

VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)

Crop	Insect	Insecticide	Formulation Per Acre	Lb ai/Acre	Application	Remarks/Precautions	Days to Harvest			
ASPARAGUS	Asparagus beetle, Japanese beetle, Grasshoppers	acetamiprid Assail 30 SG	2.5 oz	0.048	When damage occurs.	DO NOT apply during bloom.	1			
		carbaryl Sevin XLR Sevin 4F	1 qt 1 qt	1.0			1			
		malathion Malathion 57% EC	2 pt	1.25			1			
		methomyl (R) Lannate 2.4 LV Lannate 90 SP	1.5-3 pt 1/2-1 lb	0.45-0.9			1			
		permethrin (R) Pounce 25 WP	3.2-6.4 oz	0.05-0.1			1			
		spinetoram Radiant 1 SC	4-8 oz	0.03-0.063			3	After harvest of ferns only.		
		spinosad SpinTor 2 SC	4-6 oz	0.062-0.094			60	For protection of ferns only.		
		Beet armyworm, Cutworms, Yellow-striped armyworm	<i>Bacillus thuringiensis</i> Biobit, Dipel, Javelin, etc.	See label for rates.						0
			chlorantraniliprole Coragen 1.67 SC	3.5-5 oz			0.045-0.065		DO NOT use an adjuvant with Coragen.	1
	Cyantraniliprole Exirel 0.83 EC		7-13.5 fl oz	0.45-0.88			1			
	methomyl (R) Lannate 2.4 LV Lannate 90 SP		1 1/2-3 pt 1/2-1 lb	0.45-0.9	When damage occurs.		1			
	BEANS (snap or lima)	Bean leaf beetle, Mexican bean beetle	acetamiprid Assail 30 SG	2.5-5.3 oz	0.048-0.10			7		
			bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			3		
carbaryl Sevin XLR Sevin 4F			1/2-1 qt 1/2-1 qt	0.5-1	When damage occurs.	DO NOT apply during bloom.	3			
esfenvalerate (R) Asana XL 0.66 EC			2.9-5.8 oz	0.015-0.03		Asana is not registered on lima beans.	3			
gamma-cyhalothrin Proaxis 0.5EC			2.56-3.84 oz	0.01-0.015			7			
lambda-cyhalothrin (R) Karate Z			1.28-1.92 oz	0.02-0.03			7			
methomyl (R) Lannate 90 SP			0.5 lb	0.45			1			
Novaluron Rimon 0.83 EC			9-12 oz	0.058-0.077		Controls immature mexican bean beetles only.	1			
zeta-cypermethrin (R) Mustang Maxx 0.8 EC			3.2-4.0 oz	0.02-0.025			1			

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<b>BEANS (snap or lima)</b>	Cabbage looper	<i>Bacillus thuringiensis</i> Agree WG		2		Loopers rarely require management on Arkansas snap bean.		
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Asana is not registered on lima beans.	3	
		methomyl (R) Lannate 90 SP Lannate 2.4 LV	0.5-1 lb 1 1/2-3 pt	0.45-0.9			3	
		methoxyfenozide Intrepid 2F	8-16 oz	0.16-0.25			7	
	Corn earworm	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			In spring planted snap bean, scouting (300 sweeps per 50 acres) can be used to reduce insecticide applications.	3
		carbaryl Sevin 5% D	40 lb	2.0	When first pods are 1 inch long and weekly thereafter.		Fall-planted snap beans will generally require corn earworm management. DO NOT apply during bloom.	3
		chlorantraniliprole Coragen 1.67 SC	3.5-5 oz	0.045-0.065				1
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88				1
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			DO NOT feed treated vines. Asana is not registered on lima beans.	3
		gamma-cyhalothrin Proaxis 0.5EC	2.56-3.84 oz	0.01-0.015				7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 oz	0.02-0.03				7
		methomyl (R) Lannate 90 SP Lannate 2.4 LV	0.5 lb 1 1/2 pt	0.45				1
		methoxyfenozide Intrepid 2F	10-16 oz	0.16-0.25				7
		spinetoram Radiant 1 SC	4-8 oz	0.03-0.063				3 (succulent); 28 (dried)
		spinosad Blackhawk	1.7-3.3 oz	0.04-0.07				3 (succulent); 28 (dried)
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025				1
		zeta-cypermethrin +bifenthrin (R) Hero	10.3 oz	0.1				3

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<b>BEANS (snap or lima)</b>	European corn borer	chlorantraniliprole Coragen 1.67 SC	3.5-5 oz	0.045-0.065		Corn borers rarely require management on Arkansas snap bean.	1	
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1	
		zeta-cypermethrin + bifenthrin (R) Hero	10.3 oz	0.1			3	
	Mites	abamectin Agri-Mek SC	1.75-3.5 fl oz	0.01-0.05		For control of spider mites.	DO NOT make more than 2 applications. Must be mixed with an adjuvant.	7
		acequinocyl Kanemite 15 SC	31 fl oz	0.3			DO NOT make more than 2 applications.	7
		fenpyroximate Portal 0.4 EC	2 pt	0.1			Snap bean only. DO NOT make more than 2.	1 (Snap bean)
		bifenthrin (R) Brigade 2 EC	6.4 fl oz	0.1				3
		dimethoate Dimethoate 4EC	1 pt	0.5				0
		Seedcorn maggot, Wireworms	Commercial seed protectant (Lorsban)				Use according to label.	Seed treatment only. Maggot damage can be reduced by early spring plowing that reduces plant residue prior to planting.
	bifenthrin Empower 1.15 G		3.5-8.7 lb				Apply preplant broadcast in the top 1 to 3 inches of soil.	9
	phorate (R) Thimet 20G				7.6	Distribute 4.5-7.0 oz of the granules evenly in 1,000 row feet over the top of the row at planting time (30-inch row minimum).	DO NOT feed foliage of treated beans. DO NOT place Thimet in contact with seed.	
	Stink bugs	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz		0.04-0.1			3
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 oz		0.02-0.03			7
zeta-cypermethrin (R) Mustang Maxx 0.8 EC		3.2-4.0 oz		0.02-0.025			1	
zeta-cypermethrin + bifenthrin (R) Hero		10.3 oz		0.1			3	
<b>BEETS</b>	Flea beetles, webworms	carbaryl Sevin 4F Sevin XLR Plus	1 qt 1 qt	1.0		When insects appear in damaging numbers.	DO NOT apply during bloom.	7
		imidacloprid Prey 1.6 F	3.5 oz	0.044				7
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	1.8-4.0 oz		0.011-0.025			1

