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ALFALFA HERBICIDE PERFORMANCE RATINGS

ALFALFA WEEDS

- E** EXCELLENT (≥91%)
- G** GOOD (81-90%)
- F** FAIR (65-80%)
- P** POOR (<65%)
- N** NONE
- U** UNKNOWN

GRASSES

	CROP TOLERANCE	SITE OF ACTION ^A	Barnyardgrass	Bluegrass, annual	Bluegrass, perennial	Bromes, annual ^{**}	Crabgrass	Downy brome	Fall panicum	Foxtail, gi/gr	Foxtail, yellow	Foxtail barley	Quackgrass	Sandbur, field	Wild oat	Yellow nutsedge	Bindweed, field	Canada thistle	Chickweed	Cocklebur	Dandelion - seedling	Dandelion - established	Dock, curly	Dodder
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DIRECT SEEDING - PREPLANT INCORPORATED

Eptam (EPTC)	●	G 8	E	F	N	E	E	E	E	E	E	E	P	F	GE	G	G	P	F	P	P	P	P	P
Trust/Treflan (trifluralin)	●	FG 3	E	G	N	E	E	E	E	E	E	P	P	G	F	P	P	P	P	P	P	P	P	G

SEEDING or ESTABLISHED - POSTEMERGENCE

Butyrac 200 (2,4-DB)	●	G 4	N	P	N	N	N	N	N	N	N	N	N	P	N	N	P	P	F	F	F	G	P	F	P
Framework/Prowl H20 (pendimethalin)	●	E 3	E	F	N	P	E	P	F	E	E	E	P	P	GE	F	P	P	N	G	P	P	P	P	G
Kerb SC ¹ (pronamide)	●	G 15	G	U	G	G	G	G	F	F	P	E	G	F	G	P	P	P	G	P	P	P	P	G	
Moxy (bromoxynil) ^{****}	●	F 6	P	P	N	P	P	P	P	P	P	P	P	P	P	P	P	F	P	P	F	E	F	P	P
Poast ^R (sethoxydim)	●	E 1	E	P	P	FG	E ^R	FG	E	E ^R	E	P	F	E	G ^R	P	N	N	N	N	N	N	N	N	
Pursuit ^R (imazethapyr)	●	E 2	F	P	N	P	F	P	F	F ^R	FG	U	P	P	P	P	P	P	G ^R	E ^R	F	P	P	F	
Raptor ^R (imazamox)	●	G 2	G	P	N	E	FG	G ^R	G	G ^R	G	G	F	F	E	F	P	F	G ^R	E ^R	G	F	F	F	
Roundup PowerMAX ^{BR} (glyphosate)	●	E 9	E	E	G	E	E	E	E	E	E	E	E	E	E	F	G	G	E	E	G	FG	F	F	
Section Three/Select 2 EC/Cleanse ^R (clothodim)	●	E 1	E	G	F	G	E ^R	G	E	E ^R	E	G	G	E	E ^R	P	N	N	N	N	N	N	N	N	

DORMANT or BETWEEN CUTTINGS

Dimetric EXT/Metriclud EXT ^R (metribuzin)	●	G 5	F ^R	P	P	F	G	F	G	F	P	F	P	F	G	P	P	P	P	E	FG	GE	FG	F	P
Gramoxone SL/SL 2.0 (paraquat)	●	F 22	FG	P	N	G	P	F	G	G	G	FG	G	P	F	F	G	P	P	GE	F	G	P	F	U
Karmex ^R (diuron)	●	G 7	E ^R	F	P	P	F	E	F	F	G	FG	P	P	F	F	P	P	F	F	P	P	P	P	F
Kerb SC (pronamide)	●	G 3	G	U	U	G	G	G	F	F	P	E	F	F	G	P	P	P	G	P	P	P	P	G	
Sinbar WDG ^R (terbacil)	●	G 5	F	F	P	GE	G	GE	G	FG	FG	E	F	F	F	P	P	P	E	G ^R	G	F	P	F	
Trust/Treflan ^R (trifluralin)	●	G 3	E	F ^R	P	E	E	E	E	E	E	P	P	G	F	P	P	P	P	P	P	P	P	G	
Velpar L, L CU or DF CU (hexazinone)	●	F 5	F	F	N	GE	F	GE	F	FG	F	G	F	F	G	P	P	P	GE	G	GE	G	F	P	
Velpar AlfaMax/Gold (hexazinone + diuron)	●	GE 5,7	G	F	N	G	G	GE	G	G	G	G	F	F	G	P	P	P	GE	G	G	G	F	P	

PREHARVEST, STAND RENOVATION, SPOT or DORMANT

Glyphosate ^{***R} (glyphosate)	●	N 9	E	P	GE	E	E	E	E	E	E	E	E	GE	E	F	G	G	E	E	FG	P	F	P	U
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** Includes downy brome, Japanese brome and crabgrass. Control of winter annual bromes in spring is difficult.
 *** May use glyphosate products at labeled rates.
 **** Moxy is labeled for seedling alfalfa only.
^A Site of action, described on page 759.
^B Roundup WeatherMax or Cornerstone 5 Plus/Tomahawk 5 is labeled for Roundup Ready alfalfa only.
^R No control of herbicide resistant weed biotypes. See the list of known resistant weeds on the second page of the technical section.

¹ Similar ratings for PRE application.
² See label of pigweed species controlled.

ALFALFA HERBICIDE PERFORMANCE RATINGS

BROADLEAVES

Henbit
Hoary alyssum
Kochia
Lambquarters, common
Mustard, tansy
Mustard, wild
Nightshade, black
Pennycrest, field
Pigweed²
Plantain, broadleaf
Prickly lettuce
Purslane
Radish, wild
Ragweed, common
Russian thistle
Shepherdspurse
Smartweed, annual
Sunflower
Velvetleaf
White cockle
Yellow rocket

DIRECT SEEDING - PREPLANT INCORPORATED

G	FG	F	F	P	P	F	P	FG	U	U	P	P	F	P	P	P	P	F	P	P	● Eptam
G	P	G	G	P	P	P	P	G	P	P	G	P	P	P	P	P	P	P	P	P	● Trust/Treflan

SEEDING or ESTABLISHED - POSTEMERGENCE

P	F	F	F	G	F	FG	F	G	FG	F	G	F	G	P	F	FG	F	F	F	P	F	● Butyrac 200	
G	P	G	G	P	P	P	P	G	P	P	E	P	P	F	G	P	P	P	P	P	● Framework/Prowl H20		
G	P	P	F	P	P	F	P	P	U	U	G	P	P	G	P	P	U	P	P	P	● Kerb SC ¹		
F	G	F	G	GE	F	FG	G	G	FG	P	U	P	F	G	E	G	E	E	E	G	F	F	● Moxy****
N	N	N	N	N	N	N	N	N	N	N	P	N	N	N	N	N	N	N	N	N	N	N	● Poast ^R
F	F	G ^R	F ^R	G	E ^R	E ^R	G	E ^R	F	U	E	G	F ^R	F ^R	G	GE	G ^R	G	P	FG	● Pursuit ^R		
P	F	F	G ^R	G ^R	G	E ^R	E ^R	G	E ^R	F	U	E	G	F ^R	F ^R	G	E	E ^R	E	P	FG	● Raptor ^R	
G	G	E ^R	G	E	E	G	E	E	GE	G	G	E	E ^R	E	E	GE	E	E	F	FG	● Roundup PowerMAX ^{BR}		
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	● Section Three/Select 2 EC/Cleanse ^R	

DORMANT or BETWEEN CUTTINGS

G	FG	G ^R	E ^R	E	E	P	E	E ^R	F	F	U	E	E ^R	G	E	G ^R	G	G	FG	E	● Dimetric EXT/Metriclud ^R EXT	
G	P	F	G	P	G	F	F	FG	P	G	E	G	G	F	G	G	F	G	U	F	● Gramoxone SL/SL 2.0	
P	U	E ^R	G ^R	E	E	FG	G	G ^R	P	G	E	E	F ^R	F	E	F ^R	G	F ^R	U	F	● Karmex ^R	
G	P	F	F	P	P	F	P	P	FG	U	G	P	G	G	P	P	U	P	P	P	● Kerb SC	
GE	G	G ^R	G ^R	E	GE	GE	E	G ^R	F	E	U	G	G ^R	G	E	G ^R	G	G ^R	P	G	● Sinbar WDG ^R	
G	P	G	G	P	P	P	P	G	P	P	G	P	P	P	P	P	P	P	P	P	● Trust/Treflan ^R	
G	G	GE	G	E	GE	P	F	E	G	FG	F	U	F	G	G	E	G	F	G	F	E	● Velpar L, L CU or DF CU
G	G	FG	GE	E	GE	FG	E	GE	FG	E	G	GE	GE	G	E	G	G	G	F	E	● Velpar AlfaMax/Gold	

PREHARVEST STAND RENOVATION, SPOT or DORMANT

F	U	G ^R	GE	E	E	F	E	E	GE	G	G	E	E ^R	FG	E	GE	E	G	FG	G	● Glyphosate*** ^R
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ALFALFA HERBICIDE APPLICATION TIMING AND RESTRICTIONS

