

# Field Crops

Department of Entomology

## ALFALFA INSECT CONTROL RECOMMENDATIONS

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**Read and Follow ALL Label Rate, Application, and Use Directions**

This publication is intended to aid pest managers in treating pest infestations in alfalfa during the growing.

Pest	Active Ingredient(s)	Trade Name(s)	Pre-Harvest Interval (days)	MoA <sup>1</sup>	Treatment Guideline	
Alfalfa Weevil Larva	alpha-cypermethrin*	Fastac	3	3	Refer to Table 1 for management guidelines.	
	beta-cyfluthrin*	Baythroid	7	3		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	indoxacarb	Steward	7	22		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	permethrin*	Ambush, Pounce, generics	14	3A		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3			
Aphids	dimethoate	Dimethoate, generics	10	1B	Treatment may be advisable if: 1) the aphid population is heavy. 2) less than 10% of the aphids are parasitized, 3) few aphid predators are present, and 4) the average stem length is less than 14 inches.	
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		

Pest	Active Ingredient(s)	Trade Name(s)	Pre-Harvest Interval (days)	MoA <sup>1</sup>	Treatment Guideline	
Blister Beetles	carbaryl	Sevin, generics	7	1A	Livestock ingesting hay infested with dead blister beetles may become sick or die. Controls should be applied well before harvest, and hay conditioners should not be used. Do NOT feed infested hay, even if treated, to horses.	
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
Caterpillars: (alfalfa caterpillar, armyworms, cutworms, green cloverworm loopers, and webworms)	alpha-cypermethrin*	Fastac	3	3	Depending on the value of the crop, defoliation levels as low as 10-15% may be economic. Fall seedings especially need protection from larval defoliation and possibly plant death.	
	<i>Bacillus thuringiensis</i>	Dipel, Javelin, generics	0	11A		
	beta-cyfluthrin*	Baythroid	7	3		
	carbaryl	Sevin, generics	7	1A		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	flubendiamide	Belt	0	28		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	indoxacarb	Steward	7	22		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	methoxyfenozide	Intrepid	7	18		
	permethrin*	Ambush, Pounce, generics	14	3A		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3			
Grasshoppers	alpha-cypermethrin*	Fastac	3	3	Depending on the value of the crop, defoliation levels as low as 10-15% may be economically justified.	
	beta-cyfluthrin*	Baythroid	7	3		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	dimethoate	Dimethoate, generics	10	1B		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					

3 Alfalfa Insect Control Recommendations — E-220-W

Pest	Active Ingredient(s)	Trade Name(s)	Pre-Harvest Interval (days)	MoA <sup>1</sup>	Treatment Guideline	
Grasshoppers (Con't.)	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	7	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
	chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3		
Lygus, Plant Bugs	alpha-cypermethrin*	Fastac	3	3	Alfalfa grown for seed may need protection. If there is an average of 3 adults and/or nymphs per sweep on 3-inch seed alfalfa or more than 5 adults and/or nymphs per sweep on seed alfalfa over 3 inches tall, a treatment may be advisable.	
	beta-cyfluthrin*	Baythroid	7	3		
	carbaryl	Sevin, generics	7	1A		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	dimethoate	Dimethoate, generics	10	1B		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	permethrin*	Ambush, Pounce, generics	14	3A		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
	chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3		
Meadow Spittlebug	alpha-cypermethrin*	Fastac	3	3	Treatment may be economically justified when spittle masses average more than one per stem.	
	beta-cyfluthrin*	Baythroid	7	3		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	permethrin*	Ambush, Pounce, generics	14	3A		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	14	1B;3		
	chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3		
chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3			

Pest	Active Ingredient(s)	Trade Name(s)	Pre-Harvest Interval (days)	MoA <sup>1</sup>	Treatment Guideline	
Potato Leaf-hopper	alpha-cypermethrin*	Fastac	3	3	Refer to Figure 1 for management guidelines.	
	beta-cyfluthrin*	Baythroid	7	3		
	chlorpyrifos*	Lorsban, generics	14	1B		
	cyfluthrin*	Tombstone	7	3		
	dimethoate	Dimethoate, generics	10	1B		
	gamma-cyhalothrin*	Declare, Proaxis	7	3		
	lambda-cyhalothrin*	Warrior II, generics	7	3		
	permethrin*	Ambush, Pounce, generics	14	3A		
	zeta-cypermethrin*	Mustang Max, Respect	3	3		
	<b>Pre-Mixes</b>					
	chlorantraniliprole; lambda-cyhalothrin*	Besiege	7	28;3		
	chlorpyrifos; gamma-cyhalothrin*	Cobalt, Bolton	7	1B;3		
chlorpyrifos; lambda-cyhalothrin*	Cobalt Advanced	14	1B;3			
chlorpyrifos; zeta-cypermethrin*	Stallion	7	3;3			

\*Restricted Use Product.

<sup>1</sup>Mode of Action: Insecticides are classified based on their target site. Using different, and combined, modes of action may delay insect resistance to insecticide groups. More specific information can be found at IRAC: <<http://www.irac-online.org>>.