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<b>CARROTS</b>	Flea beetles, celery worm, leafhoppers	beta-cyfluthrin + imidacloprid Leverage 360	2.8 oz	0.066	When insects appear in damaging numbers.	Avoid application when foliage is wet. DO NOT apply during bloom.	7		
		carbaryl Sevin 4F Sevin XLR Plus	1 qt 1 qt	1.0			7		
		imidacloprid Prey 1.6 F	3.5 oz	0.044			7		
				malathion Malathion 57% EC	2 pt	1.25	Use only for leafhoppers.		7
				sulfoxaflor Transform WG	1.5-2.75	0.047-0.086		Leafhopper control only. Check label for crop rotation restrictions.	7
				zeta-cypermethrin (R) Mustang Maxx 0.8 EC	1.8-4.0 oz	0.011-0.025			1
		<b>COLE CROPS (Broccoli, Brussels sprouts, cabbage and cauliflower)</b>	Aphids	acetamiprid Assail 30 SG	2.5 oz	0.048			1
acetamiprid + bifenthrin Savoy	4.9-12.9 oz					Maximum of 19 oz a season.	7		
beta-cyfluthrin + imidacloprid Leverage 360	3 oz			0.07			7		
bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz			0.04-0.1			7		
chlorpyrifos Lorsban 50 W	2 lb			1.0			21		
flonicamid Beleaf 50SG	2-2.8 oz			0.062-0.089			0		
flupyradifurone Sivanto Prime	7-14 fl oz			0.09-0.18			Except green peach aphid. Do not apply more than 28 fl oz in a season.	1	
imidacloprid Admire Pro 4.6 F Prey 1.6 F	3.75 oz 1.3 fl oz			0.047			7		
lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz			0.02-0.03			1		
zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz			0.014-0.025			1		
zeta-cypermethrin + bifenthrin Hero	10.3 oz			0.1			3		
	Caterpillars (cabbage looper, diamondback, imported and cross-striped cabbage worm)			acetamiprid + bifenthrin Savoy	9.6-12.9 oz			<b>Use on diamond back moth only.</b> Maximum of 19 oz a season.	7
				<i>Bacillus thuringiensis</i> (Dipel, Javelin, Agree)			Check label.	Slow acting but works well.	0

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<b>COLE CROPS (Broccoli, Brussels sprouts, cabbage and cauliflower)</b>	Caterpillars (cabbage looper, diamondback, imported and cross-striped cabbage worms)	beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7
		bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1		Follow label directions.	7
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz	0.045-0.065			3
		chlorantraniliprole + lambda-cyhalothrin (R) Voliam Xpress	6-9 oz	0.06-0.09			3
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			DO NOT feed treated plants to livestock. 3
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			1
		methomyl (R) Lannate 2.4 LV Lannate SP	1/2-3 pt 1/2-1 lb	0.45-0.9	Apply when cabbage loopers are small.		1 (cabbage) 3 (broccoli, Brussels sprouts & cauliflower)
		methoxyfenozide Intrepid 2F	4-8 oz	0.06-0.12			1
		permethrin (R) Ambush 25 W Ambush 2.0 EC Pounce 25 WP	3.2-6.4 oz 3.2-12.8 oz 3.2-6.4 oz	0.05-0.1			1
		spinosad SpinTor 2 SC	1.5-10 fl oz	0.023-0.156			1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1			7
	Cutworms	beta-cyfluthrin Baythroid XL	0.8-1.6 oz	0.007-0.013			0
		bifenthrin (R) Brigade 2 EC	2.1-6.4	0.033-0.01			Follow label directions. 7
		cypermethrin Ammo 2.5 EC	2.5-5 oz	0.05-0.01			Follow label directions. 1
		diazinon (R) Diazinon AG500 Diazinon AG600 WBC	2-4 qt 51-102 fl oz	2.0-4.0	Broadcast just before planting and incorporate.		
esfenvalerate (R) Asana XL 0.66 EC		5.8-9.6 oz	0.03-0.05	Apply at base of plants.		Use as needed. 3	
zeta-cypermethrin (R) Mustang Maxx 0.8 EC		3.2-4.0 oz	0.02-0.025			1	

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<b>COLE CROPS (Broccoli, Brussels sprouts, cabbage and cauliflower)</b>	Harlequin bug, stink bugs	acetamiprid + bifenthrin Savoy	9.6-12.9 oz			Maximum of 19 oz a season.	7	
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.10			7	
		beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7	
		carbaryl Sevin XLR Plus Sevin 4F	1-2 qt 1-2 qt	1.2		Follow label directions. DO NOT apply during bloom.	14	
		clothianidin Belay 50 WDG	3 - 4 oz	0.05-0.067			7	
		dinotefuran Venom 70 SG Scorpion 35 SL	3-4 oz 2-7 fl oz	0.05-0.18			1	
<b>CUCURBITS (Cantaloupe, cucumber, melons, pumpkin, squash, summer squash and watermelon)</b>	Aphids	acetamiprid Assail 30 SG	2.5 oz-4 oz	0.048-0.077			0	
		acetamiprid + bifenthrin Savoy	9.6-12.9 oz			Maximum of 38.7 oz a season	3	
		flonicamid Beleaf 50SG	2-2.8 oz	0.062-0.089			0	
		flupyradifurone Sivanto Prime	7-14 fl oz	0.09-0.18		DO NOT use foliar applications in muskmelon, cantaloupe, or honeydew melon.	1	
		sulfoxaflor Transform WG	0.75	0.023		Check label for crop rotation restrictions.	1	
	Cucumber beetles	acetamiprid Assail 30 SG	2.5 oz-5.3 oz	0.05-0.1			1	
		acetamiprid + bifenthrin Savoy	6-12.9 oz			Maximum of 38.7 oz a season	3	
		beta-cyfluthrin Baythroid XL	2.4-2.8 oz	0.019-0.022			0	
		bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			3	
		carbaryl Sevin XLR Plus Sevin 4F	1 qt 1 qt	1.0	When insects first appear.	Sevin is highly toxic to honeybees. Avoid excessive applications. DO NOT apply when foliage is wet. DO NOT apply during bloom.	3	
		clothianidin Belay 50 WDG	3 – 4 oz	0.05-0.067		DO NOT use adjuvant with foliar applications. <b>DO NOT use after 4th true leaf.</b>	-	
		dinotefuran Venom 70 SG Scorpion 35 SL	3-4 oz 2-7 fl oz	0.05-0.18			1	