ALFALFA WEEDS

Herbicide	Labeled Crops*	Application Timing**	Comments/Restrictions	Rainfast (hrs)	Intervals** (Days)	
					Forage	Grazing
Aim EC	A, AC, LC, RC, CV, L	PH	Established stands only. Dormant season or between cuttings, alone or in combination with other registered products. From hay removal through 6" of growth. Will desiccate foliage remaining after cutting, but regrowth/recovery of established stands will be rapid	1	21	21
Basagran 5L	A	POST	Seed production only. Seedling alfalfa must have 2 trifoliolate leaves.	4	NO	NO
Cornerstone Plus/ Tomahawk 4 or Cornerstone 5 Plus/ Tomahawk 5	A, B, AC, LC, RC, CV, S, L A, B, AC, LC, RC, CV, S, L A	PP/PRE PH POST	Before crop emerges. Prior to the last harvest of the stand. Roundup Ready alfalfa in new and established stands.	RE 5	M 36 hr 5	M 36 hr 5
Dimetric EXT/Metriclude EXT Dual Magnum	A, AG, S A	POST -	Established stands - dormant, spring or FALL. 24c in ID (indemnified, exp. 5/2021) in established alfalfa grown for seed.	6-8	28	28
Eptam 20G	A, B, AC, LC, RC, L	PPI PRE	New seeding. Established stand-CA, AZ (alfalfa only). Inc. with irrigation.	-	NR 14	NR NR
Eptam 7E	A, B, AC, LC, RC, L	PPI PPI PRE	North Region incorporate immediately 2-3" PNW. Incorporate immediately 2-3" Established-North region, CA, NV, AZ and PNW. Apply in irrigation.	-	NR A-14, LC-45 14	NR A-14, LC-45 14
Extreme Framework	A A	POST DEPOST	Roundup Ready alfalfa in new and established stands. Dormant or early POST to ≤ 10" alfalfa after first cutting or with drop nozzles > 10" or ≥ 2 cuttings. Seed production only. PHI 90 days for seed.	1 hr	30 50	30 NO
Fusilade DX	A, AC, LC, RC	POST	24c in alfalfa grown for seed: ID (includes clover, exp. 12/2019); WA (exp. 12/2020); WY (exp. not given).	1	NO	NO
Gramoxone SL/SL 2.0	A, B, CV, AC, LC, RC, L, S	PP/PRE POST POST PH	New seedlings. Apply before crop emergence to emerged weeds. Dormant. Alfalfa grazing forage interval - 42-60 days. Other legumes - 60 days. Between cuttings. 24c: SL 2.0 as harvest aid for seed in CO, ID (exp. 12/2021), UT (exp. 6/2022). PHI 4 days.	0.5 -	NR 42-Region A 60-Region B 30 NO	NR 42-Region A 60-Region B 30 NO
Herbivore	A	POST	Reduce crop injury: apply as soon as possible after removal of hay from field or prior to irrigation.	4	14	14
Karmex	A	POST	Dormant established stands, fall or winter.	-	NR	NR
Kerb SC	A, B, CV, AC, LC, RC, S	PRE/POST	FALL post or dormant, winter. POST after trifoliolate leaf stage. East of MI River (Alfalfa) and other legumes, entire U.S. West of MI River - < 3 lb a.i. (Alfalfa). West of MI River 3 - 4 lb a.i. (Alfalfa).	-	120 25 45	120 25 45
Moxy	A	POST POST	FALL or spring seedling-alfalfa with a minimum of 4 trifoliolate leaves. FALL or spring seedling-alfalfa with a minimum of 2 trifoliolate leaves. Western states only.	1	30-Spring 60-Fall	30-Spring 60-Fall
Poast	A, B, S	POST	New or established stands. Poast only may be applied to all clovers.	1	14 (hay) 7 (haylage)	7
Prowl H2O	Forage Legumes A	PPI or PRE POST	CRP or set-aside only. See label. Established stands in fall, spring, or dormant. New - once alfalfa has reached 2nd trifoliolate and before 6". PHI 28 days ≤ 2.1 qt, 50 for > 2.1 qt, 90 for seed production.	-	NO NO 28, 50	NO NO 28, 50
Pursuit	A	POST	New seedlings - 2nd trifoliolate or larger. Est. stands - FALL or spring dormant, between cuttings < 3" growth.	1	30	30
Raptor	A	POST	New seedlings - 2nd trifoliolate or larger. Established stands - FALL or spring dormant, between cuttings < 3" growth.	1	0	0
Reglone	A	PH	Seed production only. PH desiccation broadcast.	0.5	NO	NO
Roundup PowerMAX/ WeatherMAX/Durango DMA	A	POST	Roundup Ready alfalfa in new and established stands.	RE	5	5
Roundup PowerMAX/ WeatherMAX, Durango DMA/Duramax	A, B, CV, AC, LC, RC, L, S A, B, CV, AC, LC, RC, L, S A, B, CV, AC, LC, RC, L, S	PP/PRE/AP POST PH	Apply before planting or crop emergence to emerged weeds. Spot treatment (alfalfa, clover only for Durango DMA/Duramax). Prior to the last harvest of the stand.	RE	0 ² , 56 3 36 hr ¹	0 ² , 56 3 36 hr ¹
Section Three/Select 2 EC/Cleanse	A, B, S	POST	New or established stands.	1	15	15
Select Max	A, B, S	POST	New or established stands.	1	15	15

continued

ALFALFA HERBICIDE APPLICATION TIMING AND RESTRICTIONS

Herbicide	Labeled Crops*	Application Timing**	Comments/Restrictions	Rainfast (hrs)	Intervals** (Days)	
					Forage	Grazing
Sinbar WDG	A	PRE	Dormant - established stands in spring or FALL. Seedling alfalfa in OR and WA only in late winter or early spring.	-	NR	NR
Sharpen	A	DOR	Apply when alfalfa is not actively growing in the fall or during the winter dormancy period.	1	28	28
Trust/Treflan HFP or Treflan TR-10	A	PRE PPI	Established stands - dormant or after cutting. Incorporated by rain or irrigation. Direct seeded alfalfa.	-	21	21
Varisto	C	POST	For clover grown for seed production in OR and WA only. Apply before clover bloom when clover has a minimum of 2 trifoliolate leaves and most weeds are 1"-3" tall.	4	36	36
Velpar L, L CU or DF CU	A	PRE	Established stands - dormant or < 2" growth between cuttings or in spring.	-	30	30
Velpar Alfamax/Gold	A	PRE	Dormant established stands.	-	30	30
2,4-DB 200/Butyrac 200	A, B	POST	Crop should be healthy and actively growing.	6	60-seedling 30-estab.	60-seedling 30-estab.

*A - alfalfa, B - birdsfoot trefoil, AC - alsike clover, AG - alfalfa grass mixtures, LC - ladino clover, RC - red clover, CV - crown vetch, S - sainfoin, L - lespedeza.

** Application Timing and Interval.

AP - At planting

PPI - Preplant incorporated

PP - Preplant surface, unless otherwise specified

PRE - Preemergence

DEPOST - Dormant early postemergence

M - Maturity

POST - Postemergence

PH - Preharvest

NR - Not restricted

NO - Not permitted

RE - Heavy rainfall soon after application may require retreatment.

¹ - 36 hours for alfalfa and 3 days for other legumes at labeled pre-harvest rates.

² - 0 days for up to 3 pt Durango DMA/Duramax, 56 days for > 3 pt. For Cornerstone Plus/Tomahawk 4 or Cornerstone 5 Plus/Tomahawk 5, crop may be grazed or fed as soon as it reaches sufficient maturity.

New Seeding Herbicides (also see New or Established Stand Herbicides on the next page)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
BASAGRAN 5L	A	0.8-1.6 pt			POST to seedling alfalfa grown for seed. Apply to seedlings with at least 2 trifoliolate leaves.
CORNERSTONE PLUS/ TOMAHAWK 4 or CORNERSTONE 5 PLUS/ TOMAHAWK 5	A, Forage Legumes	Up to 48 fl oz or Up to 36 fl oz + 8.5-17 lb AMS/100 gal ^a			Apply PP, PRE or at planting before crop emergence. See label for perennial rates. ^a Include NIS or WC+NIS ² as needed.
DURANGO DMA/ DURAMAX	A, CV, Clovers, L, others	Up to 48 fl oz + 8.5-17 lb AMS/100 gal ^a			Apply PP, PRE or at planting before crop emergence. See label for perennial rates. ^a Or WC+NIS ² .

*A - alfalfa, B - birdsfoot trefoil, AC - alsike clover, AG - alfalfa grass mixtures, LC - ladino clover, RC - red clover,

CV - crown vetch, S - sainfoin, L - lespedeza.

** Coarse - Sand, loamy sand, sandy loam.

Medium - Loam, silt, silt loam.

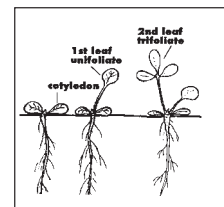
Fine - Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

O.M. - Soils with low organic matter - use lower rate, with high organic matter - use higher rate within the range.

*** May use other glyphosate herbicides: Roundup brands, Cornerstone/Tomahawk brands, Durango DMA/Duramax, Touchdown or others at labeled rates.

¹ Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

² Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.



