

ALFALFA WEED CONTROL

Patrick E. McCullough, Extension Agronomist-Weed Science

STAGE OF APPLICATION/ HERBICIDE	BROADCAST RATE PER ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
PREPLANT INCORPORATED			
benefin (Balan 60DF)	2.0 lbs.	1.2	Incorporate 2-3 inches deep before planting for grass control. EPTC may provide better broad spectrum weed control. Some epinastic injury to alfalfa usually occurs from EPTC; however, injury is normally temporary. Do not use if grain or grass crop is to be planted with alfalfa. Research has shown significant injury as stand reduction from Balan. Injury would be expected to be less when used on fall than on spring planted alfalfa. The yield of the first cutting may be reduced when treated with Balan.
EPTC (Eptam) 7 lbs./gal.	3.5 pts.	3.1	
trifluralin (Treflan) 4.0 lbs./gal.	1.0	0.5	TREFLAN HFP has a supplemental label for weed control in seedling alfalfa during establishment. Proper incorporation is critical (refer to Treflan HFP label), since severe crop damage and stunting can result. Some stand reduction and stunting of alfalfa may occur with TREFLAN HFP, but reduced weed competition will allow establishment of a quality stand.
POSTEMERGENCE SEEDLING ALFALFA			
2-4,DB (Butyrac 200) (Butoxone) 1.75 lbs./gal.	2 - 3 qts. 4.3 - 6.5 pts.	1.0 - 1.5 0.9 - 1.4	Apply in fall or spring after alfalfa has two to four trifoliolate leaves. Controls emerged annual broadleaf weeds less than 3 inches tall. Do not graze or cut for hay for 60 days after application. Rainfall or irrigation within 7 to 10 days after treatment may cause injury. DO NOT add wetting agents or surfactants to the spray solution.
bromoxynil (Buctril) 2L	1.5 pts.	0.375	Apply to seedling alfalfa that has a minimum of four trifoliolate leaves. Spray winter annual broadleaf weeds that do not exceed the 4-leaf stage or 2 inches in height, or have rosettes greater than 1.5 inches in diameter. DO NOT apply when temperatures exceed 70°F at and 3 days after application or unacceptable crop injury may occur. DO NOT add a surfactant or crop oil. DO NOT cut for feed or graze spring treated alfalfa for 30 days after application. DO NOT cut for feed or graze fall or winter treated alfalfa for 60 days after application.
imazethapyr (Pursuit) 70DG (Pursuit) 2EC	1.08 - 2.16 oz. 3.0 - 6.0 fl. ozs.	0.047 - 0.094	Apply to seedling alfalfa with a minimum of two trifoliolate leaves and when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches in diameter. Pursuit requires a 1 hour rain free period. Pursuit may cause a temporary reduction in height or slight leaf yellowing. DO NOT feed, graze, or harvest alfalfa for 30 days after application. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.25% v/v to the spray solution. If replanting is necessary in a field treated with Pursuit, do not plant alfalfa for 4 months following the application of Pursuit.
glyphosate (Roundup WeatherMax) 5.5 lbs./gal.	22.0 - 44.0 fl. ozs.	0.95 - 1.9	USE ONLY ON ALFALFA VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY (RR) GENE. Apply from alfalfa emergence up 5 days before cutting hay. May be applied at any alfalfa growth stage. Due to alfalfa biology and breeding constraints, up to 10% of seedlings may not contain the Roundup Ready gene and will be killed by glyphosate. To eliminate undesirable stand gaps during seedling establishment, apply Roundup WeatherMax at the low rate at or before the 3 to 4 trifoliolate leaf stage of alfalfa. Sequential applications may be made as needed (allow a minimum of 7 days between applications) but do not exceed 4.1 qts./acre per year. Remove livestock before application and wait 5 days after the last application before grazing, cutting for silage or hay harvest. Glyphosate will control most weed species, including dodder. Weeds that are not effectively controlled by a single application of glyphosate include: hemp sesbania, bermudagrass, yellow nutsedge, tropical spiderwort, greenbrier species, cutleaf eveningprimrose, Carolina geranium, maypop passionflower and trumpetcreeper. Repeat applications, or other appropriate herbicides, will be needed to control this group of weeds. Other brands of glyphosate may be used on Roundup Ready alfalfa, if the specific brand label lists this use.
imazamox (Raptor) 1.0 lb./ gal.	4.0- 6.0 fl. ozs.	0.031-0.047	Apply to seedling alfalfa with a minimum of two trifoliolate leaves and when weeds are 1 to 3 inches tall. Raptor requires a 1-hour rain-free period. A temporary growth reduction may occur after application. DO NOT feed, graze, or harvest alfalfa for 20 days after application. A maximum total of 6.0 fl. ozs./acre may be applied per season. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.0 to 2.0% v/v to the spray solution. If replanting is necessary in a field treated with Raptor, do not plant alfalfa for 4 months following the application of Raptor.

