

VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)

Crop	Insect	Insecticide	Formulation/ Acre	Lb ai/Acre	Application	Remarks/Precautions	Days to Harvest
ASPARAGUS	Asparagus beetle	carbaryl Sevin 80S Sevin XLR Sevin 4F	1 1/4-5 lb	1.0-4.0	When damage occurs.		1
			1-4 qt				
			1-4 qt				
		chlorpyrifos Lorsban 4E	2 pt	1.0			
			malathion Malathion 57% EC	2 pt			
		methomyl (R) Lannate 2.4 LV Lannate 90 SP	1.5-3 pt	0.45-0.9			
			1/2-1 lb				
		permethrin (R) Pounce 3.2 EC Ambush 25 WP	2-4 oz	0.05-0.1			
			spinosad (SpinTor) 2 SC				
		Beet armyworm	methomyl (R) Lannate 2.4 LV Lannate 90 SP	1 1/2-3 pt	0.45-0.9	When damage occurs.	
1/2-1 lb							
<i>Bacillus thuringiensis</i> Biobit, Dipel, Javelin, etc.	See label for rates.						
BEANS (snap or lima)	Seedcorn maggot	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.	
			phorate (R) Thimet 20G	7.6	Distribute 4.5-7.0 oz of the gran- ules evenly in 1000 row feet to the side of the seed at planting time (30-in. row min).	Do not feed foliage of treated beans within 60 days of treatment. Do not place Thimet in contact with seed.	
	Bean leaf beetle Mexican bean beetle	acephate Orthene 75S	2/3 lb	0.5		Do not feed treated vines.	14 (snap) 0 (lima)
		bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			3
	carbaryl Sevin 80S Sevin XLR Sevin 4F	2/3-1 1/4 lb	0.5-1	When damage occurs.			
		1/2-1 qt					
	diazinon (R) Diazinon 50 WP Diazinon AG500 4 lb/gal	1 lb 1 pt	0.5		Wait 4 days to harvest for hay use. Diazinon is not registered for bean leaf beetle.	7	

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<b>BEANS (snap or lima)</b>	Bean leaf beetle Mexican bean beetle (cont.)	endosulfan		0.5-1.0		Do not exceed 3 applications per season. Do not feed treated foliage to livestock. Do not use on lima beans.  Asana is not registered on lima beans.  Follow label directions.	3
		Thiodan 50 WP	1-2 lb				
		esfenvalerate (R)		0.015-0.03			
		Asana XL 0.66 EC	2.9-5.8 oz				
		gamma-cyhalothrin		0.0075-			
		Proaxis 0.5EC	1.92-3.2 oz	0.0125			
		lambda-cyhalothrin		0.02-0.03			
		Karate Z	1.28-1.92 oz				
		malathion		1.25			
		Malathion 57% EC	2 pt				
		methomyl (R)		0.45			
		Lannate 1.8 L	2 pt				
		thiamethoxam					
		Actara 25 WDG					
zeta-cypermethrin (R)		0.02-0.025					
Mustang Max 0.8 EC	3.2-4.0 oz		32-40				
Corn earworm		acephate		0.75-1.0	Not effective when bean pods are larger than 3 inches.  When first pods are 1 inch long and weekly thereafter.	In spring planted snap bean, scouting (300 sweeps per 50 acres) can be used to reduce insecticide applications.  Fall planted snap bean will generally require corn earworm management.  Do not feed treated vines. Asana not registered on lima beans.	14 (snap) 0 (lima)
		Orthene 75S	1-1 1/3 lb				
		bifenthrin (R)		0.04-0.1			
		Brigade 2 EC	2.6-6.4 fl oz				
		carbaryl		2.0			
		Sevin 5% D	40 lb	1.0-1.5			
		Sevin 50 WP	2-3 lb				
		esfenvalerate (R)		0.03-0.05			
		Asana XL 0.66 EC	5.8-9.6 oz				
		gamma-cyhalothrin		0.01-0.015			
		Proaxis 0.5EC	2.56-3.84 oz				
		lambda-cyhalothrin		0.02-0.03			
		Karate Z	1.28-1.92 oz				
		methomyl (R)		0.45			
Lannate 1.8 L	2 pt						
Lannate 2.4 LV	1 1/2 pt						
spinetoram		0.03-0.063					
Radiant 1 SC	4-8 oz						
zeta-cypermethrin (R)		0.02-0.025					
Mustang Max 0.8 EC	3.2-4.0 oz		32-40				
zeta-cypermethrin + bifenthrin		0.1					
Hero	10.3 oz						

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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.		
		acephate Orthene 75S	1-1 1/3 lb	0.75-1.0	When damage occurs.			
		esfenverate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			Asana is not registered on lima beans.	14 (snap) 0 (lima)
		methomyl (R) Lannate 1.8 L Lannate 2.4 LV	2-4 pt 1 1/2-3 pt	0.45-0.9				3 (succulent beans) 0 (lima)
	European corn borer	acephate Orthene 75S	1-1 1/3 lb	0.75-1.0		Corn borers rarely require management on Arkansas snap bean.	7 (snap) 3	
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1				
	Mites	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			3	
		dicofol Kelthane MF	1 pt	0.5		Do not feed crop residue to dairy or meat animals.	7	
		dimethoate Dimethoate 400 Dimethoate 4EC	1 pt 1 pt	0.5			0	
	Stink bugs	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1		Do not feed Thiodan-treated vines. Do not exceed 3 applications per season. Do not use on lima beans.	3	
endosulfan Thiodan 50 WP Thiodan 3 EC		2 lb 2 2/3 pt	1.0					
lambda-cyhalothrin Karate Z		1.28-1.92 oz	0.02-0.03					
zeta-cypermethrin (R) Mustang Max 0.8 EC		3.2-4.0 oz	0.02-0.025	32-40				
zeta-cypermethrin + bifenthrin Hero		10.3 oz	0.1					
<b>BEETS</b>	Flea beetles Webworm	carbaryl Sevin 4F Sevin 80S Sevin XLR Plus	1 qt 1 1/4 lb 1 qt	1.0	When insects appear in damaging numbers.	3		
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7	
		zeta-cypermethrin (R) Mustang Max 0.8 EC	1.8-4.0 oz	0.011-0.025			1	