ALFALFA WEED CONTROL

New Seeding Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
EPTAM 7E or EPTAM 20-G	A, B, AC, LC, RC, L	3.5-4.5 pt 15 lb	3.5-4.5 pt 15 lb	3.5-4.5 pt 15 lb	PPI. Apply to dry soil just before seeding and incorporate immediately. Low rate for grasses only; higher rate for grasses and broadleaves. Eptam 7E may be applied through sprinkler irrigation. Temporary crop stunting and sealing of first leaves will occur if growing conditions are not optimum. Do not use if atrazine was used previous year.
FRAMEWORK 3.3EC	Forage Legumes	1.2-1.8 pt	1.8-2.4 pt	2.4-3 pt	PPI or PRE. SET-ASIDE or CRP planted to legume cover crops only. Do not feed or graze treated foliage. Some stand reduction may occur. See label. Use on alfalfa grown for seed production only.
MOXY	A, A/Grass cover crop	1-1.5 pt 2 pt: chemigation			POST. Apply to seedling alfalfa when most plants have at least 4 trifoliate leaves (2 leaves if chemigating). In WA, OR, ID, MT, WY, CO, UT, NV, AZ, NM and western ND, SD, NE, and KS: apply in FALL or spring to minimum 2 trifoliate alfalfa. Weeds should not exceed 4-leaf stage or 2" high. Best control of winter annual broadleaves in fall. May mix with 2,4-DB 200/Butyrac 200. Do not apply when temperatures are likely to exceed 70° (80° in some Western States – see label) at application or for 3 days following.
POAST	A	1 pt + 1 pt HSOC-COC ¹			POST. For controlling grasses and oat seeded with alfalfa as a cover crop. Apply to 3-6" oats.
ROUNDUP POWERMAX/ WEATHERMAX***	A, CV, Clovers, L, others	11-32 fl oz + 8.5-17 lb AMS/100 gal ^a			Apply PP, PRE or at planting before crop emergence. See label for perennial rates. ^a Or WC+NIS ² .
TRUST or TREFLAN TR-10	A	1 pt 5 lb	1-1.5 pt 5-7.5 lb	1.5 pt 7.5 lb	Supplemental label (exp. date not given) for PPI preemergence weed control in direct seeded alfalfa; incorporate prior to planting, may cause some stand reduction.

New or Established Stand Herbicides

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
2,4-DB 200/ BUTYRAC 200	A, B	1-3 qt			POST. Rates depend on weed size – see label. Treat in late fall or spring when both broadleaf weeds (less than 3" tall) and seedling crop have emerged. Treat established crop in late FALL for best results. Do not apply if temperatures exceed 90° or fall below 40° in the next 2-3 days.
CORNERSTONE PLUS/ TOMAHAWK 4/ CORNERSTONE 5 PLUS/ TOMAHAWK 5	A	Up to 2 qt or Up to 1.5 qt + 8.5-17 lb AMS/100 gal ^a			POST. Roundup Ready alfalfa only in new and established stands. Apply to alfalfa seedlings up to 4th trifoliate. Apply to annual weeds before 6" for most effective control. Can apply up to 2 qt/1.5 qt from 5 trifoliate up to 5 days before cutting in new stands and up to 5 days before harvest in established stands. Late fall application to actively growing perennials such as dandelion and Canada thistle can be effective. Maximum 6 qt/144 fl oz/A total for in-crop applications. ^a Or WC+NIS ² .
DURANGO DMA/ DURAMAX	A	Up to 1.5 qt + 8.5-17 lb AMS/100 gal ^a			POST. Roundup Ready alfalfa only in new and established stands. Apply to alfalfa seedlings up to 4th trifoliate. Apply to annual weeds before 6" for most effective control. Can apply up to 1.5 qt from 5 trifoliate up to 5 days before cutting in new stands and up to 5 days before harvest in established stands. Late fall application to actively growing perennials such as dandelion and Canada thistle can be effective. Maximum 4.6 qt/A total for in-crop applications. Supplemental label (exp. date not given) for 7-9 fl oz/A in spring to dormant alfalfa. ^a Or WC+NIS ² .

*A – alfalfa, B – birdsfoot trefoil, AC – alsike clover, AG – alfalfa grass mixtures, LC – ladino clover, RC – red clover, CV – crown vetch, S – sainfoin, L – lespedeza.

** Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

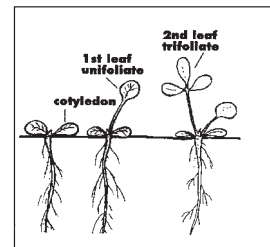
Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

O.M. – Soils with low organic matter - use lower rate, with high organic matter – use higher rate within the range.

*** May use other glyphosate herbicides: Roundup brands, Cornerstone/Tomahawk brands, Durango DMA/Duramax, or others at labeled rates.

¹Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

²Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.



ALFALFA WEED CONTROL

New or Established Stand Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
EXTREME	A	2.2-4.4 pt			POST. Roundup Ready alfalfa only in new and established stands. Apply to alfalfa seedlings at second trifoliolate or larger. Apply to weeds 1-3" tall. Apply to established stands in the fall, in the spring to dormant or semi-dormant (less than 3" regrowth) alfalfa or between cuttings. Apply <3 pt in ND and MN north of Highway 210. Maximum 4.4 pt/A/year. PHI 30 days.
FUSILADE DX	A, all clovers	8-12 fl oz			Rate dependent on weed height and timing of application; see label. 24c labels for quackgrass in alfalfa grown for seed: ID (includes use in clover grown for seed, exp. 12/2019); WA (includes control of bermudagrass and rhizome Johnsongrass, exp. 12/2020); WY (exp. date not given).
GRAMOXONE SL/SL 2.0	A, Clovers, B, S, L	Before seeding--PP or PRE before crops emerge 2.5-4 pt New FALL seedings <1 year old 1-2 pt: North 0.75-1.25 pt: South Established stands 2-3 pt: North 1-2 pt: South 1 pt: Between cuttings (East of Rockies) Include 1 pt NIS/100 gal			Rates shown are for alfalfa. North and South Regions divide at the southern borders of CO, KS, MO, KY. For control of winter and summer annuals and suppression of perennial weeds. DORMANT SEASON: Apply late FALL after last cutting through spring before growth is 2" tall. Green foliage will be burned. Can tank mix with Dimetric EXT/Metriclode or Velpar L, L CU or DF CU on stands over 1 year old in Northern area. BETWEEN CUTTINGS: Treat stands established at least 1 year within 5 days aftercutting before alfalfa regrowth is 2" tall.
KERB SC	A, B, CV, all clovers, S	1.25-5 pt			PRE and/or POST. To crop in FALL seedings, apply after legumes have reached trifoliolate stage. In spring seedlings, apply the next fall prior to freeze-up. Best activity in cool weather (<55-60° F). 2ee ID, OR, UT, WA (exp. date not given) for 0.625-1.25 pt/A for grass weed suppression.
POAST	A, B, S, all clovers	0.5-2 pt (1-2.5 pt West, High Plains) + 1 pt HSOC-COC ¹			POST. Apply to grasses at heights stated on label. Good coverage essential. Best control of volunteer grains and winter annual grasses achieved in FALL and prior to mowing. Best control of grass before mowing. If grass has been mowed, use the higher application rate and allow time for active regrowth.
PROWL H2O	A	1.1-2.1 pt: new seeding 1-4 qt: established			Apply once to new alfalfa that has reached 2nd trifoliolate and before 6" in height. Apply to new seedlings that have not been cut. Established stands are those that have been cut. Apply before weeds emerge and when alfalfa is <6" tall. PHI 50 days. Apply to new stands after second trifoliolate but before 6" in growth. Apply to established alfalfa before 6" growth. PHI 28 days ≤ 2.1 qt/A, and 50 days for >2.1 qt/A.
PURSUIT 2L	A, AC, AG, LC, RC	3-6 fl oz + 0.5 gal HSOC-MSO ¹ or 1 qt NIS/100 gal + 1-2 qt 28% UAN or 12-15 lb AMS/100 gal			POST. Apply to SEEDLING alfalfa in 2nd trifoliolate stage or larger and to weeds 1-3" in height or diameter. Apply to ESTABLISHED alfalfa in FALL or spring to dormant, or semi-dormant (<3" growth) stage or between cuttings. Apply before bud stage to alfalfa grown for seed. Can tank mix with Moxy, 2, 4-DB, Poast or Section Three/Select 2 EC/Cleanse. Use crop oil if weeds are under moisture or temperature stress. Stunting can occur if temperature is <40° F. Maximum of 4 oz/A in ND or MN north of Hwy 210.
RAPTOR	A	4-6 fl oz + 1 qt NIS or 0.5 gal HSOC-MSO ¹ /100 gallons + 12-15 lb AMS/100 gal or 2.5% UAN			POST: Apply to SEEDLING alfalfa in 2nd trifoliolate or larger stage. Apply to ESTABLISHED stands in FALL, winter or spring to dormant, semi-dormant alfalfa or between cuttings before new growth reaches 3" to achieve good coverage. Apply before bud stage to alfalfa grown for seed. Apply to 1-3" weeds. For best alfalfa tolerance, use NIS on new seedling applications. Tank mixes include Moxy (seedling), 2,4-DB, Poast or Section Three /Select 2 EC/Cleanse. Labeled at 5 fl oz for red, white and crimson clover grown for seed in WA and OR only. See label.

*A – alfalfa, B – birdsfoot trefoil, AC – alsike clover, AG – alfalfa grass mixtures, LC – ladino clover, RC – red clover, CV – crown vetch, S – sainfoin, L – lespedeza.

** Coarse – Sand, loamy sand, sandy loam.

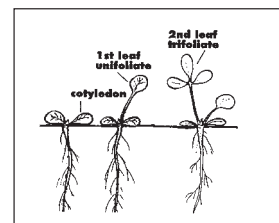
Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

O.M. – Soils with low organic matter - use lower rate, with high organic matter – use higher rate within the range.

¹Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

²Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.



