a directed spray between the rows. Avoid foliage contact as slight crop injury may occur. Do not apply within 30 days of harvest, except for watermelon, which has a 60 day preharvest interval.

WEED CONTROL IN HOME VEGETABLE GARDENS

APPLICATION/TIMING	HERBICIDE	CROPS	REMARKS AND PRECAUTIONS		
Preplant incorporated, preemergence, or postemergence <i>(continued)</i>	<i>DCPA</i> Dacthal W-75 Dacthal 6 F	At seeding: Mustard Greens, Turnip	DOES NOT CONTROL EMERGED WEEDS. Apply uniformly to soil as a spray at time of planting for residual control of grasses and small seeded broadleaf weeds.		
		At seeding or transplanting: Broccoli, Brussels Sprouts, Cauliflower, Cabbage, Collards, Kale, Garlic, Onions, Sweet Potato	Apply uniformly to the soil as a spray for residual control of grasses and small seeded broadleaf weeds. Can be sprayed directly over transplants without injury.		
		When plants have 4-5 true leaves: Seeded melons: Cantaloupe, Honeydew, Watermelon	Apply only when plants have 4-5 true leaves, are well established, and growing conditions are favorable. Will not control emerged weeds.		
		4-6 weeks after transplanting or direct seeding plants at 4-6 inches tall: Tomato and Eggplant	Can be applied over top of transplants for residual control of annual grasses and small seeded broadleaf weeds.		
Postemergence	<i>sethoxydim</i> Poast 1.53 EC	Broccoli, Brussels Sprouts, Cabbage, Carrots, Cantaloupe, Cauliflower, Celery, Collard, Cucumber, Eggplant, Garlic, Green Pea, Kale, Leek, Lettuce (head and leaf), Lima Bean, Mustard, Okra, Onion, Pepper, Potato (Irish and sweet), Pumpkin, Spinach, Squash, Snap Bean, Southern Pea, Tomato, Watermelon	Does not control broadleaf weeds or sedges. Apply postemergence over-the-top for control of emerged annual and perennial grasses at 1 pt/A or approximately 0.75 Tbsp/gal/1000 sq ft. Use a crop oil concentrate (adjuvant) at a rate of 1 qt/A or approximately 1.5 Tbsp/gal/1000 sq ft. Do not apply within 14 days of harvesting cantaloupe, cucumber, okra, pumpkin, squash, or watermelon. Do not apply within 15 days of harvesting leaf lettuce, spinach, succulent beans or peas. Do not apply within 30 days of harvesting broccoli, Brussels sprouts, cabbage, carrots, cauliflower, celery, collard, dry beans or peas, garlic, kale, leek, (head) lettuce, mustard, potato, or onion. Do not apply within 20 days of harvesting eggplant, pepper, or tomato.		
			<i>bentazon</i> Basagran 4 SL	English Pea, Green Pea, Kidney Bean, Lima Bean, Navy Bean, Pinto Bean, Snap Bean, Southern Pea	For postemergence suppression of yellow nutsedge and control of some broadleaf weeds. Does not control grasses. Apply when weeds are small and actively growing. Adjust rate according to weed size as suggested on label. Do not apply before the third trifoliate leaf is fully expanded. Do not apply when peas or beans are in bloom. Add adjuvant according to label. DO NOT apply Basagran as a solo treatment to dry and succulent beans in Georgia. May be applied from 6-16 fluid ounces per acre when tank mixed with the following herbicides: Dry beans: Outlook, Poast, Pursuit, and Raptor. Succulent beans: Poast and Pursuit. DO NOT apply Basagran as a solo treatment to dry and succulent peas in Georgia. May be applied from 6-16 fluid ounces per acre only when tank mixed with Raptor herbicide or Pursuit. Do not apply to dry or succulent beans within 30 days of harvest, 30 days of dry pea harvest, or 10 days of succulent pea harvest.
					<i>glyphosate</i> Roundup WeatherMax 5.5 SL