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<b>CUCURBITS (Cantaloupe, cucumber, melons, pumpkin, squash, summer squash and watermelon)</b>	Cucumber beetles	imidacloprid Admire Pro 4.6 F	7-10.5 fl oz	0.28-0.38		Admire applied into soil is highly effective against cucumber beetles and can reduce seedling loss. <b>Soil Application Only.</b>	21
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			1
		malathion Malathion 5 EC	1.5-2.75 pt	0.94-1.7		Use no more than 1.5 pints on winter squash or pumpkins or 2 pints on watermelons.	1
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		DO NOT use Lannate on pumpkins.	1 (lower rate) 3 (higher rate)
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.8-4.0 oz	0.0175-0.025			1
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1			3
		Flea beetles	methomyl (R) Lannate 2.4 LV	1 1/2-3 pt	0.45-0.9	When insects first appear.	One day up to 2 pt, over 2 pt 3 days. DO NOT apply to pumpkins.
Tobacco budworm	Lannate SP	1/2-1 lb					
Beet armyworm	methoxyfenozide Intrepid 2F	4-10 oz	0.06-0.16		Not for control of tobacco budworm.	3	
	spinosad SpinTor 2 SC	4-8 fl oz	0.0625-0.125		Not labeled for flea beetles.	3	
Mites	abamectin Agri-Mek 0.7 SC	1.75-3.5 oz	0.01-0.019		Must be mixed with an adjuvant (NIS surfactant).	7	
(Mites are primarily a problem on cucumber and watermelon)	bifenazate Acramite 50 WS	0.75-1 lb	0.375-0.5		Only one application per season.	3	
	extazole Zeal 2.88 SC	4-6 fl oz	0.09-0.135		Does not kill Adults. DO NOT make more than 1 application per season.	7	
	spiromesifen Oberon 2 SC	7-8.5 oz	0.11-0.13			7	
Pickleworm, Melonworm, Cutworms	acetamiprid + bifenthrin Savoy	6-12.9 oz				Maximum of 38.7 oz a season	3
	beta-cyfluthrin Baythroid XL	1.6-2.4 oz	0.013-0.019				0
	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			Bifenthrin is the only registered insecticide that provides moderate control of squash bug.	3
	carbaryl Sevin XLR Plus Sevin 4F	1 qt 1 qt	1.0	When insects or damage first appears.	Avoid excessive applications. DO NOT apply when foliage is wet. DO NOT apply during bloom.	3	
	chlorantraniliprole Coragen 1.67 SC	2-3.5 fl oz	0.025-0.045			3	
	Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1	

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<b>CUCURBITS (Cantaloupe, cucumber, melons, pumpkin, squash, summer squash and watermelon)</b>	Pickleworm, Melonworm, Cutworms	esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Asana may cause some phytotoxicity to zucchini squash.	3	
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 oz	0.02-0.03			1	
		methoxyfenozide Intrepid 2F	4-10 fl oz	0.06-0.15			3	
		permethrin (R) Ambush 2.0 EC Pounce 3.2 EC	6.4-12.8 oz 4-8 oz	0.1-0.2	When insects or damage first appear.		0	
		spinetoram Radiant 1 SC	5-10 oz	0.038-0.079			3	
		spinosad SpinTor 2 SC	4-8 oz	0.062-0.125		Follow label directions. SpinTor does not control squash bug.	3	
		zeta-cypermethrin +bifenthrin Hero	10.3 oz	0.1			3	
		Squash Bug	acetamiprid + bifenthrin Savoy	12.9 oz			Maximum of 38.7 oz a season	3
		(Rarely a pest of cucumber or watermelon)	beta-cyfluthrin Baythroid XL	1.6-2.4 oz	0.013-0.019			0
			bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1		Bifenthrin is the only registered insecticide that provides moderate but effective control of squash bug nymphs. Almost no control should be expected of adult squash bugs.	3
	carbaryl Sevin XLR Plus Sevin 4F	1 qt 1 qt		1.0	When insects or damage first appear.	Avoid excessive applications. DO NOT apply when foliage is wet. DO NOT apply during bloom.	3	
	esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz		0.03-0.05		Asana may cause some phytotoxicity to zucchini squash.	3	
	lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz		0.02-0.03			1	
	permethrin (R) Ambush 2.0 Pounce 3.2	6.4-12.8 oz 4-8 oz		0.1-0.2	When insects or damage first appear.		0	
	zeta-cypermethrin + bifenthrin Hero	10.3 oz		10.3 oz			3	
Squash Vine Borer	acetamiprid Assail 30 SG	5 oz		0.1		Not generally a serious issue in large plantings of squash or pumpkin.	0	
(Only attacks squash and pumpkin)	acetamiprid + bifenthrin Savoy	6-12.9 oz		0.1		Consider a blue hubbard squash trap crop for control.	3	
	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz		0.04-0.1			3	
	chlorantraniliprole Coragen 1.67 SC	3.5-5 fl oz		0.045-0.065			3	
	lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz		0.02-0.03			1	



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<b>CUCURBITS (Cantaloupe, cucumber, melons, pumpkin, squash, summer squash and watermelon)</b>	Whiteflies	acetamiprid Assail 30 SG	2.5 oz-4 oz	0.048-0.077		Insecticide use will not effectively reduce high populations of whiteflies. Removal of alternate host plants (Weeds) along with field plowing immediately after harvest aids in population suppression.	0
		acetamiprid + bifenthrin Savoy	6-12.9 oz				3
		chlorantraniliprole Coragen 1.67 SC	5-7 fl oz	0.065-0.09	Use on nymphs only.		1
		Cyantraniliprole Exirel 0.83 EC	13.5-20 fl oz	0.088-0.133			1
		pyriproxyfen Knack 0.86 EC	8-10 oz	0.05-0.067			7
		sulfoxaflor Transform WG	2.0-2.25	0.063-0.071			1
		thiomethoxam Actara 25 WDG	3-5.5 oz	0.047-0.086	Follow label directions.		0
<b>EGGPLANT</b>	Aphids	acetamiprid Assail 30 SG	2.5 oz-4 oz	0.048-0.077			0
		acetamiprid + bifenthrin Savoy	4.9-9.6 oz			Follow label directions.	7
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.89-0.096			7
		flonicamid Beleaf 50 SG	2.8-4.28 oz	0.089-0.133			0
		flupyradifurone Sivanto Prime	7-12 fl oz	0.09-0.15			1
		imidacloprid Admire Pro 4.6 F	1.3-2.2 fl oz	0.05-0.08			0
		sulfoxaflor Transform WG	0.75-1.0	0.023-0.031		Check label for crop rotation restrictions.	1
		thiamethoxam Actara 25 WDG	2-3 oz	0.03-0.047			0
	Caterpillars	beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022		Use higher rates for loopers, pinworms and armyworms.	7
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.89-0.096			7
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz	0.045-0.065			1
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1
		chlorantraniliprole + lambda-cyhalothrin (R) Voliam Xpress	6-9 oz	0.06-0.09			5
		methoxyfenozide Intrepid 2F	4-16 fl oz	0.06-0.25			1

