

Field Crops

Department of Entomology

ALFALFA INSECT CONTROL RECOMMENDATIONS - 2010

Christian H. Krupke, Larry W. Bledsoe and John L. Obermeyer, Extension Entomologists

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

Pest	Material	Amount Per Acre & Formulation*	Pre-Harvest Interval (Days)	Treatment Guideline**
Alfalfa Weevil Larva	chlorpyrifos (Lorsban) ^{1,2}	1 pt. 4E 2 pt. 4E	14 21	Refer to Table 1 for management guidelines
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	19 - 38 fl. oz. EC	14-21	
	cyfluthrin (Baythroid XL) ^{1,2}	1.6 - 2.8 fl. oz. 2EC	7	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.4 fl. oz. 1CS	1-forage 7-hay	
	permethrin (Ambush) ^{1,2} (Pounce) ^{1,2}	12.8 oz. 2EC 8 oz. 3.2EC	14 14	
	zeta-cypermethrin (Mustang Max) ^{1,2}	2.2 - 4.0 oz. 0.8EW	3	
Aphids	chlorpyrifos (Lorsban) ^{1,2}	1 pt. 4E 2 pt. 4E	14 21	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.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	13 - 26 fl. oz. EC	7-14	

Pest	Material	Amount Per Acre & Formulation*	Pre-Harvest Interval (Days)	Treatment Guideline**
Aphids (con't)	dimethoate (Dimethoate) ²	1/2 - 1 pt. 4E	10	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.4 fl. oz. 1CS	1-forage 7-hay	
Blister Beetles	carbaryl (Sevin) ^{2,3}	1/2 - 1 qt. 4F 5/8 - 1 1/2 lb. 80S 1/2 - 1 qt. XLR	7 7 7	Livestock ingesting hay infested with dead blister beetles may become sick or die. Treatments should be applied well before harvest, and hay conditioners should not be used. Do NOT feed infested hay, even if treated, to horses.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	19 - 38 fl. oz. EC	14-21	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.4 fl. oz. 1CS	1-forage 7-hay	
Caterpillars (alfalfa caterpillar, armyworms, cutworms, green cloverworm, loopers, and webworms)	cyfluthrin (Baythroid XL) ^{1,2}	1.6 - 2.8 fl. oz. 2EC	7	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.
	chlorpyrifos (Lorsban) ^{1,2}	1 pt. 4F 2 pt. 4F	14 21	
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	13 - 26 fl. oz. EC	7-14	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	1.9 - 3.2 fl. oz. 0.5EC 0.8 - 1.3 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	1.9 - 3.2 fl. oz. 1CS	1-forage 7-hay	
	permethrin (Ambush) ^{1,2} (Pounce) ^{1,2}	3.2 - 12.8 fl. oz. 2EC 2 - 8 fl. oz. 3.2EC	14 14	
	zeta-cypermethrin (Mustang Max) ^{1,2}	2.2 - 4.0 oz. EW	3	
Grasshoppers	chlorpyrifos (Lorsban) ^{1,2}	1/2 pt. 4E 1 pt. 4E	7 14	Depending on the value of the crop, defoliation levels as low as 10-15% may be economically justified.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	7 - 13 fl. oz. EC	7	
	cyfluthrin (Baythroid XL) ^{1,2}	2.0 - 2.8 fl. oz. 2EC	7	
	dimethoate (Dimethoate) ²	1/2 - 1 pt. 4E	10	

Pest	Material	Amount Per Acre & Formulation*	Pre-Harvest Interval (Days)	Treatment Guideline**
Grasshoppers (con't)	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.4 fl. oz. 1CS	1-forage 7-hay	
	zeta-cypermethrin (Mustang Max) ^{1,2}	2.8 - 4.0 oz. 0.8EW	3	
Lygus, Plant Bugs	chlorpyrifos (Lorsban) ^{1,2}	1 pt. 4E 2 pt. 4E	14 21	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.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	19 - 38 fl. oz. EC	14-21	
	cyfluthrin (Baythroid XL) ^{1,2}	1.6 - 2.8 fl. oz. 2EC	7	
	dimethoate (Dimethoate) ²	1/2 - 1 pt. 4E	10	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.4 fl. oz. 1CS	1-forage 7-hay	
	permethrin (Ambush) ^{1,2} (Pounce) ^{1,2}	12.8 oz. 2EC 8 oz. 3.2EC	14 14	
Meadow Spittlebug	chlorpyrifos (Lorsban) ^{1,2}	1 pt. 4E 2 pt. 4E	14 21	Treatment may be economically justified when spittle masses average more than one per stem.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	19 - 38 fl. oz. EC	14-21	
	cyfluthrin (Baythroid XL) ^{1,2}	0.8 - 21.6 fl. oz. 2EC	7	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	2.6 - 3.8 fl. oz. 0.5EC 1.0 - 1.5 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	2.6 - 3.8 fl. oz. 1CS	1-forage 7-hay	
	permethrin (Ambush) ^{1,2} (Pounce) ^{1,2}	16.4 - 12.8 fl. oz. EC 4 - 8 fl. oz. 3.2EC	14 14	
	zeta-cypermethrin (Mustang Max) ^{1,2}	2.2 - 4.0 oz. EW	3	