ALFALFA WEED CONTROL

New or Established Stand Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
ROUNDUP POWERMAX/WEATHERMAX	A	22-44 fl oz: up to 4th trifoliolate Up to 44 fl oz: 5th trifoliolate to PHI 5 days Up to 44 fl oz: established + 8.5-17 lb AMS/100 gal ^a			POST. Roundup Ready alfalfa only in new and established stands. Apply to alfalfa seedlings up to 4th trifoliolate to eliminate gaps created by alfalfa plants that do not contain the Roundup Ready gene. Apply to annual weeds before 6" for most effective control. Can apply up to 44 fl oz from 5 trifoliolate up to 5 days before first cutting in new stands and up to 44 fl oz up to 5 days before cutting in established stands. Late fall application to actively growing perennials such as dandelion and Canada thistle can be effective. May tank mix with Assure II, Poast, Pursuit, Raptor or Select Max in actively growing alfalfa or Kerb, Lexone, Pursuit, Raptor and Dimetric EXT/Metriclude in dormant stands. ^a Or WC+NIS ² .
SECTION THREE	A, B, S	4-10.67 fl oz			PHI 15 days before grazing, feeding or harvesting. Use 1pt/A of HSOC-MSO or HSOC-COC ¹ , WC + NIS ² or 8.5-17 lb/100 gal of AMS. See label for tank-mixes.
SELECT 2 EC/CLEANSE	A, B, S	New seedlings 6-8 fl oz Established stands 8-16 fl oz 1 pt HSOC-COC ¹ + 2.5 lb AMS may be added			POST. Apply to annual grasses to 8" (downy brome to 6", giant foxtail to 12"). Apply 8-16 oz for perennial grasses in established alfalfa. Can tank mix with Pursuit, Raptor, 2,4-DB or many insecticides. Best control of grass before mowing. If grass has been mowed, use the higher rate and allow time for active regrowth.
SELECT MAX	A, B, S	12-32 fl oz + 1 qt NIS/100 gal			POST. Minimum 20 fl oz in established stands. 1-2 qt UAN or 2.5-4 lb AMS may be added. May be mixed with 4-6 oz Raptor. See label for rates and weeds.
SINBAR WDG	A	0.25-0.3 lb: Sandy soils in WA,OR and all soils in PA,VA 0.5 lb: Loam, silt clay soils			POST. In PA,OR,WA,VA only. In OR and WA apply to seedling alfalfa in late winter or early spring before alfalfa has more than 2" of new growth. On sandy soils with 0.5- 0.9% OM only apply when tap root is >6" and all other OM content and soil types only apply when tap root is >4". In PA,VA apply in fall or early spring before weeds >2". Do not apply to spring seeded alfalfa until established for 6 months.
SOLICAM DF	A	1.25-2.5			24c AZ (certain counties; exp. 12/2018) application through chemigation only.
VARISTO	C	21-27 fl oz			For clover grown for seed production in OR and WA only. Apply before clover bloom when clover has a minimum of 2 trifoliolate leaves and most weeds are 1"-3" tall. Adjuvant and fertilizer must be used. Do not make >1 application or apply 27 fl oz/A/season.

*A – alfalfa, B – birdsfoot trefoil, AC – alsike clover, AG – alfalfa grass mixtures, LC – ladino clover, RC – red clover,

CV – crown vetch, S – sainfoin, L – lespedeza.

** Coarse – Sand, loamy sand, sandy loam.

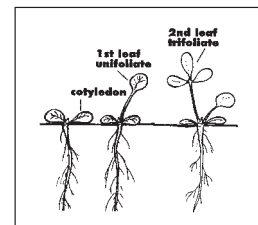
Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

O.M. – Soils with low organic matter - use lower rate, with high organic matter – use higher rate within the range.

¹Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

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ALFALFA WEED CONTROL

Established Stand Herbicides (One Year or More)					
Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
AIM EC		0.5-2.5 oz			Established stands only. Dormant season or between cuttings, alone or in combination with other registered products. From hay removal through 6" of growth. Use NIS at 0.25% by volume. Suggest Superb under dry conditions. Some temporary speckling/necrosis may occur in between-cutting applications.
DIMETRIC EXT/ METRICLUDE EXT	A, AG, S; alone or with grasses	0.33-0.5 lb	0.5-0.67 lb	0.66-1.33 lb	DORMANT. Apply in FALL after dormancy, or in spring before new growth starts and before weeds are 2" tall. Do not use on sand or soils O.M. less than 0.5%. Use less than 1 lb on mixed grass stands. Lower rates for downy brome, grasses, common chickweed; higher for dandelion and quackgrass. Do not use on alfalfa grown for seed. Dimetric EXT/Metriclude EXT at 1-1.33 lb/A may be applied impregnated on dry fertilizer in CT, IL, IN, IA, KS, KY, MN, NE, NM, NY, OH, OK, PA, SD, TN, TX, WI only. Apply after dormancy has broken but prior to 3" of new shoot growth.
DUAL MAGNUM	A				24c ID (indemnified, exp. 5/2021) in established alfalfa grown for seed.
FRAMEWORK 3.3EC	A	1.2-4.8 qt			DORMANT or EPOST. Apply to dormant alfalfa or after first cutting to < 10" alfalfa. Use drop nozzles ≥ 10" or if mowed two or more times. Seed production only. May be used with irrigation.
KARMEX DF	A	Tansy mustard: 1 lb applied just after emergence Other annuals: 1.5-3 lb in early spring			DORMANT. Control may be reduced on fine-textured soils. Apply to dormant alfalfa. Apply before new spring growth starts. May replant to any crop 1 year after application of < 2 lb. Do not use on coarse soils or soils with less than 1% organic matter. See state restrictions.
KERB SC	A	Dodder control 3.5-5 pt/A: furrow irrigation 3.5 pt/A: flood or overhead sprinkler irrigation Cheatgrass control 2-2.5 pt/A: spring broadcast			Supplemental label in CO (exp. date not given).
MCPA AMINE	A, RC	1 pt			DORMANT. Apply in late FALL. Temperatures should be above 40°F. Check label for specific uses.
PROWL H2O	A	1.2-4.8 qt			PRE DORMANT. For alfalfa for hay or forage, or grown for seed production. Apply to alfalfa forage or hay in fall after the last cutting, during winter dormancy in spring, or between cuttings. Apply prior to 6" regrowth. For seed production, apply to dormant stand or before 10" height after first cutting. Use drop nozzles for ≥ 10" or 2 or more cuttings. PHI 90 days for seed, 28 days forage/hay at ≤ 2.1 qt, and 50 days for > 2.1 qt.
SHARPEN	A	1-2 fl oz			Apply to emerged broadleaves only in dormant stands of alfalfa that have gone through first cutting; for use on stands that are only used for forage or hay production; do not apply to alfalfa grown for seed production; before application, verify varietal dormancy rating of alfalfa; timing of cutting after application varies by region, refer to label; see label for adjuvants.
SINBAR WDG	A	0.5-1.5 lb			DORMANT. Apply in FALL after alfalfa becomes dormant, or in spring before new growth starts. Do not rotate to other crops for 2 years. Do not use on coarse soils or soils with less than 1% organic matter. See label for reduced rates in certain states.
SONALAN HFP	A, LC, RC	3-4 pt POST.			24c in ID (exp. 12/2020) for nightshade and dodder control in established clover; apply to clover after 6 true leaf stage. 24c: ID (exp. 12/2019); OR, NV (exp. 12/2022); and WA (exp. 12/2021) for nightshade and dodder control in established alfalfa. 24c WY (exp. 12/2022) for nightshade control in established alfalfa and clover.

*A – alfalfa, B – birdsfoot trefoil, AC – alsike clover, AG – alfalfa grass mixtures, LC – ladino clover, RC – red clover,

CV – crown vetch, S – sainfoin, L – lespedeza.

** Coarse – Sand, loamy sand, sandy loam.

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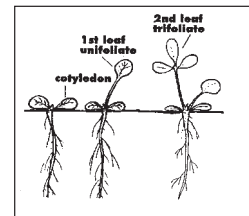
Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

O.M. – Soils with low organic matter - use lower rate, with high organic matter – use higher rate within the range.

*** May use other glyphosate herbicides: Roundup brands, Cornerstone/Tomahawk brands, Durango DMA/Duramax, or others at labeled rates.

¹Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

²Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.



ALFALFA WEED CONTROL

Established Stand Herbicides (One Year or More) (continued)