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>EGGPLANT</b>	Flea beetles, Colorado potato beetle	beta-cyfluthrin Baythroid XL	2.8 oz	0.022			7	
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.89-0.096			7	
		bifenthrin (R) Brigade 2 EC	2.1-6.4 fl oz	0.033-0.1			7	
		carbaryl Sevin XLR Plus Sevin 4F	1/2-2 qt 1/2-2 qt	0.5-2.0		DO NOT apply during bloom. Use higher rates for Colorado potato beetle.	3	
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			7	
		imidacloprid Admire Pro 4.6 F	1.3-2.2 fl oz	0.05-0.08			0	
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1	
		Mites	abamectin Agri-Mek 0.7 SC	1.75-3.5 fl oz	0.01-0.019		Must be mixed with an adjuvant.	7
		fenbutatin-oxide (R) Vendex 50 WP	2-3 lb	1.0-1.5			3	
		spiromesifen Oberon 2 SC	7-8.5 oz	0.11-0.13			1	
	Leafminers	permethrin (R) Ambush 2.0 EC Pounce 25 WP	6-12 oz 6.4-9.6 oz	0.1-0.2			3	
		spinosad SpinTor 2 SC	6-8 oz	0.094-0.125		Follow label directions.	1	
	<b>GREENS (collards)</b>	Caterpillars	<i>Bacillus thuringiensis</i>					
			beta-cyfluthrin Baythroid XL	1.6-3.2 oz	0.013-0.025		Use higher rates for earworms, armyworms and European corn borers.	0
			beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7
chlorantraniliprole Coragen 1.67 SC			3.5-5.0 fl oz	0.045-0.065			3	
Cyantraniliprole Exirel 0.83 EC			7-13.5 fl oz	0.45-0.88			1	
esfenvalerate (R) Asana XL 0.66EC			5.8-9.6 oz	0.03-0.05			7	
indoxacarb Avaunt 30 WDG			2.5-3.5 oz	0.045-0.065			3	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>GREENS (collards)</b>	Caterpillars	methoxyfenozide Intrepid 2F	4-16 oz	0.06-0.25			1
		permethrin (R) Ambush 2.0 EC Pounce 25 WP	3.2-6.4 oz 3.2-9.6 oz	0.05-0.1			1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
		<hr/>					
<b>GREENS (kale and mustard)</b>	Caterpillars	<i>Bacillus thuringiensis</i>					
		beta-cyfluthrin Baythroid XL	16-3.2 oz	0.013-0.025		Use higher rates for earworms and armyworms.	0
		beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz	0.045-0.065			3
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1
		cypermethrin Ammo 2.5 EC	2.5-5.0 oz	0.05-0.1			1
		methoxyfenozide Intrepid 2F	4-8 fl oz	0.06-0.125			1
		spinosad SpinTor 2 SC	3-6 oz	0.047-0.094			1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
		<hr/>					
<b>GREENS (turnips)</b>	Caterpillars	<i>Bacillus thuringiensis</i>					
		beta-cyfluthrin Baythroid XL	1.6-3.2 oz	0.013-0.025		Use higher rates for corn earworms and armyworms.	0
		beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7
		methoxyfenozide Intrepid 2F	8-16 oz	0.12-0.25			1
		permethrin (R) Pounce 3.2 EC	2-4 oz	0.05-0.1			1
		spinosad SpinTor 2 SC	3-8 oz	0.047-0.125			1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025			1
		<hr/>					

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>HOPS</b>	Aphids and Leafhoppers	imidacloprid Admire Pro 4.6 F	2.8 fl oz	0.1			28	
		pymetrozine Fulfill 50 WDG	4-6 oz	0.125-0.187		Aphids only, will not control leaf hoppers.	14	
		spirotetramat Movento	5-6 fl oz	0.08-0.09		Do not exceed 12.5 fl oz per season.	7	
		Malathion Malathion 5 EC Malathion 8 EC	1 pt 0.63 pt	1.25			10	
		Pyrethrins Pyganic EC 1.4 II Pyganic EC 5 II	16-64 fl oz 4.5-17 fl oz	0.175-0.7		OMRI approved. Do not expect residual control.	0	
	Japanese Beetle	bifenthrin (R) Brigade 2 EC	3.8-6.4 fl oz	0.06-0.1			14	
		imidacloprid Admire Pro 4.6 F	2.8 fl oz	0.1			28	
	Armyworms, Cutworms, Loopers, Leafrollers, and other caterpillars	Bacillus thuringiensis Bt Containing products						
		bifenthrin (R) Brigade 2 EC	3.8-6.4 fl oz	0.06-0.1			14	
		chlorantraniliprole Coragen 1.67 SC	3.5-7.5 fl oz	0.045-0.098			0	
		spinosad Entrust 2 SC	4-6 oz	0.063-0.094		OMRI approved	1	
		spinetoram Delegate 25 WG	2.5-4 oz				3	
	Spider Mites	abamectin Agri-Mek 0.7 SC	1.75-3.5 fl oz	0.01-0.019		Must be mixed with an adjuvant (NIS surfactant).	7	
		acequinocyl Kanemite 15 SC	31 fl oz	0.3			7	
		bifenazate Acramite 50 WS	0.75-1 lb	0.375-0.5		Only one application per season.	14	
extazole Zeal 72 WSP		3-4 oz	0.135-0.18		Does not kill Adults. DO NOT make more than 1 application per season.	7		
fenpyroximate Portal 0.4 EC		2 pt	0.1			3		
<b>OKRA</b>		Aphids	acetamiprid + bifenthrin Savoy	4.9-9.6 oz			Follow label directions.	7
	flonicamid Beleaf 50 SC		2.8-4.28 oz	0.089-0.133			0	
	imidacloprid Admire Pro 4.6 F		1.3-2.2 fl oz	0.05-0.08			0	
	sulfoxaflor Transform WG		0.75-1.0	0.023-0.031		Check label for crop rotation restrictions.	1	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>OKRA</b>	Corn earworm	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7
		chlorantraniliprole Coragen 1.67 SC	3.5-7.5 fl oz	0.045-0.098			1
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1
		methoxyfenozide Intrepid 2F	4-16 oz	0.06-0.25			1
		spinosad SpinTor 2 SC	3-6 oz	0.047-0.094			1
		<b>ONION</b>	Thrips	acetamiprid Assail 30 SG	2.1 oz-3.4 oz	0.040-0.065	
lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz			0.02-0.03			14
malathion Malathion 57% EC	1 1/2 pt			0.9		Highly toxic to honeybees.	3
spinetoram Radiant 1 SC	6-8 oz			0.047-0.063			3
sulfoxaflor Transform WG	2.75			0.086		Check label for crop rotation restrictions.	7
zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz			0.014-0.025			7
<b>PEAS (Garden or English)</b>	Aphids			acetamiprid + bifenthrin Savoy	4.9-9.6 oz		
		esfenvalerate (R) Asana XL 0.66 EC	2.9-5.8 oz	0.015-0.05			3
		imidacloprid Admire Pro 4.6F	1.2 fl oz	0.05			7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		malathion Malathion 57% EC 5 lb/gal	1 1/2 pt	0.9	When insects appear.	Seven days if forage is to be fed to livestock.	3
		<b>PEPPERS</b>	Aphids	acetamiprid + bifenthrin Savoy	4.9-9.6 oz		
beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz			0.89-0.096			7
flonicamid Beleaf 50 SG	2.0-2.8 oz			0.026-0.69			0
imidacloprid Admire Pro 4.6F	1.2 fl oz			0.047			0
methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2 pt 1/2 lb			0.45			3

