FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
ALFALFA **Alfalfa Weevil** (Usually 1 generation per year. Observed usually only on the first cutting.) Treat when 50% or more of tips show weevil feeding before full bud stage.	beta-cyfluthrin (**R**) Baythroid XL 1 EC	1.6-2.8 oz	0.0125-0.022	45.5-80	DO NOT apply more than once per cutting.	12	7 alfalfa 0 pasture
	carbaryl 44% Carbaryl 4L Sevin XLR	1.5 pints	1.5	2.7	For alfalfa weevil larvae only, not effective on adult alfalfa weevils.	12	7 alfalfa 14 pasture
	dimethoate (**R**) Dimethoate 4 EC	1 pt	0.5	8	DO NOT apply to alfalfa in the bloom period. Make 1 application per cutting. Dimethoate is NOT LABELED for pastures.	48	10
	gamma-cyhalothrin (**R**) Proaxis 0.5 EC Declare 1.25 EC	2.56-3.84 oz 1.02-1.54 oz	0.01-0.015	33-50 83-125.5	DO NOT apply more than 0.015 lb ai per acre per cutting. DO NOT apply more than 0.06 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
	lambda-cyhalothrin (**R**) Warrior II 2.08 CS Other 1.0 CS formulations *(See Generic Insecticides*)	1.28-1.92 oz 2.56-3.84 oz	0.02-0.03	66.7-100 33-50	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season.	24	1 (forage) alfalfa 0 (grazing) pasture 7 (hay)
	malathion Fyfanon/Malathion 5 EC	1 qt	1.25	4	Very short residual; control for 3-7 days; can be applied by ground rig.	12	5 alfalfa 0 pasture
	Methomyl (**R**) Lannate 90SP Lannate 2.4 LV	1 lb 3 pt	0.9	2.7	Highly toxic. DO NOT apply to dormant or semidormant alfalfa when temperature is below 50 degrees F.	48	7
	permethrin (**R**) Permethrin 3.2 EC Pounce 25 WP	4-8 oz	0.1-0.2	16-32	DO NOT apply more than 0.2 lb ai per acre per cutting. DO NOT apply when honeybees are actively foraging. Ambush and Pounce are NOT LABELED for pastures.	12	14 alfalfa
	phosmet Imidan 70 WP	1.33 lb	1.0		DO NOT apply to alfalfa during the bloom period. DO NOT apply more than once per cutting. Imidan is NOT LABELED for pastures.	5 days	7 alfalfa
	zeta-cypermethrin (**R**) Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025	32-57		12	7 alfalfa 0 grasses

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
ALFALFA (cont.) **Blister Beetle**	carbaryl 44% Carbaryl 4L Sevin XLR Plus	1.5 pt	1.5	2.7	DO NOT apply during bloom.	12	7 alfalfa 14 pasture
	gamma-cyhalothrin (**R**) Proaxis 0.5 EC Declare 1.25 EC	2.56-3.84 oz 1.02-1.54 oz	0.01-0.015	33-50 83-125.5	DO NOT apply more than 0.015 lb ai per acre per cutting. DO NOT apply more than 0.06 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
	lambda-cyhalothrin (**R**) Warrior II 2.08 CS Other 1.0 CS formulations (See *Generic Insecticides*)	1.28-1.92 oz 2.56-3.84 oz	0.02-0.03	66.7-100 33-50	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
Foliage Feeding Caterpillars: Fall Armyworm, Armyworm, Alfalfa Caterpillar, Webworms On seedling alfalfa, treat for 2 larvae per square foot. Caterpillars can cause yield loss in established alfalfa. Early harvest when yield justifies cutting can eliminate the need for an insecticide application.	beta-cyfluthrin (**R**) Baythroid XL 1EC	2.6-2.8 oz	0.02-0.022	45.7-49.2	DO NOT apply more than 0.089 lb ai per acre per cutting.	12	7 alfalfa 0 pasture