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<b>CARROTS</b>	Flea beetle	carbaryl		1.0	When insects appear in damaging numbers.	Avoid application when foliage is wet.	0
	Celery worm	Sevin 4F	1 qt				
	Leafhopper	Sevin 80S	1 1/4 lb				
		Sevin XLR Plus	1 qt				
		endosulfan		1.0	When insects appear.		
		Thiodan 50 WP	1 1/3 qt				
		Thiodan 3 EC	2 lb				
	imidacloprid		0.047			7	
	Provado 1.6 F	3.75 oz					
	malathion		1.56	Use only for leafhoppers.		7	
	Malathion 57% EC	2.5 pt					
	zeta-cypermethrin (R)		0.011-0.025			1	
	Mustang Max 0.8 EC	1.8-4.0 oz					
<b>COLE CROPS (Broccoli, Brussels Sprouts, Cabbage, Cauliflower)</b>	Cutworms	bifenthrin (R)				Follow label directions.	3
		Brigade 2 EC					
		cypermethrin				Follow label directions.	
		Ammo 2.5 EC					
		diazinon (R)		2.0-4.0	Broadcast just before planting and incorporate.		
	Diazinon AG500	2-4 qt					
	Diazinon AG600 WBC	51-102 fl oz					
	esfenvalerate (R)		0.03-0.05	Apply at base of plants.	Use as needed.		
	Asana XL	5.8-9.6 oz					
	zeta-cypermethrin (R)		0.02-0.025			1	
	Mustang Max 0.8 EC	3.2-4.0 oz					
	Caterpillars (cabbage looper, diamondback, imported and cross-striped cabbage worm)	<i>Bacillus thuringiensis</i> (Dipel, Javelin, Agree)	2.1-6.4 fl oz	0.033-0.01	Check label.	Slow acting but works well.	0
		bifenthrin (R)		0.04-0.1		Follow label directions.	
Brigade 2 EC		2.6-6.4 fl oz					
cyfluthrin			0.019-0.025		Follow label directions	0	
Baythroid 2 EC		2.4-3.2 fl oz					
diazinon (R)			0.25-0.5				
Diazinon 50 WP		1/2-1 lb					
Diazinon AG500	1/2-1 pt						
Diazinon AG600	6 1/2-12 3/4 oz						
endosulfan		0.75-1.0	When insects appear.		7 (broccoli) 7 (cabbage) 14 (Brussels sprouts & cauliflower)		
Thiodan 3 EC	1-1 1/3 qt						
Thiodan 50 WP	1 1/2-2 lb						

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<b>COLE CROPS (Broccoli, Brussels Sprouts, Cabbage, Cauliflower)</b>	Caterpillars (cabbage looper, diamondback, imported and cross-striped cabbage worm)	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	2.56-3.84 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 3.2 EC Pounce 25 WP	3.2-12.8 oz 3.2-12.8 oz 2-8 oz 3.2-12.8 oz	0.2-0.5			1		
		rynaxpyr Coragen	3.5-5.0 fl oz	0.045-0.065			3		
		spinosad SpinTor 2 SC	1.5-10 fl oz	0.023-0.156					
		tebufenozide Confirm 2F	6-8 fl oz	0.09-0.12					
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			1		
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1			7		
		Harlequin bug Stink bug	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.038-0.10			Follow label directions.	3
			carbaryl Sevin 80S Sevin XLR Plus Sevin 4F						
			endosulfan Thiodan 50 WP Thiodan 3 EC						
		Aphids	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1				7
			chlorpyrifos Lorsban 50 W	2 lb	1.0				28 (cauliflower) 35 (cabbage) 21 (broccoli)

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<b>COLE CROPS (Broccoli, Brussels Sprouts, Cabbage, Cauliflower)</b>	Aphids (cont.)	diazinon (R)		0.25-0.5			5		
		Diazinon 50 WP	1/2-1 lb				7 (cabbage)		
		Diazinon AG500 (4 lb/gal)	1/2-1 pt						
		Diazinon AG600	6 1/2-12 3/4 oz						
		disulfoton (R)		1.0		Apply at planting time.	42		
		Di-Syston 8	1 pt						
		endosulfan		0.75-1.0		When needed.	2		
		Thiodan 3 EC	1-1 1/3 qt						
		Thiodan 50 WP	1 1/2-2 lb						
		imidacloprid		0.047			7		
Provado 1.6 F	3.75 oz								
		lambda-cyhalothrin (R)		0.02-0.03					
		Karate Z	1.28-1.92 fl oz						
		zeta-cypermethrin (R)		0.014-0.025			1		
		Mustang Max 0.8 EC	2.24-4.0 oz						
		zeta-cypermethrin + bifenthrin		0.1			3		
		Hero	10.3 oz						
		<b>CUCURBITS (Cantaloupe, pumpkin, squash and watermelon)</b>	Cucumber beetle Darkling beetle	bifenthrin (R)		0.04-0.1			3
				Brigade 2 EC	2.6-6.4 oz				
				carbaryl		1.0		When insects first appear.	0
				Sevin XLR Plus	1 qt				
Sevin 80S	1 1/4 lb								
Sevin 4F	1 qt								
cyfluthrin				0.019-0.022			0		
Baythroid 2 EC	2.4-2.8 fl oz								
imidacloprid				0.25-0.375			21		
Admire 2 F	16-24 fl oz					Admire applied into soil is highly effective against cucumber beetles and can reduce seedling loss.			
		lambda-cyhalothrin (R)		0.02-0.03					
		Karate Z	1.28-1.92 fl oz						
		methomyl (R)		0.45-0.9		Use on cucumbers and squash only. No more than three applications per season.	1 (lower rate) 3 (higher rate)		
		Lannate 2.4 LV	1 1/2-3 pt						
		Lannate SP	1/2-1 lb						
		zeta-cypermethrin (R)		0.0175-0.025					
		Mustang Max 0.8 EC	3.28-4.0 oz						
		zeta-cypermethrin + bifenthrin		0.1					
		Hero	10.3 oz						