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>PEPPERS</b> (cont.)	Aphids (cont.)	sulfoxaflor Transform WG	0.75-1.0	0.023-0.031		Check label for crop rotation restrictions.	1	
		thiamethoxam Actara 25 WDG	2-3 oz	0.033-0.047			0	
	Cutworms	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz		0.033-0.1			7
		lambda-cyhalothrin (R) Karate Z	0.96-1.6 fl oz		0.015-0.025			5
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	1.28-4.0 oz		0.008-0.025			1
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1				7
		Flea beetles, Colorado potato beetle, earworm, European corn borer, hornworms	acetamiprid + bifenthrin Savoy	3.6-6.0 oz				Follow label directions. Colorado potato beetle only.
		beta-cyfluthrin Baythroid XL	1.6-2.8 oz		0.013-0.022			7
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz		0.89-0.096			7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz		0.033-0.1			7
		carbaryl Sevin 4F Sevin XLR Plus	1-2 qt 1-2 qt		1.0-2.0	When insects appear.	DO NOT apply during bloom.	3
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz		0.045-0.065			1
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz		0.45-0.88			1
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6		0.03-0.05			7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz		0.02-0.03			5
		methoxyfenozide Intrepid 2F	4-16 oz		0.08-0.25		European corn borer and hornworm control.	1
		permethrin (R) Pounce 25 WP	6.4-12.8 oz		0.1-0.2			3
		spinetoram Radiant 1 SC	5-10 fl oz		0.04-0.078			1
		spinosad SpinTor 2 SC	3-8 fl oz		0.047-0.125			1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz		0.014-0.025			1
		zeta-cypermethrin + bifenthrin Hero	4.0-10.3 oz		0.04-0.1			7

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>		
<b>PEPPERS</b> (cont.)	Mites	abamectin (R) Agri-Mek 0.7 SC	1.75-3.5 fl oz	0.0094- 0.01875		Use only two times per season. Must be mixed with an adjuvant (NIS surfactant).	7		
		spiromesifen Oberon 2 SC	7-8.5 oz	0.11-0.13			1		
	Other caterpillars	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7		
		beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022			7		
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.89-0.096			7		
		chlorantraniliprole Coragen 1.67 SC	3.5-7.5 fl oz	0.045-0.098			1		
		chlorantraniliprole + lambda-cyhalothrin (R) Voliam Xpress	6-9 oz	0.06-0.09			5		
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1		
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			5		
		methomyl (R) Lannate 2.4 LV Lannate 90 SP	1 1/2 pt 1/2 lb	0.45			3		
		methoxyfenozide Intrepid 2F	4-16 fl oz	0.06-0.25			1		
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1		
		zeta-cypermethrin + bifenthrin Hero	4.0-10.3 oz	0.4-0.1			7		
		<b>POTATOES</b> (white or Irish)	Aphids	beta-cyfluthrin + imidacloprid Leverage 360	2.8 oz	0.066			7
				flonicamid Beleaf 50 SG	2.0-2.8 oz	0.026-0.69			7
sulfoxaflor Transform WG	0.75-1.0			0.023-0.031					
thiamethoxam Actara 25 WDG	3 oz			0.047			14		
Colorado potato beetle, potato leafhopper, flea beetles	beta-cyfluthrin Baythroid XL		1.6-2.8 oz	0.013-0.022			0		
	beta-cyfluthrin + imidacloprid Leverage 360		2.8 oz	0.066			7		

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>POTATOES (white or Irish) (cont.)</b>	Colorado potato beetle, potato leafhopper, flea beetles	carbaryl		0.5-2.0	When insects first appear.	DO NOT apply during bloom. Use higher rates on Colorado potato beetle.	7	
		Sevin 4F	1/2-2 qt					
		Sevin XLR Plus	1/2-2 qt					
		esfenvalerate (R)		0.03-0.05				
		Asana XL 0.66 EC	5.8-9.6 oz					
		lambda-cyhalothrin (R)		0.02-0.03				
		Karate Z	1.28-1.92 fl oz					
		permethrin (R)		0.05-0.2				
		Ambush 25 WP	3.2-12.8 oz					
		Ambush 2.0 EC	3.2-12.8 oz					
Pounce 25 WP	6.4-12.8 oz	0.1-0.2						
spinosad		0.047-0.094						
SpinTor 2 SC	3-6 fl oz							
sulfoxaflor		0.047-0.071						
Transform WG	1.5-2.25							
zeta-cypermethrin (R)		0.02-0.025						
Mustang Maxx 0.8 EC	3.2-4.0 oz							
Wireworms		bifenthrin (R)			See label directions.	Check label for crop rotation restrictions.	7	
		Capture LFR						
		phorate (R)			Distribute granules evenly in furrow or band on each side of row at planting or sidedress postemer-gence. Sandy soils use low rate.		90	
		Thimet 20G	8.5-17.3 lb					
<b>RADISHES</b>	Aphids	beta-cyfluthrin + imidacloprid			When insects appear in damaging numbers.	Check label for crop rotation restrictions.	7	
		Leverage 360	2.4-2.8 oz	0.056-0.066				
		imidacloprid		0.044				
		Admire Pro 4.6F	1.3 fl oz					
	malathion		1					
	Malathion 57% EC	1 1/2 pt						
	sulfoxaflor		0.023-0.031					
	Transform WG	0.75-1.0						
	Flea beetles		beta-cyfluthrin		0.013-0.022	When insects appear in damaging numbers.	DO NOT apply during bloom.	7
			Baythroid XL	1.6-2.8 oz				
beta-cyfluthrin + imidacloprid				0.056-0.066				
Leverage 360			2.4-2.8 oz					
carbaryl				0.5-1.0				
Sevin 4F			1/2-1 qt					
Sevin XLR Plus	1/2-1 qt							
esfenvalerate (R)		0.03-0.05						
Asana XL 0.66 EC	5.8-9.6 oz							
imidacloprid		0.044						
Admire Pro 4.6F	1.3 fl oz							