Product	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
TRUST/TREFLAN HFP	A	4 pt			PRE. Apply through sprinkler irrigation system only. Apply during, dormancy, semi-dormancy or during growing season immediately after a cutting. Apply in 0.5-1" water prior to weed germination.
TREFLAN TR-10	A	20 lb			PRE. Apply uniformly prior to weed emergence during dormancy or after a cutting. Rainfall or overhead irrigation of 0.5" or more is needed within 3 days; or incorporate with small disk, or spring tooth. Apply in late summer for control of winter annual bromes; in spring for control of summer grasses. Apply in FALL after a cutting from Aug. 1 to Oct. 1. 24c KS (12/2021) for pigweed and dodder control; 24c UT (exp. 6/2022) for control of various weeds; 24c NV (exp. 12/2022), OR, WA (exp. 12/2021) and UT (exp. 6/2022) for dodder control in alfalfa grown for seed; 2ee AZ (exp. date not given) for dodder control.
VELPAR ALFAMAX	A	1.5-2 lb	2-4.3 lb	2-4.3 lb	DORMANT. Rates are for 1-5% O.M. Use 3-4.3 lb for > 5% O.M. Apply to dormant alfalfa not grown for seed; except in CA, ID, MT, NV, OR, UT, or WA. PHI 30 days. Apply to weeds <3". Premix: 1lb product = 7.5 oz Velpar DF CU + 8.5 oz Karmex 80 DF.
VELPAR ALFAMAX GOLD	A	2.2-3.2 lb	3.2-4.3 lb	3.2-4.3 lb	DORMANT. Rates are for 1-5% O.M. Use 4.3 lb for > 5% O.M. Apply to dormant alfalfa not grown for seed; except in CA. PHI 30 days. Premix: 1lb product = 4.9 oz Velpar DF CU + 11.1 oz Karmex 80DF.
VELPAR L, L CU OR DF CU	A	2-6 pt or 0.67-2 lb	2-6 pt or 0.67-2 lb	3-6 pt or 1-2 lb	See label for state grown for dormant, semi-dormant, or non-dormant alfalfa. Soil and foliar activity. Apply in winter or spring to dormant alfalfa to weeds <2". For tansy mustard may use with 1-2 pt or 0.33-0.67 lb/A. Do not apply to frozen ground. Stubble application labeled in some states. Do not use on alfalfa grown for seed. PHI 30 days.
Preharvest					
GRAMOXONE SL 2.0	A	2.5-4 pt + 1 pt NIS/100 gal			24c for PREHARVEST of alfalfa grown for seed only: CO, ID (exp. 12/2021), UT (exp. 6/2022) Do not graze or use treated alfalfa for feed. Do not harvest until at least 4 days after application.
REGLONE	A	0.5-2 pt			PREHARVEST desiccation broadcast. Seed production only. Minimum total spray volume 15 GPA by ground, 5 GPA by air. On thin stands use 1 pt/A. Do not graze or forage. Do not use seed for food, feed, or oil. Desiccation complete in 3-10 days.
ROUNDUP POWERMAX/ WEATHERMAX***, CORNERSTONE PLUS/ TOMAHAWK 4 or CORNERSTONE 5 PLUS/ TOMAHAWK 5 or DURANGO DMA/ DURAMAX	A	Up to 44 fl oz PowerMAX/WeatherMAX, Up to 1 qt Cornerstone, Up to 2 qt Cornerstone Plus/ Tomahawk 4, Up to 1.5 qt Cornerstone 5 Plus/ Tomahawk 5 Up to 48 fl oz Durango DMA/Duramax,			PREHARVEST. For the last cutting of a stand. Alfalfa will be killed or severely injured. For control of quackgrass and other hard-to-control weeds. Apply a minimum of 36 hours before harvest. The treated crop and weeds can be harvested and fed to livestock after 36 hours. Do not use on alfalfa grown for seed. Roundup PowerMAX or WeatherMAX can be used at 32 fl oz, Cornerstone Plus/5 Plus up to 3 pt/2.25 pt. Durango DMA/Duramax up to 36 fl oz for other legumes (except kenaf and Reucaena); PHI harvest or grazing is 3 days. See label. ^a Include NIS or WC+NIS ² .

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CV – crown vetch, S – sainfoin, L – lespedeza.

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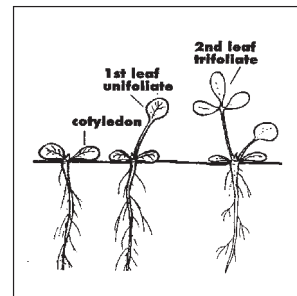
O.M. – Soils with low organic matter - use lower rate, with high organic matter – use higher rate within the range.

*** May use other glyphosate herbicides: Roundup brands, Cornerstone/Tomahawk brands, Durango DMA/Duramax,

Touchdown or others at labeled rates.

¹Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

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ALFALFA INSECT CONTROL

Labeled Insecticides

ALFALFA*	INSECT**	INSECTICIDE	Arctic	Baythroid XL***	Besiege	Cobalt Advanced	Coragen	Declare	Dimate 4E/Dimethoate 4E	Dipel ES	Entrust SC	Fastac EC/CS	Fulfill	Grizzly Too	Imidan 70W	Intrepid	Karate Z/Warrior II/Lambda-Cy/Ag	Lannate LV/SP	Lock-On	Lorsban Advanced	Malathion 5/5EC	Malathion 8 Flowable	MSR	Mustang Maxx	Paradigm	Prevathon	Sevin XLR Plus	Sivanto prime	Stallion Brand	Steward EC	Voliam Xpress	Xentari	Yuma					
Alfalfa Leafblotch Miner				●	●	●								●			●	●		●					●	●							●	●				
Alfalfa Weevil (adult)					●	●	●					●			●		●	●	●															●	●			
Alfalfa Weevil (larvae)			●	●	●	●			S	S		●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Aphid			●	S	●	●		●				●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Armyworm			●	●	●	●	●	●		●	●					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Army Cutworm			●	●	●	●	●	●				●	●	●			●		●					●	●	●	●	●	●	●	●	●	●	●	●	●		
Blister Beetle					●	●	●							●											●	●												
Caterpillar (Alfalfa)			●	●	●	●	●	●	●	●		●	●	●			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Clover Root Curculio (adult)							●																												●	●		
Clover Weevil					●	●	●							●							●	●			●	●												
Cutworm			●	●	●	●	●	●				●	●	●				●		●				●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Grasshopper				●	●		●					●			●							●			●	●												
Plant Bug			●	●	●	●	●	●				●	●	●	●		●	●	●	●	●	●	●	●	●	●	●		S				●	●	●	●		
Potato Leafhopper			●	●	●	●	●	●				●	●	●						●	●	●	●	●	●	●	●	●	●	●	●	●	S			●	●	
Spittle Bug			●	●		●						●	●	●	●					●	●	●	●	●	●	●										●	●	
Webworm			●	●	●	●	●	●		●		●	●	●	●	●	●			●				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

*Includes seed alfalfa, except for Baythroid XL. S - suppression.

** Many other insects may be controlled, see label.

***Labeled for use on mixed alfalfa-grass stands

APPLY INSECTICIDES TO ALFALFA IN LATE EVENING WHEN BEES HAVE RETURNED TO HIVES. IF INSECTICIDES MUST BE APPLIED DURING ALFALFA BLOOMING PERIOD, NOTIFY BEEKEEPERS AT LEAST 48 HOURS IN ADVANCE OF TREATMENT, AND CHOOSE THE LEAST TOXIC INSECTICIDE POSSIBLE. SEVIN IS ESPECIALLY HAZARDOUS TO HONEYBEES.


BEE ALERT



☼ See Insecticide Classification in the TECHNICAL INFORMATION section for information on insecticide toxicity to bees.

☼ See Insecticide Resistance Management in the TECHNICAL INFORMATION section.

Insect Treatment Guidelines

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
ALFALFA LEAFBLOTCH MINER				ET: not well established. Treatment is rarely warranted unless damage is severe (>30-40% of leaflets with pinhole feeding). Cutting alfalfa kills larvae.
BAYTHROID XL	2-2.8 fl oz	7	7	Maximum at 12.8 fl oz/A/season. Notes 2, 6, 8.
BESIEGE	9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	16-38 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
GRIZZLY TOO	1.92 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
KARATE Z/WARRIOR II	1.92 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LANNATE LV or SP	1.5-3 pt or 0.5-1 lb	7	7	Note 16.
LORSBAN ADVANCED	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
PARADIGM/LAMBDA-CY AG	3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SEVIN XLR PLUS	1-1.5 qt	7	7	Do not dilute to greater than 1:39. Note 2.
VOLIAM XPRESS	9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
ALFALFA WEEVIL				ET: when 25-40% of tips are being skeletonized and if there are 3 or more larvae per stem, treat immediately. Do not apply sprays during bloom. Instead, cut and remove the hay. Two treatments may be necessary on the first cutting. Stubble Treatment: Control may also be warranted after a cutting when larvae and adults are feeding on more than 50% of the crowns and regrowth is prevented for 3 to 6 days. See Decision-Making
Guide following for more specific thresholds. With high weevil levels of 3 or more per stem, permethrin does not provide sufficient control or residual activity. With lower infestations or for stubble spray, performance is adequate. Spray gallonage is important. Alfalfa under 7" use 10-12 GPA; 8-15" 15-20 GPA.				

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

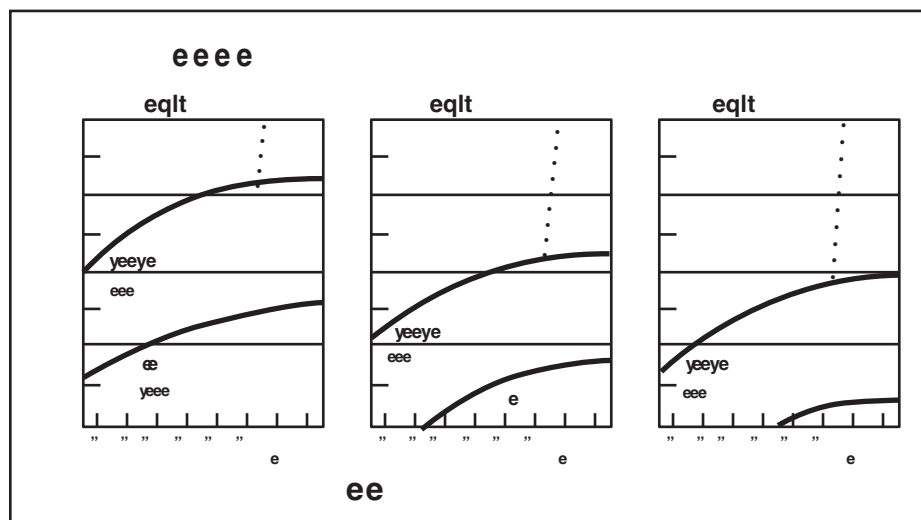
Management of Alfalfa Weevil

The Stem-Count Decision Method –

Carefully break off 30 to 50 stems, selected at random from across the field, and shake them individually into a deep-sided bucket. Remember to take stems from each of several different areas of the field to ensure that a representative sample is obtained. Count the stems and determine the average stem height. Count the larvae, and determine the average number of larvae per stem. By plotting the average stem height versus the average number of larvae on the charts to the right, the appropriate course of action is suggested.