	carbaryl 44% Carbaryl 4L Sevin XLR Plus	1.5 pt	1.5	2.7	DO NOT apply to alfalfa during bloom.	12	7 alfalfa 14 pasture
	chlorantraniliprole Prevathon Vantacor	14-20 oz 1.2-2.5 oz	0.047-0.067 0.047-0.098	6-9 51-107	DO NOT apply more than 0.2 lb ai per acre per crop.	4	0
	chlorantraniliprole + lambda-cyhalothrin (**R**) Besiege	6-9 oz	0.059-0.088	14-21		24	1 forage 7 hay
	lambda-cyhalothrin (**R**) Warrior II 2.08 CS Other 1.0 CS formulations (See *Generic Insecticides*)	1.28-1.92 oz 2.56-3.84 oz	0.02-0.03	66.7-100 33-50	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
	methoxyfenozide Intrepid 2 F	4-8 oz	0.06-0.12	16-32	Livestock can graze on treated area immediately after application of Intrepid.	4	7 (hay) 0 (grazing)
	zeta-cypermethrin (**R**) Mustang Maxx 0.8 EC	2.8-4.0 oz	0.0175-0.025	32-45	No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	7 alfalfa 0 grasses 3 non-grass pasture
Potato Leafhopper	The treatment threshold for potato leafhoppers varies with the height of the alfalfa. For alfalfa 3 inches in height, the threshold is 4 per 20 sweeps; for 6-inch alfalfa, the threshold is 10 per 20 sweeps; and for 12-inch or greater alfalfa, the threshold is 40 per 20 sweeps. Before treating, consider yield potential and the age of the alfalfa stand.						
	beta-cyfluthrin (**R**) Baythroid XL 1EC	0.8-1.6 oz	0.0065-0.0125	80-160	DO NOT apply more than 0.089 lb ai per acre per cutting.	12	7 alfalfa 0 pasture
	carbaryl 44% Carbaryl 4L Sevin XLR Plus	1.5 pt	1.5	2.7	DO NOT apply during bloom.	12	7 alfalfa 14 pasture

Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
ALFALFA	The treatment threshold for potato leafhoppers varies with the height of the alfalfa. For alfalfa 3 inches in height, the threshold is 4 per 20 sweeps; for 6-inch alfalfa, the threshold is 10 per 20 sweeps; and for 12-inch or greater alfalfa, the threshold is 40 per 20 sweeps. Before treating, consider yield potential and the age of the alfalfa stand.						
Potato Leafhopper (cont.)	chlorantraniliprole + lambda-cyhalothrin (**R**)						
	Besiege/Voliam Xpress	5-8 oz	0.049-0.078	16-25.6		24	1 forage 7 hay
	dimethoate (**R**)						
	Dimethoate 4 EC	0.5-1.0 pt	0.25-0.5	8-16	DO NOT apply to alfalfa in the bloom period. Make 1 application per cutting. Dimethoate is NOT LABELED for pastures.	48	10
	Dimethoate 2.67 EC	0.75-1.5 pt		5.3-10.6			
	lambda-cyhalothrin (**R**)						
	Warrior II 2.08 CS	0.96-1.60 oz	0.015-0.025	80-133	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
	Other 1.0 CS formulations (See *Generic Insecticides*)	2.92-3.20 oz		40-44			
	permethrin (**R**)						
	Ambush 2 EC	3.2-12.8 oz	0.1-0.2	10-40	DO NOT apply more than 0.2 lb ai per acre per cutting. DO NOT apply when honeybees are actively foraging. Ambush and Pounce are NOT LABELED for pastures.	12	14 alfalfa
	Pounce 25 WP	6.4-12.8 oz		1.25-2.5/lb			
	zeta-cypermethrin (**R**)						
	Mustang Maxx 0.8 EC	2.24-4.0 oz	0.014-0.025	32-57		12	7 alfalfa 0 grasses 3 non-grass pasture
Grasshopper	beta-cyfluthrin (**R**)						
	Baythroid XL 1EC	2.6-2.8 oz	0.02-0.022	45.7-49.2	DO NOT apply more than 0.089 lb ai per acre per cutting.	12	7 alfalfa 0 pasture
	chlorantraniliprole				DO NOT apply more than 0.2 lb ai per acre per year.		