**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SOUTHERN PEAS</b>	Bean leaf beetle	beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			3
		carbaryl Sevin 4F Sevin XLR Plus	1/2-1 qt 1/2-1 qt	0.5-1.0	Plant early. Apply treatment to prevent defoliation.	DO NOT apply during bloom. DO NOT use on succulent shelled peas (Group 6B).	3
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
	Corn earworm	beta-cyfluthrin Baythroid XL	1.6-2.1 oz	0.013-0.017			3
		beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			3
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 oz	0.045-0.065			1
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88			1
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		DO NOT feed vines.	21
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		methoxyfenozide Intrepid 2F	10-16 oz	0.16-0.25			7
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
	Cowpea aphid	beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.03-0.1			3
		imidacloprid Admire Pro 4.6 F	7.0-10.5 fl oz	0.25-0.37		Soil application	21
		imidacloprid Admire Pro 4.6F	1.3 fl oz	0.044		Foliar application	7
lambda-cyhalothrin (R) Karate Z		1.28-1.92 fl oz	0.02-0.03			7	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SOUTHERN PEAS</b>	Cowpea aphid (cont.)	malathion		1			3
		Malathion 57% EC 5 lb/gal	1 1/2 pt				
		methomyl (R) Lannate 1.8 LV Lannate SP	1 1/3-3 pt 1/2-1 pt	0.4-0.9		DO NOT apply more than 4.5 lb ai per acre per crop.	1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025		Aphid control may be variable.	1
	Cowpea curculio	beta-cyfluthrin Baythroid XL	1.6-2.1 oz	0.013-0.017			3
		beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			21
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025			1
	European corn borer	beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
chlorantraniliprole Coragen 1.67 SC		3.5-5.0 oz	0.045-0.065			1	
Cyantraniliprole Exirel 0.83 EC		7-13.5 fl oz	0.45-0.88			1	
methoxyfenozide Intrepid 2F		8-16 oz	0.12-0.25			7	
spinosad SpinTor 2 SC		4-6 fl oz	0.062-0.094			3	
<b>SPINACH</b>	Aphids, plant bugs, leafhoppers, leafminers	acetamiprid Assail 70WP	0.8-1.2 oz	0.035-0.054			7
		beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7
		dimethoate Dimethoate 4 EC	1/2 pt	0.25		Effectiveness of dimethoate is reduced when aphid colonies are established.	14
		dinotefuran Venom 70 SG	1-3 oz foliar 5-6 oz soil	0.044-0.131 0.219-0.263			7 21
		flonicamid Beleaf 50 SG	2.0-2.8 oz	0.062-0.089			0
		imidacloprid Admire Pro 4.6 F	4.4-10.5 fl oz	0.158-0.337		Soil application	21
		imidacloprid Admire Pro 4.6F	1.3 fl oz	0.047		Imidacloprid should only be used with an aphid scouting program. Apply only when aphid numbers exceed the threshold.	7
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025			1

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SPINACH</b>	Caterpillars	<i>Bacillus thuringiensis</i>	Follow label directions.					
		beta-cyfluthrin Baythroid XL	2.4-3.2 oz	0.019-0.025			0	
		beta-cyfluthrin + imidacloprid Leverage 360	3 oz	0.07			7	
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			Pyrethroid use against Leps. can result in increases in aphid populations.	40
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz	0.045-0.065				3
		Cyantraniliprole Exirel 0.83 EC	7-13.5 fl oz	0.45-0.88				1
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		When insects appear or as needed to keep crop free of insects. Not labeled on corn earworm.	DO NOT apply to seedlings less than 3 inches in diameter.	7
		methoxyfenozide Intrepid 2F	4-8 oz	0.06-0.12				1
		permethrin (R) Ambush 2.0 EC Ambush 25 WP Pounce 3.2 EC	6.4-12.8 oz 6.4-12.8 oz 4-8 oz	0.1-0.2				7
		spinosad SpinTor 2 SC	3-6 fl oz	0.047-0.094				1
		thiodicarb (R) Larvin 3.2	24-30 oz	0.6-0.75				14
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025				1
		<b>SWEET CORN</b>	Corn Earworm	beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022		
bifenthrin (R) Brigade 2 EC	2.1-6.4 fl oz			0.033-0.1		When larvae are found.	1	
carbaryl Sevin 4F Sevin XLR	1-2 qt 1-2 qt			1.0-2.0			DO NOT apply during bloom.	2
chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz			0.045-0.065				1
esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz			0.03-0.05				1
lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz			0.02-0.03				1

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SWEET CORN</b>	Corn Earworm	methomyl (R)		0.3-0.45			0 (ears) 3 (forage)	
		Lannate 2.4 LV	1-1 1/2 pt					
		Lannate SP	1/3-1/2 lb					
		methoxyfenozide + spinetoram					Follow label directions.	21 (dry fodder) 3 (forage) 3 (ears)
		Intrepid Edge	8-12 oz					
		permethrin (R)			0.1-0.2			1
	Ambush 2.0 EC	6.4-12.8 oz						
	Ambush 25 WP	6.4-12.8 oz						
	spinosad			0.047-0.094			1	
	SpinTor 2 SC	3-6 fl oz						
	thiodicarb (R)			0.5-0.75			0	
	Larvin 3.2	20-30 oz						
zeta-cypermethrin (R)			0.014-0.025			3		
Mustang Maxx 0.8 EC	2.24-4.0 oz							
Cutworms, rootworms, seed corn maggot, white grubs, wireworms	beta-cyfluthrin			0.007-0.013		Cutworms only.	0	
	Baythroid XL	0.8-1.6 oz						
	bifenthrin (R)			0.08-0.1	Apply in 5- to 7-inch band or in furrow ahead of press wheel. Compatible with liquid fertilizers.		3	
	Capture LFR	0.39-0.44 oz/ 1,000 ft row						
	chlorpyrifos				Banded, T-banded or in furrow		21	
Lorsban 15G	8 oz/1,000 sq ft							
tefluthrin (R)			0.075-0.165	Banded, T-banded or in furrow				
Force 3G	4-5 oz/ 1,000 ft row							
zeta-cypermethrin + bifenthrin			0.025-0.05				3	
Hero	2.6-6.1 oz							
European corn borer, southwestern corn borer	carbaryl			1.5-2.0	When 50% of plants show rows of tiny pinholes in leaves (feeding signs).	Use high volume sprays directed into whorls. DO NOT apply during bloom.	0	
	Sevin 4F	1 1/2-2 qt						
	Sevin XLR Plus	1 1/2-2 qt						
	chlorantraniliprole			0.045-0.065			1	
	Coragen 1.67 SC	3.5-5.0 fl oz						
	esfenvalerate (R)			0.03-0.05			1	
	Asana XL 0.66 EC	5.8-9.6 oz						
	methomyl (R)			0.45		Lannate not labeled on southwestern corn borer.	0 (ears) 3 (forage)	
Lannate 2.4 LV	1 1/2 pt							
Lannate SP	1/2 lb							
methoxyfenozide			0.06-0.25			21 (dry fodder) 3 (forage) 3 (ears)		
Intrepid 2F	4-16 oz							
methoxyfenozide + spinetoram						21 (dry fodder) 3 (forage) 3 (ears)		
Intrepid Edge	4-12 oz							