Pest	Material	Amount Per Acre & Formulation*	Pre-Harvest Interval (Days)	Treatment Guideline**
Potato Leafhopper	chlorpyrifos (Lorsban) ^{1,2}	1/2 pt. 4E 1 pt. 4E	7 14	Refer to Figure 1 for management guidelines.
	chlorpyrifos & gamma-cyhalothrin (Cobalt) ^{1,2}	7 - 13 fl. oz. EC	7	
	cyfluthrin (Baythroid XL) ^{1,2}	0.8 - 1.6 fl. oz. 2EC	7	
	dimethoate (Dimethoate) ²	1/2 - 1 pt. 4E	10	
	gamma-cyhalothrin (Proaxis) ^{1,2} (Declare) ^{1,2}	1.9 - 3.2 fl. oz. 0.5EC 0.8 - 1.34 fl. oz. EC	1-forage 7-hay	
	lambda-cyhalothrin (Warrior) ^{1,2}	1.9 - 3.2 fl. oz. 1CS	1-forage 7-hay	
	permethrin (Ambush) ^{1,2} (Pounce) ^{1,2}	3.2 - 12.8 oz. 2EC 4 - 8 oz. 3.2EC	14 14	
	zeta-cypermethrin (Mustang Max) ^{1,2}	2.2 - 4.0 oz. 0.8EW	3	
<p>*CS = capsule suspension, E or EC = emulsifiable concentrate, EW = emulsifies in water, F = flowable, S or SP = soluble powder, XLR = extra long residual</p> <p>¹Restricted use insecticide</p> <p>²Highly toxic to bees</p> <p>³Aphid populations may dramatically increase after use</p>				

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 ¹	Advisory
200	0 - 50	Begin sampling. South facing sandy soils should be monitored earlier. 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%.
300		
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.	

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

Northern Indiana

Heat Units (Base 48°F)	% Tip Feeding ¹	Advisory
250	0 - 40 (30)*	Begin sampling. 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%.
300		
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.	

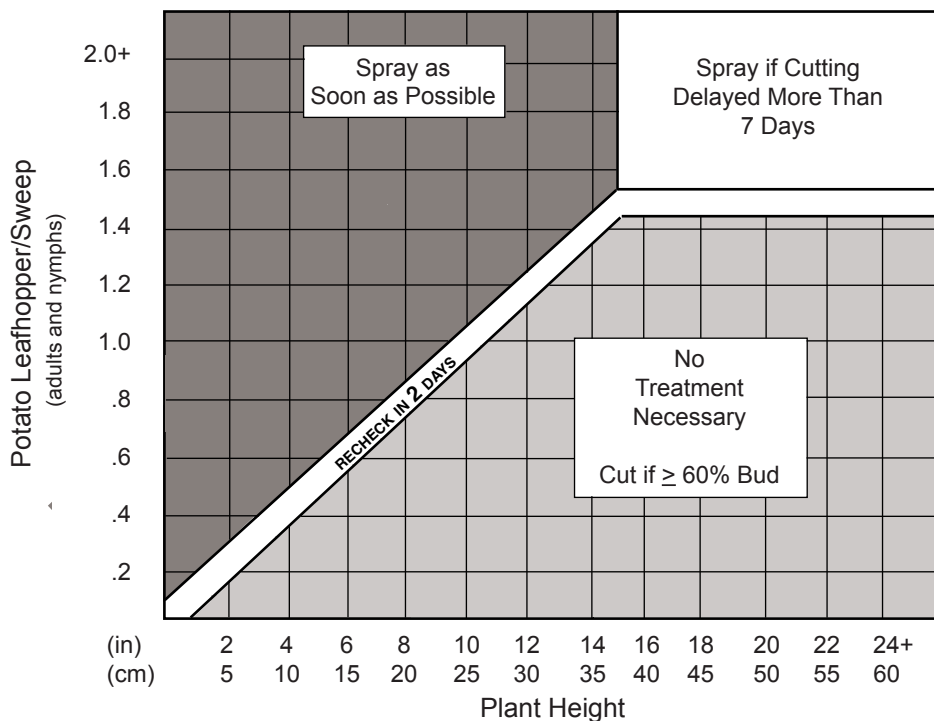
*Shorter than normal growth at beginning of season.

¹ 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.

Revised 1/2010

It is the policy of the Purdue University Cooperative Extension Service that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran. Purdue University is an Affirmative Action institution. This material may be available in alternative formats.

1-888-EXT-INFO (398-4636)

<<http://www.ces.purdue.edu/new>>