	Prevathon 0.43 SC	8-20 oz	0.027-0.067	6.4-16		4	0 grazing 0 hay
	Vantacor	0.7-1.7oz	0.027-0.067	75-183			
	chlorantraniliprole + lambda-cyhalothrin (**R**)						
	Besiege	6-10 oz	0.059-0.097	14-21		24	1 forage 7 hay
	lambda-cyhalothrin (**R**)						
	Warrior II 2.08 CS	1.28-1.92 oz	0.02-0.03	66.7-100	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.12 lb ai per acre per season.	24	1 (forage) alfalfa 0 (forage) pasture 7 (hay)
	Other 1.0 CS formulations (See *Generic Insecticides*)	2.56-3.84 oz		33-50			
	zeta-cypermethrin (**R**)						
	Mustang Maxx 0.8 EC	2.8-4.0 oz	0.0175-0.025	32-45	No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	7 alfalfa 0 grasses 3 non-grass pasture

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb/ai/Acre	Acres/Gallon	Applications/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
PASTURE AND HAY MEADOWS (bermudagrass,fescue, Sorghum spp, cool season grasses, ryegrass, winter wheat, mixed grass)	**Anthranilic diamide**						
	chlorantraniliprole				DO NOT apply more than 0.2 lb ai per acre per crop. *2(ee) recommendation rate for Shenzi, Vantacor and Coragen.	4	0 grazing 0 hay
	Shenzi 400 SC	1.3-1.7 oz*	0.034-0.044	75-98			
	Vantacor	0.9-1.1 oz*	0.035-0.043	116-142			
	Coragen 1.67 SC	3.5-5.0 oz	0.045-0.065	25.6-36.6			
	Anthranilic diamide + pyrethroid						
Fall Armyworm, Armyworm	chlorantraniliprole + lambda-cyhalothrin (**R**)				DO NOT apply more than 9 fl oz per acre per cutting.	24	7 hay 0 grazing
	Besiege/Voliam Xpress	6-9 oz	0.059-0.088	14-21			
Control is usually needed when 2 or more worms per square foot.	**Pyrethroids**	Pyrethroids: Recent observed control with pyrethroids has been extremely variable; consider alternate insecticide class or tank mix with other products such as IGRs (see tank mix below)					
	cyfluthrin (**R**)				DO NOT apply more than 0.044 lb ai per 5-day interval.	12	0 grazing 0 hay
	Tombstone 2 EC	1.6-1.9 oz	0.025-0.03	67.4-80			
Sweep netting provides a good indication of the presence of fall armyworms but is not as reliable as other methods in determining the population level. Other indicator of fall armyworm presence include silver leaf tips, feeding damage and birds feeding in the field.	lambda-cyhalothrin (**R**)				DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season.	24	7 hay 0 grazing
	Warrior II 2.08 CS	1.28-1.92 oz	0.02-0.03	66.7-100			
	Other 1.0 CS formulations (See *Generic Insecticides*)	2.56-3.84 oz		33-50			
	beta-cyfluthrin (**R**)				DO NOT apply more than 0.089 lb ai per acre per cutting.	12	0 grazing 0 hay
	Baythroid XL 1EC	1.6-2.8 oz	0.013-0.022	45.7-49.2			
	zeta-cypermethrin (**R**)				No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	0 grasses 3 non-grass pasture
	Mustang Maxx 0.8 EC	2.8-4.0 oz	0.0175-0.025	32-45			
	Respect 0.8 EC	2.8-4.0 oz		32-45			
	Insect Growth Regulator (IGR)						
	methoxyfenozide (22.6%)				Livestock can graze on treated area immediately after application of Intrepid.	4	7 hay 0 grazing
	Intrepid 2 F and generics - Troubadour 2F, WithStand, TurnStyle	4-8 oz	0.06-0.12	16-32			
Products containing anthranilic diamides, IGRs and the tank mix of diflubenzuron plus a pyrethroid exhibit longer residual activity than pyrethroids alone, spinosyns or the carbamate against armyworms.	**Spinosyn**						
	spinosad				No grazing restriction (spray should dry before cattle graze in treated areas). Entrust is OMRI listed for organic production.	4	3 hay 0 grazing
	Blackhawk	1.1-2.2 oz	0.033-0.066	7.3-14.6/lb			
	Tracer	1-2 oz		64-128			
	Entrust	0.63-1.25 oz		12-25/lb			
	Entrust SC	2-4 oz		32-64			
	Carbamate						
	carbaryl				Sevin does not kill armyworms quickly. Allow 2-3 days for control to become effective. Must remove cattle. DO NOT apply to alfalfa during bloom.	12	14