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SWEET CORN</b> (cont.)	European corn borer, southwestern corn borer	spinosad SpinTor 2 SC	1.5-6.0 fl oz	0.023-0.094			1	
		thiodicarb (R) Larvin 3.2	20-30 oz	0.05-0.75			0	
	Flea beetles	acetamiprid + bifenthrin Savoy	9.6-12.9 oz				Maximum of 25.8 oz a season	7
		beta-cyfluthrin Baythroid XL	0.8-1.6 oz	0.007-0.013				0
		carbaryl Sevin 4F Sevin XLR Plus	1-2 qt 1-2 qt	1.0-2.0		When damage appears.	DO NOT apply during bloom. Hand harvesting is prohibited.	2
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05				1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	2.8-4.0 oz	0.017-0.025				3
	Mites	abamectin Agri-Mek SC	1.75-3.5 fl oz	0.01-0.05	For control of spider mites.	Must be mixed with an adjuvant (NIS surfactant).	7	
	Stink Bugs	acetamiprid + bifenthrin Savoy	12.9 oz				Maximum of 25.8 oz a season.	7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			Follow label directions.	1
		methomyl (R) Lannate 2.4 LV Lannate SP	1/2 lb 1/2 lb	0.45				0 (ears) 3 (forage)
	Whorl feeders, fall armyworm, corn earworm	beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022				0
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			Follow label directions.	1
		carbaryl Sevin 4F Sevin XLR Plus	1-2 qt 1-2 qt	1.0-2.0		Apply when needed. Hand harvesting is prohibited.	Plants will tolerate a great deal of feeding with no yield loss. DO NOT apply during bloom.	2
		chlorantraniliprole Coragen 1.67 SC	3.5-5.0 fl oz	0.045-0.065				1
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05				1
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03				1
		methomyl (R) Lannate 2.4 LV Lannate SP	1-1 1/2 pt 1/3-1/2 pt	0.03-0.45				3

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SWEET CORN</b> (cont.)	Whorl feeders, fall armyworm, corn earworm (cont.)	spinosad SpinTor 2 SC	3-6 oz	0.042-0.094		Follow label directions.	1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025			3
		zeta-cypermethrin + bifenthrin Hero	4.0-10.3 oz	0.04-0.1			3
<b>SWEET POTATO</b>	Flea beetles, tortoise beetles	beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022			0
		beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		bifenthrin (R) Brigade 2 EC	2.1-6.4 fl oz	0.033-0.1		Follow label directions.	21
		carbaryl Sevin 4F Sevin XLR Plus	1-2 qt 1-2 qt	1.0-2.0	When damage occurs on leaves as needed.	DO NOT apply during bloom.	7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		spinosad SpinTor 2 SC	3-6 fl oz	0.047-0.094		Not labeled for tortoise beetle.	7
	Sweet potato weevil	beta-cyfluthrin Baythroid XL	1.6-2.8 oz	0.013-0.022			0
		beta-cyfluthrin + imidacloprid Leverage 360	2.4-2.8 oz	0.056-0.066			7
		carbaryl Sevin 4F Sevin XLR Plus	2.6 oz/gal 2.6 oz/gal		Use as a preplant dip for sweet potato weevil. Just prior to plant- ing, dip sweet potato cuttings in the suspension.	DO NOT apply during bloom.	7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz	0.02-0.03			7
		phosmet Imidan 5% dust	2-4 oz/50 lb bu stored		One application.		
	Wireworm, other soil insects	bifenthrin (R) Capture LFR				See label directions.	
		chlorpyrifos Lorsban 4 EC Lorsban 15G	4 pt 13.5 lb	2.0	Apply broadcast. Preplant and incorporate. Apply Lorsban 15G prior to planting, broadcast and incorporate.		125

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>TOMATO</b>	Cabbage loopers	<i>Bacillus thuringiensis</i>			Check label.		
		Dipel					
		Javelin					
		Biobit					
		Agree					
		chlorantraniliprole	3.5-5.0 fl oz	0.045-0.065			1
		Coragen 1.67 SC					
		Cyantraniliprole	7-13.5 fl oz	0.45-0.88			1
		Exirel 0.83 EC					
	chlorantraniliprole + lambda-cyhalothrin (R)		0.05-0.08			5	
	Voliam Xpress	5-8 oz					
	esfenvalerate (R)		0.03-0.05			1	
	Asana XL 0.66 EC	5.8-9.6 oz					
	methomyl (R)		0.45-0.9		Apply on foliage as needed when loopers are small.	1	
	Lannate 2.4 LV	1 1/2-3 pt					
Lannate SP	1/2-1 lb						
methoxyfenozide		0.06-0.12			1		
Intrepid 2F	4-8 oz						
methoxyfenozide + spinetoram					Follow label directions.	1	
Intrepid Edge	10-12 oz						
Colorado potato beetles, flea beetles, stink bugs	beta-cyfluthrin		0.013-0.022		2.8 oz for flea beetles.		0
	Baythroid XL	1.6-2.8 oz					
	beta-cyfluthrin + imidacloprid		0.089-0.096			0	
	Leverage 360	3.8-4.1 oz					
	bifenthrin (R)		0.033-0.08			1	
	Brigade 2 EC	2.1-5.2 oz					
	carbaryl		1.0-2.0		Apply on foliage as needed.	DO NOT apply during bloom.	3
	Sevin 4F	1-2 qt					
	Sevin XLR Plus	1-2 qt					
imidacloprid		0.047			0		
Admire Pro 4.6F	1.3 fl oz						
spinosad		0.047-0.094			Follow label directions.	1	
SpinTor 2 SC	3-6 oz						
zeta-cypermethrin (R)		0.02-0.025			1		
Mustang Maxx 0.8 EC	3.2-4.0 oz						
zeta-cypermethrin + bifenthrin		0.04-0.1			1		
Hero	4.0-10.3 oz						
Cutworms	beta-cyfluthrin + imidacloprid		0.089-0.096			0	
	Leverage 360	3.8-4.1 oz					
	bifenthrin (R)		0.033-0.08			1	
Brigade 2 EC	2.1-5.2 oz						