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<b>CUCURBITS (Cantaloupe, pumpkin, squash and watermelon)</b>	Pickleworm Squash bug	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.		
		carbaryl Sevin 80S Sevin XLR Plus Sevin 4F	1 1/4 lb 1 qt 1 qt	1.0	When insects or damage first appears.	Avoid excessive applications. Do not apply when foliage is wet.	0	
		endosulfan Thiodan 50 WP Thiodan 3 EC	1-2 lb 1 1/3-2 2/3 pt	0.5-1.0	When feeding is noticed.		2	
		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 Karate Z	1.28-1.92 oz	0.02-0.03				
		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	
		spinosad SpinTor 2 SC	4-6 oz	0.062-0.094		Follow label directions.		
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1				
	Aphids		diazinon (R) Diazinon 50 WP Diazinon AG500 4 lb/gal Diazinon AG600	1 lb 1 lb 12 3/4 oz	0.5		Winter squash 3 days to harvest and summer squash 7 days. Do not use on pumpkin.	3-7
			endosulfan Thiodan 3 EC Thiodan 50 WP	1 1/3-2 2/3 pt 1-2 lb	0.5-1.0			2
		malathion Malathion 57% EC 5 lb/gal	1 1/2 pt	1.0	When insects first appear.	Do not apply unless plants are dry. Pumpkins 3 days before harvest.	1	
Mites			abamectin Agri-Mek 0.15EC	8-16 oz	0.0094- 0.01875	When mites first appear	Do not apply unless plants are dry. Pumpkins 3 days before harvest.	7
		diazinon (R) Diazinon AG500 Diazinon AG600	1-1 1/2 pt 12 3/4-19 oz	0.5-0.75	When mites first appear.	Do not apply to melons or winter squash within 3 days or summer squash within 7 days of harvest. Do not use higher rates (above 0.5 lb ai/ac) on cucumber.	3-7	
		dicofol Kelthane 35 WP Kelthane 50 WP	1-1 2/3 lb 1 1/4 lb	0.35-0.58 0.625				

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<b>CUCURBITS (Melons, cucumbers and summer squash)</b>	Flea beetle Tobacco budworm Beet armyworm	methomyl (R)		0.45-0.9	When insects first appear.	One day up to 2 pt, over 2 pt 3 days.	1-3	
		Lannate 2.4 LV	1 1/2-3 pt					
		Lannate SP	1/2-1 lb					
			spinosad SpinTor 2 SC	4-8 fl oz				
	Whitefly	bifenthrin (R) Brigade 2 EC				Follow label directions.	Insecticide use will not effectively reduce high populations of whiteflies. Use of imidacloprid against low numbers has proven effective. Removal of alternate host plants (weeds) along with field plowing immediately after harvest aids in population suppression.	1
		imidacloprid Provado 1.6 F				Follow label directions.		
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz					
		rynaxpyr Coragen	5-7 fl oz	0.065-0.09				
		thiomethoxam Actara 25 WDG				Follow label directions.		
	<b>CUCUMBERS</b>	Aphids	bifenthrin (R) Brigade 2 EC	2.6-6.4 fl oz	0.04-0.1			
diazinon (R) Diazinon 50 WP Diazinon AG500 Diazinon AG600			1 lb 1 pt 12 3/4 oz	0.5			7	
endosulfan Thiodan 3 EC Thiodan 50 WP			2/3-1 1/3 pt 1-2 lb	0.5-1.0			2	
flonicamid Beleaf 50 SG			2-2.8 oz	0.026-0.69			0	
malathion Malathion 57% EC			1 1/2 pt	0.5		Apply when needed.	1	
zeta-cypermethrin (R) Mustang Max 0.8 EC			3.2-4.0	0.02-0.025			1	
zeta-cypermethrin + bifenthrin Hero			10.3 oz	0.1			3	
Cucumber beetles Blister beetles			esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Apply when needed.	3
			lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
			methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		1 day for 0.45 lb ai; 3 days if over 0.45 lb ai.	3

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<b>CUCUMBERS</b>	Squash bugs	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.	3
		carbaryl Sevin XLR Plus	1 qt	1.0			0
		Sevin 80S	1 1/4 lb				
		Sevin 4F	1 qt				
		endosulfan Thiodan 3 EC	1 1/3-2 2/3 pt	0.5-1.0			2
	Thiodan 50 WP	1-2 lb					
	esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			3	
	Pickleworm	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1		Apply to foliage as needed.	3
		carbaryl Sevin XLR Plus	1 qt	1.0			0
		Sevin 80S	1 1/4 lb				
		Sevin 4F	1 lb				
		endosulfan Thiodan 3 EC	1 1/3-2 2/3 pt	0.5-1.0			2
		Thiodan 50 WP	1-2 lb				
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			3
lambda-cyhalothrin (R) Karate Z		1.28-1.92 fl oz					
methomyl (R) Lannate 2.4 LV	1 1/2-3 pt	0.45-0.9		3			
Lannate SP	1/2-1 lb						
spinosad SpinTor 2 SC	4-6 oz	0.062-0.094		Follow label directions.			
Mites	bifenthrin (R) Brigade 2 EC	6.4 oz	0.1		3		
	dicofol Kelthane 35	1-1 2/3 lb	0.35-0.58		2		
	Kelthane 50W	1 1/4 lb	0.625				
<b>EGGPLANT</b>	Flea beetle	bifenthrin (R) Brigade 2 EC	2.1-6.4 fl oz	0.033-0.1			7
		carbaryl Sevin 80S	2/3-2 1/2 lb	0.5-2.0			
	Colorado potato beetle	Sevin XLR Plus	1/2-2 qt				
		Sevin 4F	1/2-2 qt				
cyfluthrin Baythroid 2 EC	1.6-2.8 fl oz	0.013-0.022			0		