ALFALFA WEED CONTROL (continued)

STAGE OF APPLICATION/ HERBICIDE	BROADCAST RATE PER ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
POSTEMERGENCE SEEDLING ALFALFA (continued)			
pendimethalin (Prowl H2O) 3.8 lbs./gal.	1.1 to 2.1 pts.	0.5 to 1.0	Apply to seedling alfalfa before annual weed emergence and after alfalfa has developed two trifoliolate leaves Applications should be made before alfalfa exceeds 6 inches in height. Pendimethalin will provide good to excellent preemergence control of annual grasses and some annual broadleaf weeds. Do not cut for hay or graze for 28 days after an application.
pronamide (Kerb) 50W	1.0 - 1.5 lbs.	0.5 - 0.75	Spray preemergence or early postemergence for control of winter annual weeds after the alfalfa has reached the trifoliolate leaf stage. Do not graze or cut for hay for 120 days after treatment.
sethoxydim (Poast) 1.5 lbs./gal. (Poast Plus) (Sethoxydim E-Pro) (Sethoxydim G-Pro) 1.0 lbs./gal.	1.0 - 1.5 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts.	0.19 - 0.3	Apply low rate with 2 pts. of crop oil concentrate/A for control of annual grasses up to 8 inches tall (varies with species). Use high rate if rhizome johnsongrass is to be controlled, followed by a second application to regrowth or new plants. Do not apply to grass or alfalfa under stress. Apply before the grass has been cut. Do not apply sethoxydim products within 7 days of feeding, grazing or harvesting undried forage, or within 14 days of cutting for dry hay.
clethodim (Select Max) 0.97 lbs./gal. (Intensity One) 0.97 lbs./gal. (TapOut) 0.97 lbs./gal. (Shadow) 2.0 lbs./gal. (Arrow) 2.0 lbs./gal.	9.0 to 32.0 fl. ozs. 6.0 to 16.0 fl. ozs. 6.0 to 16.0 fl. ozs.	0.07 to 0.24 0.09 to 0.25 0.09 to 0.25	Clethodim will provide excellent control of annual and perennial grasses, but will not control broadleaf weeds or sedges. Use the low rate on annual grasses, and the high rate on perennial grasses (see label). Select Max and Intensity One require the addition of a nonionic surfactant at 0.25% v/v. For Shadow and Arrow use only a crop oil concentrate at 1.0% v/v. Use a nonionic surfactant or crop oil concentrate with TapOut. Clethodim may be tank-mixed with 2,4-DB; however, the risk of temporary injury to alfalfa will increase. Clethodim may also be tank-mixed with Pursuit and Raptor. Do not cut for hay or graze for 15 days after an application of clethodim.
POSTEMERGENCE SEEDLING - ALFALFA (BETWEEN CUTTINGS)			
paraquat (Firestorm) 3.0 lbs./gal. (Gramoxone Inteon) 2.0 lbs./gal.	0.7 pts. 1.0 pt.	0.25	Apply to small emerged annual grass and broadleaf weeds in first year alfalfa immediately after removing hay between cuttings. Do not treat more than 5 days after cutting. Add a nonionic surfactant at 1 pt./100 gals. of water. Do not make more than two applications during the growing season. Apply in 20-40 gals. of water/A. Weeds much beyond the seedling stage and stubble of those cut off during harvest will be less affected by the treatment. Do not graze, cut or harvest within 30 days of application.
POSTEMERGENCE - ESTABLISHED DORMANT ALFALFA (SECOND YEAR & OLDER)			
metribuzin (Sencor) 4L (Sencor) 75DF (Metribuzin) 75 DF	12 fl. ozs. 8 ozs. 8 ozs.	0.375	See label for weeds controlled at different rates and for precautions related to soil textures. Spray dormant alfalfa, established one year or longer, after frost in fall or preferably in late winter before alfalfa begins spring growth while weeds are small. Provides preemergence and early postemergence weed control when surfactant is added. Do not use these treatments on alfalfa-grass mixtures. Do not use Sencor, Metribuzin or Velpar on sands. The higher rate of Velpar may cause crop damage. Do not graze or cut for hay within 28 days after Sencor or Metribuzin treatment. Do not graze or cut for hay within 30 days after Velpar treatment. Do not tank-mix any of these herbicides.
hexazinone (Velpar) 2L (Velpar) 75 DF	2 - 3 pts. 8 - 12 ozs.	0.5 - 0.75 0.5 - 0.75	
pronamide (Kerb) 50W	1.0 - 1.5 lbs.	0.5 - 0.75	Apply in January at lower rate for most annual winter grasses, except higher rate for annual ryegrass or orchardgrass. Do no graze or cut for hay for 120 days after treatment. Provides preemergence and early postemergence control. Do not tank mix with other herbicides.
paraquat (Firestorm) 3.0 lbs./gal. (Gramoxone Inteon) 2.0 lbs./gal.	0.7 - 1.3 pts. 1.0 - 2.0 pts.	0.25 - 0.5	Apply during the winter months when established alfalfa is dormant. DO NOT apply dormant treatments to seedling alfalfa less than 6 months old. Controls Italian ryegrass (less than 6 in. tall), chick weed and most other winter annual weeds. Green alfalfa foliage present at time of application will become necrotic (brown). DO NOT apply after the initiation of new spring growth. Add a nonionic surfactant at 1.0 pt./100 gals. of spray solution. DO NOT graze or harvest within 42 days of application. Make only one application per season.