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>TOMATO</b>	Cutworms	bifenthrin (R) Capture LFR	0.29-0.39 oz/ 1,000 ft row or 3.4-6.8 oz/acre	0.04-0.08	Apply in 5- to 7-inch band or in furrow ahead of press wheel. Compatible with liquid fertilizers.		30
		carbaryl Sevin 4F Sevin XLR Plus	2 qt 2 qt	2.0	Apply to soil surface 2-3 days prior to transplanting or when damage occurs.	DO NOT apply during bloom.	3
		diazinon Diazinon AG500 Diazinon 50 W Diazinon AG600C	2-4 qt 4-8 lb 51-102 oz	2.0-4.0	Broadcast to soil surface just prior to planting. Incorporate into soil 3-6 inches immediately. Mix in a minimum of 5 gallons of water/acre.		
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05	Broadcast prior to planting and work into soil 4-8 inches.		1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	1.28-4.0 oz	0.008-0.025			1
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1			1
		Leaf miners, aphids	acetamiprid + bifenthrin Savoy	4.9-9.6 oz			Aphids only. Follow label directions.
		abamectin (R) Agri-Mek 0.7 SC	1.75-3.5 fl oz	0.009-0.019	20 gallons of water/acre required.	Mites, leafminers, pinworms, potato beetle. Must be mixed with an adjuvant (NIS surfactant). Follow label directions.	7
		acetamiprid Assail 30 SG	2-4 oz	0.038-0.075			7
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.089-0.096			0
		bifenthrin (R) Brigade 2 EC	2.1-5.2 oz	0.033-0.08			1
		dimethoate Dimethoate 400 Dimethoate 4EC Dimethoate 5 lb	1/2-1 pt 1/2-1 pt 6.4-12.8 oz	0.25-0.5			7
		esfenvalerate (R) Asana XL 0.66 EC	9.6 oz	0.05		Use 5.8-9.6 oz of Asana per acre for aphids.	1
		imidacloprid Admire Pro 4.6F	1.3 fl oz	0.047			0
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		Aphids only.	1
		sulfoxaflor Transform WG	0.75-1.0	0.023-0.031		Not for leaf miners. Check label for crop rotation restrictions.	1
		zeta-cypermethrin (R) Mustang Maxx 0.8 EC	3.2-4.0 oz	0.02-0.025		Aphid control may be variable.	1
		zeta-cypermethrin + bifenthrin Hero	4.0-10.3 oz	0.04-0.1			1



**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>TOMATO</b>	Pinworms	abamectin (R) Agri-Mek 0.7 SC	3.5 oz	0.019		Must be mixed with an adjuvant (NIS surfactant).	7
		beta-cyfluthrin Baythroid XL	2.1-2.8 oz	0.017-0.022			0
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.089-0.096		0	
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		DO NOT exceed 0.5 lb ai/acre per season.	1
		gamma-cyhalothrin Proaxis 0.5 EC	2.56-3.84 oz	0.01-0.015		Follow label directions.	5
		indoxacarb Avaunt 30 DG	3.5 oz	0.065		Follow label directions.	3
		methomyl (R) Lannate LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		All are alternatives. Check dosage on label.	1
		methoxyfenozide Intrepid 2F	10-16 oz	0.16-0.25			1
	No-Mate Spiral Bioinsecticide				Read product label.	Comes in a plastic coil that is wrapped around tomato vines or support stakes.	
	Spider mites	abamectin (R) Agri-Mek 0.7 SC	1.75-3.5 oz	0.0094-0.019	DO NOT apply Agri-Mek in less than 20 gallons of water per acre.	Must be mixed with an adjuvant (NIS surfactant).	7
		bifenthrin (R) Brigade 2 EC	5.2-6.4 oz	0.08-0.1		Follow label directions.	1
		spiromesifen Oberon 2 SC	7-8.5 oz	0.11-0.13			1
	Thrips	acetamiprid + bifenthrin Savoy	9.6 oz			Follow label directions.	7
		beta-cyfluthrin + imidacloprid Leverage 360	3.8-4.1 oz	0.089-0.096			0
		bifenthrin (R) Brigade 2 EC	2.1-5.2 oz	0.033-0.08			1
flonicamid Beleaf		2.4-4.8 oz	0.089-0.133			0	
spinetoram Radiant 1 SC		6-10 oz	0.047-0.078		Will control thrips on foliage, but not in flowers.	1	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation Per Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>TOMATO</b>	Tomato fruitworm, Hornworms	carbaryl		1.0-2.0		DO NOT apply during bloom.	3	
		Sevin 4F	1-2 qt					
		Sevin XLR Plus	1-2 qt					
		chlorantraniliprole			0.045-0.065			1
		Coragen 1.67 SC	3.5-5.0 fl oz					
		Cyantraniliprole			0.45-0.88			1
		Exirel 0.83 EC	7-13.5 fl oz					
		chlorantraniliprole + lambda-cyhalothrin (R)						
		Voliam Xpress	6-9 oz		0.06-0.09			5
		esfenvalerate (R)			0.03-0.05			1
		Asana XL 0.66 EC	5.8-9.6 oz			Five-day intervals.		5
		lambda-cyhalothrin (R)			0.02-0.03			
		Karate Z	1.28-1.92 fl oz					
		methomyl (R)			0.45-0.9		<i>Bacillus thuringiensis</i> 1/2 lb/acre may be used in combination with methomyl. Other areas have had good results.	
		Lannate 2.4 LV	1 1/2-3 pt					
		Lannate SP	1/2-1 lb					
methoxyfenozide			0.06-0.25			1		
Intrepid 2F	4-16 oz							
methoxyfenozide + spinetoram			0.06-0.25		Follow label directions.	1		
Intrepid Edge	10-12 oz							
rynaxypyr			0.045-0.065			1		
Coragen	3.5-5 fl oz							
spinosad			0.047-0.125			1		
SpinTor 2 SC	3-8 fl oz							
zeta-cypermethrin (R)			0.014-0.025			1		
Mustang Maxx 0.8 EC	2.24-4.0 oz							
zeta-cypermethrin + bifenthrin						1		
Hero	4.0-10.3 oz		0.04-0.1					
Wireworms	bifenthrin (R) Capture LFR		0.29-0.39 oz/ 1,000 ft row or 3.4-6.8 oz/A	0.04-0.08	Apply in 5- to 7-inch band or in furrow ahead of press wheel. Compatible with liquid fertilizers.		30	
		diazinon (R)		3.0-4.0	Broadcast prior to planting and immediately work into soil 4-8 inches.			
		Diazinon 50W	6-8 lb					
Diazinon AG600	76 1/2-102 oz							
Diazinon AG500	3-4 qt							
<b>VEGETABLES</b> (See labels for specific crops)	Red Imported Fire Ants	<b>ALL FIRE ANT BAITS – Apply when ants are active and soil temperature is above 60 degrees F. DO NOT treat if rain is anticipated within 6 hours.</b>						
		S-Methoprene	3-5 Tbsp/mound		Mound-to-mound treatment rate	This product is an insect growth regulator (IGR). Apply 3 to 4 weeks prior to harvest date.		
		Extinguish	1.0-1.5 lb/acre		Broadcast rate			
		pyriproxyfen	2-4 Tbsp/mound		Mound-to-mound treatment rate	This product is an insect growth regulator (IGR).		
		Esteem	1.5-2.0 lb/acre		Broadcast rate			
spinosad				Mound-to-mound treatment rate	See label for specific rate and application instructions.			
Eliminator Fire Ant Bait	4-6 Tbsp/mound			Broadcast rate	Acceptable for organic production.			
Green Light Fire Ant Control	2.5-5.0 lb/acre							
Ortho Fire Ant Bait								
Safer Fire Ant Bait								