	Sevin XLR Plus Carbaryl 4L	2-3 pt	1.0-1.5	2.7-4.0			
	Tank mix						
	Dimilin 2l or Unforgiven (22% diflubenzuron) plus one of the pyrethroids listed above.	2 oz/acre	0.062	32	Follow the more stringent grazing restriction of the pyrethroid. For example lambda-cyhalothrin has no grazing restriction for grazing and 7 days post-harvest restriction for hay. Add crop oil to the tank mix.		7 hay 0 grazing
	Ex. 1.0 CS lambda-cyhalothrin	2.56- 3.84 oz	0.02-0.03	33-50			

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb/ai/Acre	Acres/Gallon	Applications/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
PASTURE AND HAY MEADOWS (bermudagrass, fescue, Sorghum spp, cool season grasses, ryegrass, winter wheat, mixed grass) (cont.) **Chinch Bugs**	lambda-cyhalothrin (**R**) Warrior II 2.08 CS Other 1.0 CS formulations (See Generic Insecticides)	 1.28-1.92 oz 2.56-3.84 oz	 0.02-0.03	 66.7-100 33-50	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season.	24	7 hay 0 grazing
	beta-cyfluthrin (**R**) Baythroid XL 1EC	 1.6-2.8 oz	 0.013-0.022	 45.7-49.2	DO NOT apply more than 0.089 lb ai per acre per cutting.	12	0 hay 0 grazing
	zeta-cypermethrin (**R**) Mustang Maxx 0.8 EC	 2.8-4.0 oz	 0.0175-0.025	 32-45	No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	0 grasses 3 non-grass
	Chlorantraniliprole + lambda-cyhalothrin (**R**) Besiege/Voliam Xpress	 6-9 oz	 0.059-0.088	 14-21	DO NOT apply more than 9 fl oz per acre per cutting.	24	7 hay 0 grazing
PASTURE AND HAY MEADOWS (bermudagrass ONLY) **Bermudagrass stem maggot (Adults ONLY)**	Various pyrethroid formulations labeled for application in forages are effective in controlling bermudagrass stem maggot (BSM) adults. Rates labeled for control of armyworms are effective against BSM when applied at the appropriate time. No currently available products are effective against BSM larvae occurring in the grass stem.						
	lambda-cyhalothrin (**R**) Warrior II 2.08 CS Other 1.0 CS formulations (See Generic Insecticides)	 1.28-1.92 oz 2.56-3.84 oz	 0.02-0.03	 66.7-100 33-50	DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season.	24	7 hay 0 grazing
	zeta-cypermethrin (**R**) Mustang Maxx 0.8 EC	 2.8-4.0 oz	 0.0175-0.025	 32-45	No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	0 grasses 3 non-grass
Bermudagrass stem maggot control is directed at the egg-laying adults. Correct timing of an insecticide application is crucial to obtain effective control of BSM adults. For maximum efficacy, insecticide application should be made seven to ten days following bermudagrass hay harvest. The seven to ten day interval allows for the emergence of adults that pupated at the time of cutting and for application before the grass canopy gets too thick to allow insecticide penetration of the canopy where the adults occur. Adults BSM are easily killed, so the low rate of a pyrethroid insecticide labeled for use against armyworms on pasture or hay is effective (ex. lambda-cyhalothrin). Control of BSM in moderately grazed bermudagrass is usually unnecessary.							
PASTURE AND HAY MEADOWS (Sorghum spp. forage and hybrids ONLY) **Sugarcane aphid**	sulfoxaflor (50%) Transform WG	 0.75-1.5 oz	 0.023-0.046		Follow pollinator warning on label. Do not apply 3 days before bloom or until seed set. Do not apply more than two applications per year.	4	7 – grazing, forage, fodder and hay
	flupyradifurone (17.9%) (1.67 lb ai/gal product) Sivanto Prime	 4.0-7.0 oz	 0.052-0.09	18-32	7 day pre-harvest interval for forage, 14 d pre-harvest interval for dried stover or straw, per Section 24(c). Do not apply more than 28 ounces per season.	24	7 forage 14 dried stover or straw
PASTURE AND HAY MEADOWS (Small grains (used as cool season annuals) **Aphids**	See small grains section.						