After bud stage, it is probably more profitable to harvest the alfalfa than to treat with an insecticide.

(Adapted from Univ. of Nebr.)



Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions	Control Under Optimum Condition(Days)
ALFALFA WEEVIL (continued)					Control Under Optimum Condition(Days)
ARCTIC	4-8 fl oz	0,14	14	Controls larvae. PHI 0 days at ≤4 oz/A. Use higher recommended dosage for high pest pressure or for increased residual pest control. Notes 2,3.	7-14
BAYTHROID XL	1.6-2.8 fl oz	7	7	Controls larvae. Notes 2, 6, 8.	14-28
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.	
COBALT ADVANCED	16-38 fl oz	7,14,21	7,14,21	Controls adults and larvae. Notes 2, 11.	
DECLARE	1.02-1.54 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air. In CO,KS: 0.51 fl oz/A followed by 1.02 fl oz/A.	
DIMATE 4E/ DIMETHOATE 4E	0.5-1 pt	10	10	Suppresses larvae. One application per cutting.	
ENTRUST SC	2-4 fl oz	3	0,3	Suppresses larvae. Note 17.	
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Notes 2, 8, 18.	
GRIZZLY TOO	1.28-1.92 fl oz	7	1	Controls larvae. PHI 1 day forage. Notes 2, 10, 15.	14-28
IMIDAN 70W	1-1.33 lb	7,14	7,14	Controls adults and larvae. 14 days in CA, AZ, and NV; 7 days elsewhere. Note 9.	12-14
KARATE Z/WARRIOR II	1.28-1.92 fl oz or	7	1	Controls larvae. PHI 1 day forage. Notes 2, 15.	14-28
LANNATE LV or SP	3 pt	7	7	Controls larvae. Use 1.5-3 pt/A for Egyptian AW larvae. Note 16.	—
LOCK-ON	2 pt	4	4	Controls adults and larvae. Egyptian alfalfa weevil. Some temporary yellowing may occur in early spring on young foliage.	
LORSBAN ADVANCED	1-2 pt	14,21	14,21	Controls adults and larvae. Some temporary yellowing may occur early spring on young foliage. Notes 1,2, 14.	10-14
MALATHION 5/SEC	1.5-2 pt	0	0	Larvae.	3-7
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Controls larvae. Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.	
MUSTANG MAXX	2.24-4 fl oz	3,7	3	Controls larvae. PHI 7 days for harvesting seed. Notes 2, 12.	14-21
PARADIGM/LAMBDA-CY AG	2.56-3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.	
SEVIN XLR PLUS	1-1.5 qt	7	7	Controls larvae. Do not dilute greater than 1:39. Use 1.5 qt/A east of the Rocky Mountains. Note 2.	
STALLION BRAND	9.25-11.75 fl oz	7	7	Controls larvae. Notes 2, 14, 21.	
STEWARD EC	6.7-11.3 fl oz	7	—	Controls larvae. Do not apply more than 45 oz/A/season or more than 1 application per cutting. 2ee AZ, CA, CO, ID, KS, MO, MT, NE, NV, NM, OK, OR, UT, WA, WY (exp. 12/2019) reduced rates for control of Alfalfa Weevil Larvae (AW) and Egyptian Alfalfa Weevil Larvae (EAW), and for tank mixtures with organophosphate or pyrethroid insecticides when weevil larvae and aphids are simultaneous pests.	

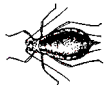

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
ALFALFA WEEVIL (continued)				Control Under Optimum Condition(Days)
VOLIAM XPRESS	6-9 fl oz	7	1	Controls larvae. Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Controls adults and larvae. Some temporary yellowing may occur early spring on young foliage. Notes 1,2, 14. 10-14
APHID				Small, whitish, yellow, greenish sucking insects. Early symptoms are yellowish spots on leaves. Pea or cowpea aphid ET: when there are 50 aphids/ stem on 10" alfalfa or up to 100/stem on 20" alfalfa. Spotted alfalfa aphid ET: control when they reach 50/stem on 10-inch tall alfalfa, except on seedlings, where 2-3 aphids/plant can be economical. Resistant varieties are available for the pea aphid and the spotted alfalfa aphid. Blue alfalfa aphid ET: control at approximately 50 aphids/stem, except regrowth when 20/stem can cause economic damage. If the crop is to be cut in less than one week, immediate cutting is recommended over an insecticide treatment. Sevin is not effective against aphids.
ARCTIC	2-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz. Notes 2, 3.
BAYTHROID XL	2.8 fl oz	7	7	Suppression. Control of heavy infestations of pea aphids and blue aphids may be inadequate. Notes 2,6, 8.
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	16-38 fl oz	7, 14, 21	7, 14, 21	Use 11-26 fl oz/A for blue and pea aphid. Suppresses spotted aphid. Notes 2, 11.
DIMATE 4E/DIMETHOATE 4E	0.5-1 pt	10	10	Only 1 application per cutting.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Notes 2, 8, 18.
FULFILL	2.75 fl oz	14	NO	24c ID, NV (exp. 12/2019); WA (exp. 12/2020): For certain aphids in alfalfa grown for seed; apply when aphids first appear, before population build to damaging levels.
GRIZZLY TOO	1.28-1.92 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
IMIDAN 70W	1-1.33 LB	7, 14	7, 14	Controls adults and larvae. PHI 14 days in CA, AZ, and NV; 7 days elsewhere. Note 9.
KARATE Z/WARRIOR II	1.28-1.92 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LANNATE LV or SP	1.5-3 pt or 0.5-1 lb	7	7	Pea aphid. 2ee AZ, CA, OK, NM, KS, CO, NE, TX, WY(exp. 12/2019) for control of spotted alfalfa aphid. Note 16.
LOCK-ON	2 pt	4	4	Blue and pea aphid. Some temporary yellowing may occur in early spring on young foliage.
LORSBAN ADVANCED	1-2 pt	14, 21	14, 21	Suppression of spotted aphids. Add 4-8 fl oz/A to pyrethroids for improved spotted aphid control. Notes 1, 2, 14.
MALATHION 5/SEC	1.5-2 pt	0	0	
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Use higher rate for armyworm control. Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.
MSR	1.5-2 pt	21	N	Use on alfalfa grown for seed. Note 2.
MUSTANG MAXX	2.24-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Variable control of some aphid species. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	2.56-3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SIVANTO PRIME	7-10.5 fl oz	7, 14	NO	PHI 7 days forage, 14 days clover. Note 20.
STALLION BRAND	9.25-11.75 fl oz	7	7	Notes 2, 14, 21.
VOLIAM XPRESS	6-9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Suppression of spotted aphids. Add 4-8 fl oz to pyrethroids for improved spotted aphid control. Notes 1, 2, 14.
ARMYWORM				ET: Control maybe warranted when larvae reduce the stand of a new seeding, when there are 2 or more larvae per sweep, or when there are 1 to 2 half-grown larvae per sq ft. Spray if 5/ft ² are feeding on regrowth after first cutting.
ARCTIC	2-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2,3.
BAYTHROID XL	1.6-2.8 fl oz	7	7	For control of 1st and 2nd instars only. Notes 2, 6, 8.
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	16-38 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
CORAGEN	3.5-5 fl oz	0	-	For beet and western yellow striped. 2ee AZ, CA, OR, WA (exp. 12/2019) reduced rates for Beet Armyworm, Western Yellowstriped Armyworm.
DECLARE	1.02-1.54 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air.
DIPEL ES	2-4 pt	0	0	Apply to 1-2 instar armyworms.
ENTRUST SC	2-4 fl oz	3	0, 3	Includes beet, fall, southern, and true armyworm. Note 17.
FASTAC EC/CS	2.8-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	1.28-1.92 fl oz	7	1	1.92 fl oz/A for beet armyworm. Use higher rates for larger larvae. PHI 1 day forage. Notes 2, 10, 15.



PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
ARMYWORM (continued)				
INTREPID	4-8 fl oz	7,3	0	Apply when first signs of feeding appear or at threshold levels. Maximum 1 application per cutting. Supplemental label (exp. 8/2019) for PHI 3 days.
KARATE Z/WARRIOR II	1.28-1.92 fl oz or	7	1	Use 1.92 fl oz/A for beet armyworm. PHI 1 day forage. Use higher rates for larger larvae. Notes 2, 15.
LANNATE LV or SP	1.5-3 pt or 0.5-1 lb	7	7	
LOCK-ON	2 pt	4	4	Some temporary yellowing may occur in early spring on young foliage.
LORSBAN ADVANCED	1-2 pt	14,21	14,21	Use high rate for beet armyworm. Notes 1, 2, 14.
MALATHION 5/SEC	2-2.25 pt	0	0	
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Use higher rate for armyworm control. Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.
MUSTANG MAXX	2.8-4 fl oz	3,7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	2.56-3.84 fl oz	7	1	3.84 fl oz for beet armyworm. PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
PREVATHON	14-20 fl oz	0		Beet armyworm only.
SEVIN XLR PLUS	1-1.5 qt	7	7	Do not dilute greater than 1:39. Note 2.
STALLION BRAND	9.25-11.75 fl oz	7	7	Notes 2, 14, 21.
STEWART EC	9.2-11.3 fl oz	7	-	For beet (6.7-11.3 fl oz/A) and western yellow-striped armyworm. Do not apply more than 45 oz/A/season or more than 1 application/cutting. Not labeled in all states. Note 7.
VOLIAM XPRESS	6-9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
XENTARI	0.5-2 lb	0	0	Contains Bt. Apply to 1-2 instar armyworms. Note 2.
YUMA	1-2 pt	14,21	14,21	Use high rate for beet armyworm. Notes 1, 2, 14.
BLISTER BEETLE				Adults feed on flowers and foliage. Blister beetles are highly toxic (produce cantharidin) to horses and poultry and are occasionally trapped or crushed by the crimper and thus retained in the hay. The old harvest method of cutting the hay and allowing it to dry before raking and bailing allows beetles to escape. Early cutting avoids most problems as the beetles are attracted to flowers and don't build up in the alfalfa till bloom. No economic level has been established for blister beetles, but if beetle swarms are noted in the field and the crop is destined for horses, an insecticide treatment may be justified.
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	16-38 fl oz	7,14,21	7,14,21	Notes 2, 11.
DECLARE	1.02-1.54 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air.
GRIZZLY TOO	1.28-1.92 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
KARATE Z/WARRIOR II	1.28-1.92 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
PARADIGM/ LAMBDA-CY AG	2.56-3.84 fl oz	7	1	
SEVIN XLR PLUS	0.5-1 qt	7	7	Apply in 25-40 GPA of water. Note 2.
VOLIAM XPRESS	6-9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
CATERPILLAR, ALFALFA				Velvety (short hairs), green larva with a white stripe on each side. Established Plant: 10 worms per sweep and cutting will not occur for a few days on new seedlings established plant = one larva/2 plants.
ARCTIC	2-8 fl oz	0,14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	1.6-2.8 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	5-8 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	11-26 fl oz	7,14,21	7,14,21	Notes 2, 11.
DIPEL ES	1-2 pt	0	-	Biological control.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Apply as insects appear. Use higher rate for increased pest pressure or greater residual.
GRIZZLY TOO	0.96-1.6 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
INTREPID	4-8 fl oz	7,3	0	Apply when first signs of feeding appear or at threshold levels. Maximum 1 application per cutting. Supplemental label (exp. 8/2019) for PHI 3 days.
KARATE Z/ WARRIOR II	0.96-1.6 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LANNATE LV or SP	1.5-3 pt or 0.5-1 lb	7	7	
LOCK-ON	1.5-2 pt	4	4	Some temporary yellowing may occur in early spring on young foliage.
LORSBAN ADVANCED	1-2 pt	14,21	14,21	Notes 1, 2, 14.
MUSTANG MAXX	2.24-4 fl oz	3,7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/ LAMBDA-CY AG	1.92-3.20 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.



PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
CATERPILLAR, ALFALFA (continued)				
SEVIN XLR PLUS	1 qt	7	7	Apply in 25-40 GPA of water. Note 2.
STALLION BRAND	5-11.75 fl oz	7	7	Notes 2, 14, 21.
STEWARD EC	6.7-11.3 fl oz	7	—	Do not apply more than 45 oz/season or more than 1 application per cutting. Not labeled in all states. Note 7.
VOLIAM XPRESS	5-8 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
XENTARI	0.5-1.5 lb	0	0	Contains Bt. Note 2.
YUMA	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
CUTWORM 				Cutworms may seriously damage alfalfa by feeding on new growth. Variegated cutworms feed in spring. Army cutworms feed from fall through early spring. ET: spray when there are the following populations per sq ft: Army cutworms; 2 (seedlings). 3-4 (established); Variegated cutworms: 2, if hay has been cut and if most are not expected to pupate in 3-4 days. Windrows must be baled and bales removed before treating. Birds feeding in field are a good indication of cutworms.
ARCTIC	2-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	0.8-1.6 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	5-8 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	11-26 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
DECLARE	0.77-1.28 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air. In CO, KS, NE, WY: 0.51-0.77 fl oz/A.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	0.96-1.6 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
KARATE Z/WARRIOR II	0.96-1.6 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LANNATE LV or SP	0.75-3 pt or 0.25-1 lb	7	7	Varigated cutworm. Do not apply to dormant alfalfa if <50° F. Notes 1, 2, 14.
LORSBAN ADVANCED	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
MUSTANG MAXX	2.24-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	1.92-3.20 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SEVIN XLR PLUS	1-1.5 qt	7	7	Most effective against cutworm species which feed on the upper portions of alfalfa plant. Notes 2, 8.
STALLION BRAND	2.5-11.75 fl oz	7	7	Notes 2, 14, 21.
VOLIAM XPRESS	5-8 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
GRASSHOPPER 				ET: control hoppers when small and confined to a small area. 21-40 hoppers yd ² . in field margins, and 8-14 in fields justify treatment. Use sufficient gallonage of spray to completely cover all vegetation.
BAYTHROID XL	2-2.8 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	6-13 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
DECLARE	1.02-1.54 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air.
DIMATE 4E/DIMETHOATE 4E	0.5-1 pt	7	10	Only 1 application per cutting.
FASTAC EC/CS	2.8-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	1.28-1.92 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
IMIDAN 70W	1-1.33 lb	7, 14	7, 14	Controls adults and larvae. PHI 14 days in CA, AZ, and NV; 7 days elsewhere. Note 9.
KARATE Z/WARRIOR II	1.28-1.92 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LORSBAN ADVANCED	0.5-1 pt	14, 21	14, 21	Notes 1, 2, 14.
MALATHION 5/SEC	1.5-2 pt	0	0	
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.
MUSTANG MAXX	2.8-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/ LAMBDA-CY AG	2.56-3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
PREVATHON	8-20 fl oz	0	0	Add 0.5 gal/100 gal of Destiny HC/Succeed/Ultra. Do not apply more than 4 applications/year.
STALLION BRAND	9.25-11.75 fl oz	7	7	Notes 2, 14, 21.

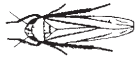

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
GRASSHOPPER (continued)				
STEWARD EC	4.6-11.3 fl oz	7	–	Do not use > 45 fl oz/A/year.
VOLIAM XPRESS	6-9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	0.5-1 pt	14, 21	14, 21	Notes 1, 2, 14.
LEAFHOPPER				2nd and 3rd cuttings may be damaged by small, 1/8" wedge-shaped, light-green leafhoppers. Mowing removes eggs and encourages adults to leave field. New seedlings are most susceptible. Scout for leafhoppers or symptoms. Spray before severe hopper burn and alfalfa stunting occurs. Cutting may be required for new growth. ET: treatment thresholds range from 0.2 leafhoppers/sweep on 3" alfalfa to 2.0 hoppers on >12" alfalfa. For potato leafhopper resistant varieties the ET thresholds are higher ranging 0.6/sweep on 3" alfalfa to 6.0/sweep on 12" plants. Resistant Varieties: Alfalfa varieties, such as Trail Blazer XHH/RR Vamoose that contain high resistance to potato leaf hopper, should be the basis of an integrated pest management program in areas where potato leafhoppers cause frequent damage. For more information, contact your CROPLAN Seed Representative, read the CROPLAN Seed Guide, or view their website at: http://www.croplan.com
Alfalfa Height (inches)	ET Leafhoppers/sweep			
0-3	0.2			
3-6	0.5			
6-12	1.0			
12 or taller	2.0			
ARCTIC	4-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	0.8-1.6 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	5-8 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	6-13 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
DECLARE	0.77-1.28 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air. In MD, MN, PA, WI: 0.51-1.28 fl oz/A.
DIMATE 4E/DIMETHOATE 4E	0.5-1 pt	10	10	Only 1 application per cutting.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	0.96-1.6 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
KARATE Z/WARRIOR II	0.96-1.6 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LORSBAN ADVANCED	0.5-1 pt	7, 14	7, 14	Notes 1, 2, 14.
MALATHION 5/5EC	1.5-2 pt	0	0	
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.
MSR	1.5-2 pt	21	N	Use on alfalfa grown for seed. Note 2.
MUSTANG MAXX	2.24-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	1.92-3.20 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SEVIN XLR PLUS	1 qt	7	7	Apply in 25-40 GPA of water. Note 2.
SIVANTO PRIME	7-10.5 fl oz	7	NO	Note 20.
STALLION BRAND	5-11.75 fl oz	7	7	Notes 2, 14, 21.
VOLIAM XPRESS	5-8 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	0.5-1 pt	7, 14	7, 14	Notes 1, 2, 14.
PLANT or LYGUS BUG				Plant bugs or Lygus bugs are green or brown, about 3/16" long and half as wide. They feed on alfalfa buds. Harvesting removes eggs and kills most flightless nymphs. ET: when tip damage is obvious and nymphs and adults average 3/sweep on alfalfa less than 3 inches tall, or 5/sweep on alfalfa taller than 3 inches.
ARCTIC	4-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	1.6-2.8 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	6-9 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	16-38 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
DECLARE	1.02-1.54 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air.
DIMATE 4E/DIMETHOATE 4E	0.5-1 pt	10	10	Only 1 application per cutting.
FASTAC EC/CS	2.8-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	1.28-1.96 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
IMIDAN 70W	1-1.33 lb.	7, 14	7, 14	Controls adults and larvae. PHI 14 days in CA, AZ, and NV; 7 days elsewhere. Note 9.
KARATE Z/WARRIOR II	1.28-1.96 fl oz or	7	1	PHI 1 day forage. Notes 2, 15.
LANNATE LV or SP	1.5-3 pt or 0.5-1 lb	7	7	Note 16.
LORSBAN ADVANCED	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.


PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
PLANT or LYGUS BUG (continued)				
MUSTANG MAXX	2.8-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	2.56-3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SIVANTO PRIME	14 fl oz	7, 14	NO	PHI 7 days forage, 14 days clover. Note 20.
STALLION BRAND	11.75 fl oz	7	7	Notes 2, 14, 21.
VOLIAM XPRESS	6-9 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
SPITTLEBUG				Nymphs of this small, leafhopper-like insect can cause economic damage to the first cutting. ET: Treatment is warranted when spittle masses average 1 or more per stem.
ARCTIC	4-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	0.8-1.6 fl oz	7	7	Notes 2, 6, 8.
COBALT ADVANCED	16-38 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Apply as insects appear. Use higher rate for increased pest pressure or greater residual.
GRIZZLY TOO	1.28-1.96 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
IMIDAN 70W	1-1.33 lb	7, 14	7, 14	14 days in CA, AZ, and NV; 7 days elsewhere. Note 9.
KARATE Z/WARRIOR II/	1.28-1.96 fl oz or	7	1	Meadow spittlebug. PHI 1 day forage. Notes 2, 10, 1-5.
LORSBAN ADVANCED	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.
MALATHION 5/SEC	1.5-2 pt	0	0	
MALATHION 8 FLOWABLE	1-1.25 pt	0	NL	Maximum of 2 applications/cutting with 14-day retreatment interval. Note 9.
MUSTANG MAXX	2.24-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12.
PARADIGM/LAMBDA-CY AG	2.56-3.84 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
STALLION BRAND	9.25-11.75 fl oz	7	7	Meadow spittlebug. Notes 2, 14, 21.
VOLIAM XPRESS	6-9 fl oz	7	1	Meadow spittlebug. Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1-2 pt	14, 21	14, 21	Notes 1, 2, 14.


PHI – preharvest interval days.

G/F – grazing and feeding interval days.

SEE NOTES AT END OF SECTION.

ALFALFA INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
WEBWORM				Greenish caterpillars up to 3/4" with 3 dark spots on the sides of each abdominal segment destroy foliage inside web. If hay is within 2 weeks of cutting, mow instead of trying to kill worms. When spraying use sufficient volume to penetrate the webbing. ET: treat if webbing and defoliation are abundant.
ARCTIC	2-8 fl oz	0, 14	14	PHI 0 days for ≤ 4 oz/A. Notes 2, 3.
BAYTHROID XL	1.6-2.8 fl oz	7	7	Notes 2, 6, 8.
BESIEGE	5-8 fl oz	7	1	PHI 1 day forage.
COBALT ADVANCED	11-26 fl oz	7, 14, 21	7, 14, 21	Notes 2, 11.
DECLARE	0.77-1.28 fl oz	7	1	Timing and frequency should be based on locally-determined economic thresholds. Apply in minimum 10 GPA by ground, 2 GPA by air.
DIPEL ES	1-2 pt	0	0	Contains Bt.
FASTAC EC/CS	2.2-3.8 fl oz	7	3	Notes 2, 8, 18.
GRIZZLY TOO	0.96-1.6 fl oz	7	1	PHI 1 day forage. Notes 2, 10, 15.
INTREPID	4-8 fl oz	7, 3	0	Apply when first signs of feeding appear or at threshold levels. Maximum 1 application per cutting. Supplemental label (exp. 8/2019) for PHI 3 days.
KARATE Z/WARRIOR II	0.96-1.6 fl oz or	7	1	Notes 2, 15.
LORSBAN ADVANCED	1.5 pt	14, 21	14, 21	Notes 1, 2, 14.
MUSTANG MAXX	2.24-4 fl oz	3, 7	3	PHI 7 days for harvesting seed. Notes 2, 12, 22.
PARADIGM/LAMBDA-CY AG	1.92-3.20 fl oz	7	1	PHI 1 day forage. Do not apply >0.96 pt/A/season. Notes 2, 10.
SEVIN XLR PLUS	1-1.5 qt	7	7	Apply in 25-40 GPA of water. Note 2.
STALLION BRAND	5-11.75 fl oz	7	7	Notes 2, 14, 21.
VOLIAM XPRESS	5-8 fl oz	7	1	Maximum 9 fl oz/A/cutting, 31 fl oz/A/season.
YUMA	1.5 pt	14, 21	14, 21	Notes 1, 2, 14.

Note 1: Do not cut or graze treated alfalfa within 7 days after application of 1/2 pt/A, within 14 days after application of 1 pt/A, or within 21 days after application of the rates above 1 pt/A. Do not make more than 4 applications/year or apply more than once/cutting. Some spotting can occur on young tender alfalfa.

Note 2: May be applied through sprinkler irrigation systems. See label.

Note 3: Using 0.1 lb a.i./acre or less – 0 day phi; over 0.1 lb a.i./acre – delay harvest 14 days.

Note 4: Apply only to pure stands of alfalfa. Make only 1 application/season.

Note 5: Can be used with oat cover crop.

Note 6: Do not use on alfalfa grown for seed.

Note 8: Apply a minimum of 2 GPA by air or 10 GPA by ground. When pest populations are high or foliage is dense, use a minimum of 5 GPA by air.

Note 9: Do not apply if the crop or weeds are in bloom.

Note 10: Apply only to fields planted to pure stands of alfalfa.

Note 11: Cobalt Advanced. Do not cut or graze treated alfalfa within 7 days after application of 6-13 fl oz/A, within 14 days after application of 13-26 fl oz/A, or within 21 days after application of rates above 26 fl oz/A.

Note 12: Labeled for use in grass forage and hay.

Note 14: Not labeled on alfalfa in MS.

Note 15: Do not exceed 0.12 pt/cutting or 0.48 pt/A/season for Grizzly Too, Warrior II or Karate Z or 0.06 pt/cutting or 0.24 pt/A/season for Lambda-Cy Ag.

Note 16: Do not apply to dormant or semi-dormant alfalfa when the minimum daily temperature is ≤ 50° F.

Note 17: PHI 3 days hay or fodder, no restrictions for forage, until spray has dried for grazing.

Note 18: Do not make applications < 7 days apart.

Note 20: Sivanto prime: Minimal application interval 10 days. Maximum per year: 28 fl oz/A. Best performance with minimum application volume ground 15 GPA, air 5 GPA. Check label. Not labeled in all states.

Note 21: Stallion Brand. Maximum 11.75 oz/cutting, 35.25 oz/season.

Note 22: Mustang Maxx. Maximum 0.05 lbs a.i. (8oz) per cutting or 0.15 lb a.i. (24 oz) per season of zeta-cypermethrin. Factor in any use of Stallion Brand. 11.75 oz of Stallion Brand = 0.05 lbs a.i. of zeta-cypermethrin.

ALFALFA DISEASE CONTROL

Labeled Fungicides												
ALFALFA DISEASE*	FUNGICIDE	Badge SC/Badge X2	Confine Extra	Contans WG	Cuprofix Ultra 40 Disperss	Endura	Fontelis	Headline SC	Kocide 3000	Previsto	Serenade ASO	Tetraban
Alternaria Leaf Spot												●
Cercospora Leaf Spot		●			●			●	●	●		●
Downy Mildew			●					●				●
Leptosphaerulina Leaf Spot		●			●	●		●	●	●		
Powdery Mildew						S	●	●				●
Rust								●				●
Spring Black Stem						●		●				
White Mold				●		●					S	

* Many other diseases may be controlled, see label.

Disease Treatment Guidelines				
Fungicide	Rate/Acre	PHI	G/F	Comments/Restrictions
BADGE SC OR BADGE X2	0.75-1.5 pt or 0.75-1.5 lb	0	NR	Apply 10-14 days before each harvest or earlier if disease threatens. Badge X2 is OMRI listed.
CONFINE EXTRA	1-4 qt	0	–	Foliar: apply 1-3 qt/A in minimum 20 GPA. Aerial: apply in minimum of 10 GPA. Apply 2-4 qt/A through irrigation. Notes 1, 2.
CONTANS WG	1-4 lb	0	NR	Apply prior to planting, at planting, or after crop emergence. Incorporate into soil to 2". Make 2 applications, but no more than 8, for maximum efficacy. Note 2.
CUPROFIX ULTRA 40 DISPERSS	1.25 lb	–	–	Apply 10-14 days before each harvest or earlier if disease threatens. Notes 1, 2.
ENDURA	6-11 oz	14	NR	Use 6-11 oz/A for seed alfalfa (white mold control at 8-11 oz/A) and 6.5 oz/A for alfalfa for hay or forage (white mold suppression at 6.5 oz/A). Begin prior to disease onset when conditions are favorable for disease. Alfalfa hay or forage may be grazed. Notes 1, 2.
FONTELIS	14-24 fl oz	14	–	Apply prior to disease development, continue on 7-14 day interval. Notes 1, 2.
HEADLINE SC	6-9 fl oz	14	14	Apply prior to disease development and continue through the season. Include COC or NIS. Notes 1, 2.
KOCIDE 3000	0.75 lb	–	–	Apply 10-14 days before each harvest or earlier if disease threatens. Notes 1, 2.
PREVISTO	0.75-2 qt	0	NR	Apply 10-14 days before each harvest or earlier if disease threatens.
SERENADE ASO	2-6 qt	–	–	Bacillus subtilis is a biological fungicide. Begin applications when environmental conditions are conducive to disease development. Repeat on 7- to 10-day interval or as needed.
TETRABAN	6-15.5 fl oz	14	14	Apply by ground, air or irrigation prior to disease development. No more than 0.25 lb a.i./A/cutting. Do not use on rangeland.

PHI – preharvest interval days. G/F – grazing and feeding interval days. NR - no restrictions.

NOTE 1: May be applied by air.

NOTE 2: May be applied by chemigation.