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<b>EGGPLANT</b>	Flea beetle Colorado potato beetle (cont.)	esfenvalerate (R) Asana XL 0.66 EC	4.8-9.6 oz	0.025-0.05				
		imidacloprid Admire Pro 4.6 F	7-10.5 oz	0.25-0.375	Soil application.			
		imidacloprid Provado 1.6 F	3.75 oz	0.047	Foliar application		7	
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			1	
	Earworm Blister beetle Aphids	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1				7
		endosulfan Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb	0.5-1.0	When insects first appear.	Coverage of upper and lower leaf surface is essential.		
		imidacloprid Provado 1.6 F	3.75 oz	0.047				7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz					
		spinosad SpinTor 2 SC	3-8 fl oz	0.047-0.125				
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			Aphid control may be variable depending on species present.	1
		Mites	Vendex 50 WP (R)	2-3 lb	1.0-1.5			
	Leafminers	permethrin (R) Ambush 2.0 EC Pounce 3.2 EC	6-12 oz 4-8 oz	0.1-0.2				
		spinosad SpinTor 2 SC	6-8 oz				Follow label directions.	
		Lep. larvae	methoxyfenozide Intrepid 2F	4-16 fl oz	0.06-0.25			1
	rynaxypyr Coragen	3.5-5.0 fl oz	0.045-0.065				1	
	tebufenozide Confirm 2F	6-8 fl oz	0.09-0.12					
<b>GREENS (collards)</b>	Caterpillars	<i>Bacillus thuringiensis</i>						
		esfenvalerate (R) Asana XL 0.66EC	5.8-9.6 oz	0.03-0.05				
		indoxacarb Avant 30 WDG	2.5-3.5 oz	0.047-0.065				3

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>GREENS (collards)</b>	Caterpillars	permethrin <b>(R)</b>		0.05-0.1			1
		Ambush 2.0 EC	3.2-6.4 oz				
		Pounce 3.2 EC	2-4 oz				
		rynaxypyr		0.045-0.065			3
		Coragen	3.5-5.0 fl oz				
		tebufenozide		0.09-0.12			
		Confirm 2F	6-8 fl oz				
		zeta-cypermethrin <b>(R)</b>		0.014-0.025			1
		Mustang Max 0.8 EC	2.24-4.0 oz				
<b>GREENS (kale and mustard)</b>	Caterpillars	<i>Bacillus thuringiensis</i>					
		cyfluthrin					
		Baythroid 2 EC					
		cypermethrin		0.05-0.1			
		Ammo 2.5 EC	2.5-5 oz				
		diazinon <b>(R)</b>		0.25-0.5			
		Diazinon 50 WP	1/2-1 lb				
		Diazinon AG500	1/2-1 pt				
		Diazinon AG600	6 1/2-12 3/4 oz				
		methoxyfenozide		0.06-0.125			1
		Intrepid 2F	4-8 fl oz				
		rynaxypyr		0.045-0.065			1
		Coragen	3.5-5.0 fl oz				
spinosad		0.047-0.094			1		
SpinTor 2 SC	3-6 oz						
tebufenozide		0.09-0.12					
Confirm 2F	6-8 fl oz						
zeta-cypermethrin <b>(R)</b>		0.014-0.025			1		
Mustang Max 0.8 EC	2.24-4.0 oz						
<b>GREENS (turnips)</b>	Caterpillars	<i>Bacillus thuringiensis</i>					
		permethrin <b>(R)</b>		0.05-0.1			
		Pounce 3.2 EC	2-4 oz				
		spinosad		0.047-0.094			
		SpinTor 2 SC	3-6 oz				
		tebufenozide		0.09-0.12			
Confirm 2F	6-8 fl oz						
zeta-cypermethrin <b>(R)</b>		0.02-0.025			1		
Mustang Max 0.8 EC	3.2-4.0 oz						

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>OKRA</b>	Aphids	malathion Malathion 57% EC 5 lb/gal	1 1/2 pt	0.9			1
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7
	Corn earworm	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7
		spinosad SpinTor 2 SC	3-6 oz	0.047-0.094			1
<b>ONIONS</b>	Thrips	diazinon (R) Diazinon 50 WP Diazinon AG500 4 lb/gal Diazinon AG600	1 lb 1 pt 12 3/4 oz	0.5			10
		encapsulated methyl parathion (R) PennCap-M	2 pt	0.5		Do not apply when onions are blooming to avoid injury to bees.	15
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
		malathion Malathion 57% EC	1 1/2 pt	0.9		Highly toxic to honeybees.	3
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			7
<b>PEAS (Garden or English)</b>	Aphids	esfenvalerate (R) Asana XL 0.66 EC	2.9-5.8 oz	0.03-0.05			3
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
		malathion Malathion 57% EC 5 lb/gal	1 1/2-2 pt	0.9-1.25	When insects appear.	Seven days if forage is to be fed to livestock.	3
<b>PEPPERS</b>	Cutworms	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7
		diazinon (R) Diazinon AG600 Diazinon 50 WP Diazinon AG500	51-102 oz 4-8 lb 2-4 qt	2.0-4.0	When damage appears. Broadcast prior to planting and work into soil 3-6 inches.		

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>PEPPERS</b>	Cutworms	lambda-cyhalothrin (R) Karate Z	0.96-1.6 fl oz	0.008-0.025			1
		zeta-cypermethrin (R) Mustang Max 0.8 EC	1.28-4.0 oz				
		zeta-cypermethrin + bifenthrin Hero	10.3				
	Flea beetles	acephate		0.75-1.0	Bell only.		7
	Colorado potato beetle	Orthene 75S	1-1 1/3 lb				
	Earworm	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7
	European corn borer	carbaryl		0.5-2.0	When insects appear.		0
	Hornworms	Sevin 80S	2/3-2 1/2 lb				
		Sevin 4F Sevin XLR Plus	1/2-2 qt 1/2-2 qt				
		cyfluthrin		0.025-0.044			
		Baythroid 2 EC	1.6-2.8				
		endosulfan		0.5-1.0			
		Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb			Harvest within 1 day if 1 1/3 pt 3 EC or 1 lb 50 WP per acre is used.	4
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
		permethrin (R) Pounce 3.2 EC	4-8 oz	0.1-0.2			3
		rynaxypyr Coragen	3.5-5.0 fl oz	0.045-0.065			1
		spinosad SpinTor 2 SC	3-8 fl oz	0.047-0.125			
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			1
		zeta-cypermethrin + bifenthrin Hero	4-10.3 oz	0.04-0.1			7
	Aphids	acephate		0.5-1.0	Use low rate on non-bell peppers.		7
		Orthene 75S	2/3-1 1/3 lb				
		dimethoate		0.25-0.33	When aphids appear in damaging numbers.		0
		Dimethoate 400 Dimethoate 4EC Dimethoate 5 lb	1/2-2/3 pt 1/2-2/3 pt 6.4-8.4 oz				