**Table 1. Management Guidelines for Alfalfa Weevil Larvae**

Use the following charts for southern and northern Indiana to determine if control is warranted.

**Southern Indiana**

Heat Units (Base 48°F)	% Tip Feeding <sup>1</sup>	Advisory
200		Begin sampling. South facing sandy soils should be monitored earlier.
300	0-50	Reevaluate in 7 to 10 days using the appropriate HU, or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%
400	50	Treat immediately with a residual insecticide.
500	75	Treat immediately.
600	75+	If cutting delayed more than 5 days, treat immediately.
750	If harvested or harvesting shortly, return to the field in 4 to 5 days after cutting and spray 1) if there is no regrowth and weevil larvae are present or 2) if feeding damage is apparent on 50% of the stubble and weevil larvae are present.	

<sup>1</sup>Note whether larvae are still present, actively feeding, and/or diseased.

**Northern Indiana**

Heat Units (Base 48°F)	% Tip Feeding <sup>1</sup>	Advisory
250		Begin sampling.
300	0-40 (30)*	Reevaluate in 7 to 10 days using the appropriate HU, or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%.
400	60 (50)*	Treat immediately with a residual insecticide.
500	75	Treat immediately.
600	75+	If cutting delayed more than 5 days, treat immediately.
750	If harvested or harvesting shortly, return to the field in 4 to 5 days after cutting and spray 1) if there is no regrowth and weevil larvae are present or 2) if feeding damage is apparent on 50% of the stubble and weevil larvae are present.	

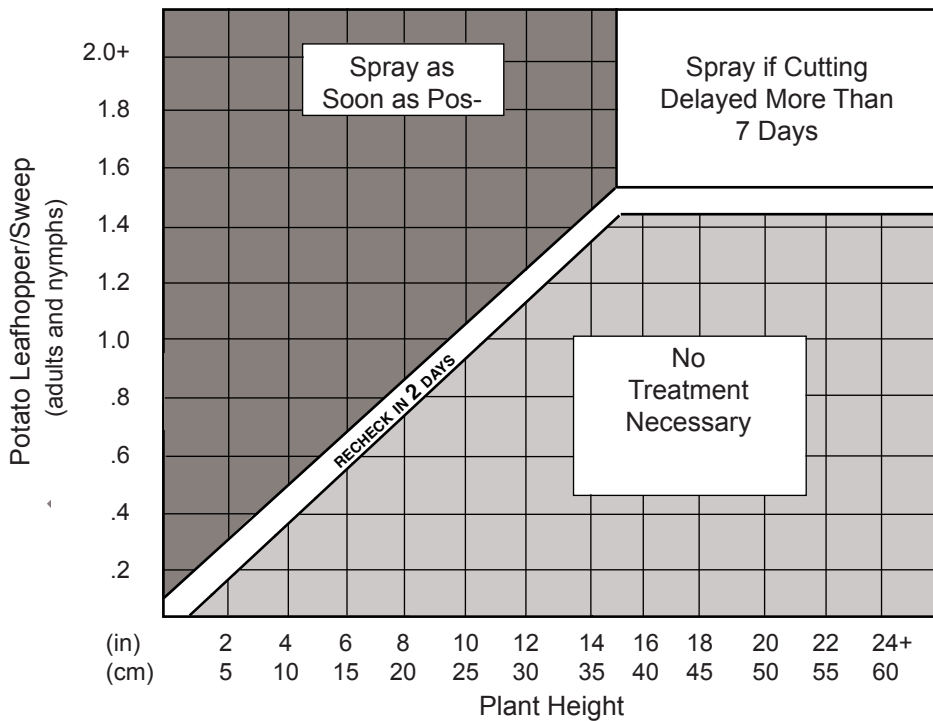
\*Shorter than normal growth at beginning of season.

<sup>1</sup>Note whether larvae are still present, actively feeding, and/or diseased.

**Figure 1. Management Guideline for Potato Leafhopper (adults and nymphs)**

To determine potato leafhopper numbers, take at least five sets of 20 sweeps with a 15" diameter insect sweep net, each set from a different area of the field. The sweeps should be made as you walk through an area by moving the net from side to side in a sweeping motion through the foliage. After 20 sweeps have been made, quickly gather the net together in the center. Inspect the upper portion of the inside of the net for potato leafhoppers. Then slowly open the net and let the trapped insects crawl out. Count the number of potato leafhoppers, both adults and nymphs. After taking each set of sweeps, measure the height of at least 2 stems in each area.

After all sweeps and height measurements have been taken, determine the number of potato leafhoppers per sweep and the average stem height for the field. See below the number of potato leafhoppers, required per sweep at different plant heights, before treatment is needed.



Fields should be evaluated for potato leafhopper 4-5 days after harvest, when alfalfa is 3-4 inches tall. If spray is required, maximum benefit from leafhopper control can be achieved at this time. Sweep at mid day when field is dry and air temperature is highest.

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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