FORAGES (ALFALFA AND PASTURE) INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb/ai/Acre	Acres/Gallon	Applications/Comments	Restricted Entry Interval (hours)	Minimum Days From Last Application to Harvest
PASTURE AND HAY MEADOWS (bermudagrass, fescue, Sorghum spp, cool season grasses, rye grass, winter wheat, mixed grass)	22% diflubenzuron (**R**)		0.031		Apply when grasshoppers are small (1/2 inch). Once grasshoppers reach 4th instar nymphs, survival increases. Allow at least 1 day after treatment before cutting hay. DO NOT exceed a total of 2 fl oz Dimilin 2L or Unforgiven per acre per cutting DO NOT exceed a total of 6 fl oz Dimilin 2L or Unforgiven per acre per year.	12	1
	Dimilin 2L	2 oz		64			
	Unforgiven	2 oz		64			
Grasshopper	beta-cyfluthrin (**R**)		0.02-0.022		DO NOT apply more than 0.022 lb ai per 5-day interval.	12	0 grazing 0 hay
	Baythroid XL 1EC	2.6-2.8 oz		45.7-49.2			
	chlorantraniliprole		0.027-0.054		DO NOT apply more than 0.2 lb ai per acre per crop. *2(ee) recommendation rate for Prevathon.	4	0 grazing 0 hay
	Prevathon 0.43 SC	8-16 oz*	0.027-0.066	8-16			
	Vantacor	0.7-1.7		75-182			
	chlorantraniliprole + lambda-cyhalothrin (**R**)		0.059-0.088		DO NOT apply more than 9 fl oz per acre per cutting.	24	7 hay 0 grazing
	Besiege/Voliam Xpress	6-9 oz		14-21			
	cyfluthrin (**R**)		0.04-0.044		DO NOT apply more than 0.044 lb ai per 5-day interval.	12	0 grazing 0 hay
	Tombstone 2 EC	2.6-2.8 oz		45.7-49.2			
	lambda-cyhalothrin (**R**)		0.02-0.03		DO NOT apply more than 0.03 lb ai per acre per cutting. DO NOT apply more than 0.09 lb ai per acre per season.	24	7 hay 0 grazing
	Warrior II 2.08 CS	1.28-1.92 oz		66.7-100			
	Other 1.0 CS formulations (See *Generic Insecticides*)	2.56-3.84 oz		33-50			
	zeta-cypermethrin (**R**)		0.0175-0.025		No grazing restriction for grass forage or hay. DO NOT apply within 3 days for non-grass forage.	12	0 grasses 3 non-grass pasture
	Mustang Maxx 0.8 EC	2.8-4.0 oz		32-45			
Red Imported Fire Ant	hydramethylnon (Amdro Pro)	2-5 Tbsp/mound 1.0-1.5 lb/A			Mound-to-mound treatment rate. Broadcast rate.	12	7 hay 0 grazing
	hydramethylnon + methoprene (Extinguish Plus)	3-5 Tbsp/mound 1.0-1.5 lb/A			Apply **ALL FIRE ANT BAITS** when ants are active and soil temperature is above 60 degrees F. DO NOT treat if rain is anticipated within 6 hours. DO NOT cut and bale hay treated with Amdro Pro or Extinguish Plus until 7 days after application.	12	7 hay 0 grazing
	pyriproxyfen (Esteem)	2-4 Tbsp/mound 1.5-2 lb/A			DO NOT harvest hay within 24 hours of treatment with Esteem.	12	1 hay 0 grazing
	S-Methoprene (Extinguish)	3-5 Tbsp/mound 1.0-1.5 lb/A			Mound-to-mound treatment rate. Broadcast rate.	4	0 hay 0 grazing
	Advion Fire Ant Bait (indoxacarb)	4 Tbsp/mound 1.5 lb/A			Mound-to-mound treatment rate. Broadcast rate Advion can ONLY be used in fenced pastures grazed by companion animals (DO NOT USE IN PASTURES GRAZED BY ANIMALS INTENDED FOR MEAT OR MILK). DO NOT APPLY TO FORAGE INTENDED FOR HAY PRODUCTION.	4	