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>PEPPERS</b>	Aphids (cont.)	flonicamid Beleaf 50 SG	2.0-2.8 oz	0.026-0.69			0	
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7	
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2 pt 1/2 lb		0.45			3
		zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025		Aphid control may be variable.	1	
		zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1				
		Lep. Larvae	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			7
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz					
		methoxyfenozide Intrepid 2F	4-16 fl oz	0.06-0.25			1	
		tebufenozide Confirm 2F	6-8 fl oz	0.09-0.12				
		zeta-cypermethrin (R) Mustang Max 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	
		Mites	Agri-Mek 0.15EC (R)	8-16 oz	0.0094- 0.01875		Use only two times per season. Only on bell peppers.	
	<b>POTATOES (white or Irish)</b>	Colorado potato beetle	carbaryl Sevin 80S	2/3-2 1/2 lb	0.5-2.0	When insects first appear.		0
			Potato leaf hopper	Sevin 4F	1/2-2 qt			
Flea beetles		Sevin XLR Plus	1/2-2 qt					
		endosulfan Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb	0.5-1.0		When feeding is noticed.		
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			7	
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7	
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz					

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>		
<b>POTATOES (white or Irish)</b>	Colorado potato beetle	methamidophos (R) Monitor 4 EC	1 1/2-2 pt	0.75-1.0			75		
	Potato leaf hopper	permethrin (R) Ambush 25 WP Ambush 2.0 EC Pounce 3.2 EC	3.2-12.8 oz	0.05-0.2		Apply no more than 12 applications. Do not graze or feed foliage.	7		
	Flea beetles		3.2-12.8 oz	0.05-0.2					
			4-8 oz	0.1-0.2					
			spinosad SpinTor 2 SC	3-6 fl oz	0.047				
			zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025			1	
		Aphids	endosulfan Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb	0.5-1.0			0	
			flonicamid Beleaf 50 SG	2.0-2.8 oz	0.026-0.69			7	
			imidacloprid Provado 1.6 F	3.75 oz	0.047			7	
			malathion Malathion 57% EC	1-1 1/2 pt	0.6-0.9			0	
			zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025			1	
			Wireworms	bifenthrin (R) Capture LFR			See label directions.		
				diazinon (R) Diazinon 50 W Diazinon AG600 Diazinon AG500	4-8 lb 51-102 oz 2-4 qt	2-4	Broadcast just before planting and work into soil 4-8 inches.		
			phorate (R) Thimet 20G	11.0-17.7 lb	2.0-3.0	Distribute granules evenly in furrow or band on each side of row at planting or sidedress postemergence. Sandy soils use low rate.		90	
	<b>RADISHES</b>	Flea beetles	carbaryl Sevin 80S Sevin 4F Sevin XLR Plus	2/3-1 1/4 1/2-1 qt 1/2-1 qt	0.5-1.0		When insects appear in damaging numbers.	3	
diazinon (R) Diazinon AG500 Diazinon 50 W Diazinon AG600			1/2-1 pt 1/2-1 pt 6 1/2-12 3/4 oz	0.25-0.5		Repeat as necessary to maintain control.	10		
esfenvalerate (R) Asana XL 0.66 EC			5.8-9.6 oz	0.03-0.05			7		
		imidacloprid Provado 1.6 F	3.75 oz	0.047			7		

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>RADISHES</b>	Aphids	diazinon (R)		0.25-0.5			10	
		Diazinon 50 WP	1/2-1 lb					
		Diazinon AG500	1/2-1 pt					
		4 lb/gal						
		Diazinon AG600	6 1/2-12 3/4 oz					
		imidacloprid			0.047			7
		Provado 1.6 F	3.75 oz					
		malathion		0.6-1.25	When insects appear in damaging numbers.		7	
		Malathion 57% EC	1-2 pt					
<b>SOUTHERN PEAS</b>	Cowpea aphid	bifenthrin (R)		0.03-0.1			3	
		Brigade 2 EC	2.1-6.4 oz					
		imidacloprid			0.25-0.37		Soil application	21
		Admire Pro 4.6 F	7.0-10.5 fl oz					
		imidacloprid			0.047			7
		Provado 1.6 F	3.75 oz					
		malathion			0.9-1.25			3 (picking)
		Malathion 57% EC	1 1/2-2 pt					7 (vines)
		5 lb/gal						
		lambda-cyhalothrin (R)						
	Karate Z	1.28-1.92 fl oz						
	methomyl (R)			0.4-0.9		Do not apply more than 4.5 lb ai/acre/crop.	3	
	Lannate 1.8 LV	1 1/3-3 pt						
Lannate SP	1/2-1 pt							
zeta-cypermethrin (R)			0.02-0.025		Aphid control may be variable.	1		
Mustang Max 0.8 EC	3.2-4.0 oz							
	Bean leaf beetle	bifenthrin (R)		0.033-0.1			3	
		Brigade 2 EC	2.1-6.4 oz					
		cyfluthrin			0.019-0.025			7
		Baythroid 2 EC	2.4-3.2 fl oz					
		carbaryl			0.5-1.0	Plant early. Apply treatment to prevent defoliation.		0
		Sevin 80S	2/3-1 1/4 lb					
	Sevin 4F	1/2-1 qt						
	Sevin XLR Plus	1/2-1 qt						
	lambda-cyhalothrin (R)							
	Karate Z	1.28-1.92 fl oz						
	zeta-cypermethrin (R)			0.014-0.025			1	
	Mustang Max 0.8 EC	2.24-4.0 oz						

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SOUTHERN PEAS</b>	Corn earworm	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			3	
		cyfluthrin Baythroid 2 EC						
		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					
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			1	
	Cowpea curculio	cyfluthrin Baythroid 2 EC	2.1 fl oz	0.033				3
		endosulfan Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb	0.5-1.0		Apply to foliage when pods are 1/2-inch long. Make applications at 5-day intervals.	Do not feed vines. Do not apply Thiodan more than 2 times during fruiting period.	0
		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					
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025				1
		European corn borer	spinosad SpinTor 2 SC	4-6 fl oz	0.062-0.094			
	<b>SPINACH</b>	Aphids	acetamiprid Assail 70WP	0.8-1.2 oz	0.035-0.054			7
			Plant bugs	diazinon (R) Diazinon 50W Diazinon AG600 Diazinon AG500	1/2-1 lb 6 1/2-12 3/4 oz 1/2-1 pt	0.25-0.5		
Leafhoppers		dimethoate Dimethoate 400 Dimethoate 4 EC Dimethoate 5 lb	1/2 pt 1/2 pt 6.4 oz	0.25			Effectiveness of dimethoate is reduced when aphid colonies are established.	14
		Leafminers	dinotefuran Venom 70 SG	1-4 oz foliar 5-6 oz soil	0.045-0.179 0.226-0.268			7 21
endosulfan Thiodan 3 EC Thiodan 50 WP			1-1 1/3 qt 1 1/2-2 lb	0.75-1.0		When insects appear.	Aphid resurgence may occur within the PHI (21 days).	21
		flonicamid Beleaf 50 SG	2.0-2.8 oz	0.026-0.69			7	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SPINACH</b>	Aphids	imidacloprid		0.158-0.337		Soil application	21
	Plant bugs	Admire Pro 4.6 F	4.4-10.5 fl oz				
	Leafhoppers	imidacloprid		0.047		Imidacloprid should only be used with an aphid scouting program. Apply only when aphid numbers exceed the threshold.	7
	Leafminers (cont.)	Provado 1.6 F	3.75 oz				
		zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025			1
	Lep. larvae	<i>Bacillus thuringiensis</i>	Follow label directions.				
		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
		cyfluthrin Baythroid 2 EC	2.4-3.2	0.019-0.025			0
		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.		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
		rynaxypyr Coragen	3.5-5.0 fl oz	0.045-0.065			1
		spinosad SpinTor 2 SC	3-6 fl oz	0.047-0.094			
		tebufenozide Confirm 2F	6-8 fl oz	0.09-0.12			
		thiodicarb Larvin 3.2 (R)	24-30 oz	0.6-0.75			14
		zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025			1
	<b>SUMMER SQUASH</b>	Melonworm	endosulfan		0.5-1.0	When larvae appear.	
Pickleworm		Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb				
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Do not apply to zucchini squash.	0
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9			3
		spinosad SpinTor 2 SC	4-8 fl oz	0.062-0.125			

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SUMMER SQUASH</b>	Cabbage looper	esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Repeat as necessary to maintain control.	3
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9			3
	Squash bug	bifenthrin (R) Brigade 2 EC	2.6-6.4 oz	0.04-0.1		Bifenthrin is the only registered insecticide that provides moderate but effective control of squash bug.	3
		endosulfan Thiodan 3 EC Thiodan 50 WP	1 1/3-2 2/3 pt 1-2 lb	0.5-1.0			0
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Do not exceed 0.25 lb ai per acre per season. Do not apply to zucchini as injury may result.	3
	Cucumber beetle	imidacloprid Admire Pro 4.6 F	7.0-10.5 oz	0.25-0.375			21
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz				
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		Do not apply before plants start to vine and unless plants are dry.	3
	Squash vine borer	endosulfan Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb	0.5-1.0		Preventative measure. Nothing is very effective once borer is in stem.	0
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			3
<b>SWEET CORN</b>	Cutworm Rootworm Seed corn maggots White grubs Wireworms	bifenthrin (R) Capture LFR	0.39-0.44 oz/ 1000 ft row	0.08-0.1	Apply in 5- to 7-inch band or in furrow ahead of press wheel. Compatible with liquid fertilizers.		3
		chlorpyrifos Lorsban 15G	6.75-13.5 lb	1.0-2.0	Banded, T-banded or in-furrow (8-16 oz/1000 row ft) at planting. Preplant broadcast (6.75-13.5 lb/acre). Post-emergence band (3.5-8 oz/1000 row ft) or post-emergence broadcast (5.0-6.5 lb/acre).		
		tefluthrin (R) Force 3G	2.5-5.5 lb	0.075-0.165	Banded, T-banded or in-furrow at planting (4-5 oz/1000 row ft) or banded and covered postemergence.		
		zeta-cypermethrin + bifenthrin Hero	2.6-6.1 oz	0.025-0.05			3

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>SWEET CORN</b>	Flea beetle	carbaryl		1.0-2.0	When damage appears.		0
		Sevin 4F	1-2 qt				
		Sevin 80S	1 1/4-2 1/2 lb				
		Sevin XLR Plus	1-2 qt				
		esfenvalerate (R)		0.03-0.05			
	Asana XL 0.66 EC	5.8-9.6 oz		1			
					0.017-0.025		3
			2.72-4.0 oz				
	Corn earworm	bifenthrin (R)		0.033-0.1	When larvae are found.		
		Brigade 2 EC	2.1-6.4 fl oz				
		carbaryl		1.0-2.0			
		Sevin 80S	1 1/4-2 1/2 lb				
		Sevin 4F	1-2 qt				
		Sevin XLR	1-2 qt				
		cyfluthrin (R)		0.013-0.022			
		Baythroid 2 EC	1.6-2.8 fl oz				
		esfenvalerate (R)		0.03-0.05			
		Asana XL 0.66 EC	5.8-9.6 oz				
		lambda-cyhalothrin (R)					
		Karata Z	1.28-1.92 fl oz				
methomyl (R)			0.3-0.45				
Lannate 2.4 LV		1-1 1/2 pt					
Lannate SP		1/3-1/2 lb					
permethrin (R)		0.1-0.2					
Ambush 2.0 EC	6.4-12.8 oz						
Ambush 25 WP	6.4-12.8 oz						
spinosad		0.047-0.094					
SpinTor 2 SC	3-6 fl oz						
thiodicarb		0.5-0.75					
Larvin 3.2 (R)	20-30 oz						
zeta-cypermethrin (R)		0.014-0.025					
Mustang Max 0.8 EC	2.24-4.0 oz						
Whorl feeders Fall armyworm Corn earworm	bifenthrin (R)		0.033-0.1	Apply when needed.	Follow label directions.		
	Brigade 2 EC	2.1-6.4 oz					
	carbaryl		1.0-2.0				
	Sevin 80S	1 1/4-2 1/2 lb					
	Sevin 4F	1-2 qt					
Sevin XLR Plus	1-2 qt						
carbofuran		0.5				7	
Furadan LFR	1 pt						
cyfluthrin		0.013-0.022			Follow label directions.		
Baythroid 2 EC	1.6-2.8 fl oz						

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SWEET CORN</b>	Whorl feeders Fall armyworm Corn earworm	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					
		methomyl (R) Lannate 2.4 LV Lannate SP	1-1 1/2 pt 1/3-1/2 pt	0.03-0.45			3	
		spinosad SpinTor 2 SC	6-8 oz			Follow label directions.		
		zeta-cypermethrin (R) Mustang Max 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	
	European corn borer Southwestern corn borer	carbaryl Sevin 4F Sevin 80S Sevin XLR Plus	1 1/2-2 qt 1 7/8-2 1/2 lb 1 1/2-2 qt	1.5-2.0		When 50% of plants show rows of tiny pinholes in leaves (feeding signs).	Use high volume sprays directed into whorls.	0
		esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			1	
		methomyl (R) Lannate 2.4 LV Lannate SP	1/2 lb 1/2 lb	0.45			Lannate not labeled on Southwestern corn borer.	0 (ears) 3 (forage)
		spinosad SpinTor 2 SC	1.5-6.0 fl oz	0.023-0.094				
		thiodicarb Larvin 3.2 (R)	20-30 oz	0.05-0.75			0	
		<b>SWEET POTATO</b>	Flea beetle Tortoise beetle	bifenthrin (R) Brigade 2 EC	9.6-19.2 fl oz	0.15-0.3		Follow label directions.
carbaryl Sevin 4F Sevin 80S Sevin XLR Plus	1-2 qt 1 1/4-2 1/2 lb 1-2 qt			1.0-2.0		When damage occurs on leaves as needed.	0	
endosulfan Thiodan 3 EC Thiodan 50 WP	2/3 qt 1 lb		0.5			1		
lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz							
spinosad SpinTor 2 SC	3-6 fl oz		0.047-0.094					

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>SWEET POTATO</b>	Wireworms and other soil insects	bifenthrin (R) Capture LFR			See lael 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.			
	Sweet potato weevil	carbaryl Sevin 4F Sevin 80 WP Sevin XLR Plus	2.6 oz/gal 4 oz/gal 2.6 oz/gal		Use as a preplant dip for sweet potato weevil. Just prior to planting dip sweet potato cuttings in the suspension.			
		endosulfan Thiodan 3 EC Thiodan 50 WP	2/3 qt 1 lb		Can be used in the nursery and/or in the field.		1	
		lambda-cyhalothrin (R) Karate Z	1.28-1.92 fl oz		One application.			
		phosmet Imidan 5% dust	2-4 oz/50 lb bu stored					
<b>TOMATO</b>	Fruitworm Hornworm	<i>Bacillus thuringiensis</i>			Check label.	Recommended for tomato hornworms only. Does not control fruitworms.		
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			1	
		carbaryl Sevin 80S Sevin 4F Sevin XLR Plus	1 1/4-2 1/2 lb 1-2 qt 1-2 qt	1.0-2.0				0
		cyfluthrin Baythroid 2 EC	1.6-2.8 fl oz	0.013-0.022				0
		endosulfan Thiodan 50 WP Thiodan 3 EC	2 lb 1 1/3 qt	1.0		Make applications at 7-day intervals as needed.	<i>Bacillus thuringiensis</i> 1/2 lb/A may be used in combination with either Thiodan or methomyl. Other areas have had good results.	2
		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			Five-day intervals.		5
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 pt	0.45-0.9			<i>Bacillus thuringiensis</i> 1/2 lb/A may be used in combination with either Thiodan or methomyl. Other areas have had good results.	
		methoxyfenozide Intrepid 2F	4-16 oz	0.06-0.25				1
		rynaxypyr Coragen	3.5-5.0 fl oz	0.045-0.065				1

VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)

Crop	Insect	Insecticide	Formulation/ Acre	Lb ai/Acre	Application	Remarks/Precautions	Days to Harvest	
TOMATO	Fruit worm Horn worm	spinosad		0.047-0.125				
		SpinTor 2 SC	3-8 fl oz					
		tebufenozide		0.09-0.12				
		Confirm 2F	6-8 fl oz					
		zeta-cypermethrin (R) Mustang Max 0.8 EC	2.24-4.0 oz	0.014-0.025			1	
		zeta-cypermethrin + bifenthrin		0.04-0.1			1	
		Hero	4.0-10.3 oz					
		Cabbage loopers	<i>Bacillus thuringiensis</i> Dipel, Javelin Biobit, Agree		Check label.			
			endosulfan					
			Thiodan 3 EC	1-1 1/3 qt				
			Thiodan 50 WP	1 1/2-2 lb				
			esfenvalerate (R) Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05			2
			methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9	Apply on foliage as needed when loopers are small. Methomyl is preferred treatment.		1
			tebufenozide		0.09-0.12			1
			Confirm 2F	6-8 fl oz				
		Colorado potato beetle	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			1
		Flea beetles Stink bugs	carbaryl		1.0-2.0	Apply on foliage as needed.		0
			Sevin 80S	1 1/4-2 1/2 lb				
			Sevin 4F	1-2 qt				
			Sevin XLR Plus	1-2 qt				
		endosulfan		0.75-1.0	When insects appear.	Thiodan is not registered on stink bugs.	2	
		Thiodan 3 EC	1-1 1/3 qt					
		Thiodan 50 SP	1 1/2-2 lb					
		imidacloprid		0.047			7	
		Provado 1.6 F	3.75 oz					
		spinosad				Follow label directions.		
		SpinTor 2 SC	3-6 oz					
		zeta-cypermethrin (R) Mustang Max 0.8 EC	3.2-4.0 oz	0.02-0.025			1	
		zeta-cypermethrin + bifenthrin		0.04-0.1			1	
		Hero	4.0-10.3 oz					
	Leaf miners	abamectin		0.009-0.019	20 gallons of water/acre required.	Mites, leafminers, pinworms, potato beetle.	7	
	Aphids	Agri-Mek 0.15 EC	8-16 oz			Follow label directions.		
		acetamiprid						
		Assail 30 SG						
		bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			1	

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>	
<b>TOMATO</b>	Leaf miners Aphids	diazinon (R) Diazinon AG500 4 lb/gal	1/2 pt	0.25			1	
		Diazinon 50 W Diazinon AG600	1/2 lb 6 1/2 pt					
		dimethoate		0.25-0.5			7	
		Dimethoate 400 Dimethoate 4EC Dimethoate 5 lb	1/2-1 pt 1/2-1 pt 6.4-12.8 oz					
		endosulfan		0.5-1.0	Apply on foliage as needed.	Thiodan is not registered for leaf miner.	2	
		Thiodan 3 EC Thiodan 50 WP	2/3-1 1/3 qt 1-2 lb					
		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 Provado 1.6 F	3.75 oz	0.047			7	
		malathion				Follow label directions.		
		methomyl (R) Lannate 2.4 LV Lannate SP	1 1/2-3 pt 1/2-1 lb	0.45-0.9		Aphids only.	0	
		zeta-cypermethrin (R) Mustang Max 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	
		Cutworms	bifenthrin (R) Brigade 2 EC	2.1-6.4 oz	0.033-0.1			1
			bifenthrin (R) Capture LFR	0.29-0.39 oz/ 1000 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
			carbaryl Sevin 80S Sevin 4F Sevin XLR Plus	2 1/2 lb 2 qt 2 qt	2.0	Apply to soil surface 2-3 days prior to transplanting or when damage occurs.		0
			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 gals of water per 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
			tebufenozide Confirm 2F	6-8 fl oz	0.09-0.12			
			zeta-cypermethrin (R) Mustang Max 0.8 EC	1.28-4.0 oz	0.008-0.025			1
			zeta-cypermethrin + bifenthrin Hero	10.3 oz	0.1			1

**VEGETABLE INSECT CONTROL RECOMMENDATIONS (COMMERCIAL)**

<b>Crop</b>	<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/ Acre</b>	<b>Lb ai/Acre</b>	<b>Application</b>	<b>Remarks/Precautions</b>	<b>Days to Harvest</b>
<b>TOMATO</b>	Wireworms	bifenthrin (R) Capture LFR	0.29-0.39 oz/ 1000 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) Diazinon 50W Diazinon AG600 Diazinon AG500	6-8 lb 76 1/2-102 oz 3-4 qt	3.0-4.0	Broadcast prior to planting and immediately work into soil 4-8 inches.		
	Spider mites	abamectin Agri-Mek 0.15 EC	1 1/2 qt	0.0094-0.019	Do not apply Agri-Mek in less than 20 gallons of water per acre.		7
		bifenthrin (R) Brigade 2 EC				Follow label directions.	1
		dicofol Kelthane MF imidacloprid Provado 1.6 F	1/3-1 1/2 qt	0.375-0.75	Spray when damaging numbers are present.	Follow label directions.	2
	Pinworms	abamectin (R) Agri-Mek 0.15 EC	1 pt	0.019		Follow label directions.	
		cyfluthrin (R) Baythroid 2 EC				Follow label directions.	
		esfenvalerate Asana XL 0.66 EC	5.8-9.6 oz	0.03-0.05		Do not exceed 0.5 lb ai/acre/season.	1
		gamma-cyhalothrin Proaxis 0.5 EC				Follow label directions.	
		indoxacarb Avaunt 30 DG				Follow label directions.	
		methamidophos (R) Monitor	1 1/2-2 pt	0.75-1.0			7
		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.	0
No-Mate Spiral Bioinsecticide				Read product label.	Comes in a plastic coil that is wrapped around tomato vines or support stakes.		
Thrips	bifenthrin (R) Brigade 2 EC imidacloprid Provado 1.6 F	2.1-5.2 oz	0.033-0.08		Follow label directions.	1	
<b>VEGETABLES (See labels for specific crops)</b>	Red Imported Fire Ants	<b>ALL FIRE ANT BAITS</b> – Apply when ants are active and soil temperature is above 60°F. Do not treat if rain is anticipated within 6 hours.					
		S-Methoprene Extinguish	3-5 T/mound 1-1.5 lb/A		Mound-to-mound treatment rate. Broadcast rate.	This product is an insect growth regulator (IGR). Apply 3 to 4 weeks prior to harvest date of production area being treated.	
		pyriproxyfen Esteem	2-4 T/mound 1.5-2.0 lb/A		Mound-to-mound treatment rate. Broadcast rate.	This product is an insect growth regulator (IGR).	
		spinosad Eliminator Fire Ant Bait Green Light Fire Ant Control Ortho Fire Ant Bait Safer Fire Ant Bait	4-6 T/mound 2.5-5 lb/A		Mound-to-mound treatment rate. Broadcast rate	See label for specific rate and application instructions. Acceptable for organic production.	