ALFALFA WEED CONTROL (continued)

STAGE OF APPLICATION/ HERBICIDE	BROADCAST RATE PER ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
PREEMERGENCE - ESTABLISHED ALFALFA			
norflurazon (Solicam) 80DF	1.25 - 2.5 lbs.	1.0 - 2.0	Apply to established alfalfa in spring or early fall for the control of annual grasses and annual broadleaf weeds such as tropic croton and prickly sida. May be applied to dormant and actively-growing alfalfa. Apply to actively-growing alfalfa following hay removal to ensure spray penetration to the soil surface. DO NOT apply to seedling alfalfa earlier than 5 months after emergence. DO NOT apply Solicam within 28 days of harvest. Use the low rate on sandy soils. Solicam may be tank-mixed with Gramoxone Extra, Poast, Pursuit, Kerb, Sencor, Lexone and 2,4-DB. For 16 months following application rotate only to cotton, soybeans or peanuts.
pendimethalin (Prowl H2O) 3.8 lbs./gal.	1.1 to 4.2 qts.	1.05 to 4.0	Pendimethalin will provide good to excellent preemergence control of annual grasses and some annual broadleaf weeds. In established alfalfa (defined as alfalfa that was planted in fall or spring and has gone through a first cutting/mowing), Prowl H2O may be applied in the fall after the last cutting, during winter dormancy or in the spring before alfalfa regrowth is 6 inches. Do not cut for hay or graze for 28 days after an application of 2.1 qts./acre or less. If Prowl H2O is applied at more than 2.1 qts./acre, the grazing and haying restriction is 50 days.
flumioxazin (Chateau 51 WDG)	4.0 oz.	0.13	Flumioxazin will provide good to excellent preemergence control of annual grasses and some annual broadleaf weeds. Apply in the fall or spring months before weed emergence. Do not apply to alfalfa with more than 6 inches or new growth or significant injury can occur. Do not cut for hay or graze for 25 days after an application of flumioxazin.
POSTEMERGENCE - ESTABLISHED ALFALFA			
2,4-DB (Butyrac 200) (Butoxone) 1.75 lbs./gal.	2 - 3 qts. 4.3 - 6.5 pts.	1.0 - 1.5 0.9 - 1.4	Spray established dormant or non-dormant alfalfa in late fall through spring for control of emerged weeds that emerge in the fall and over winter in the rosette stage. Do not graze or cut for hay within 30 days after treatment. Overhead irrigation or rainfall within a few days after use may wash chemical into the root zone, possibly causing some twisting of stems and malformation of leaves. Do not add wetting agents or surfactants to the spray mix.
imazethapyr (Pursuit) 70DG (Pursuit) 2EC	1.08 - 2.16 oz. 3.0 - 6.0 fl. ozs.	0.047 - 0.094	Apply to established alfalfa in the fall, or in the spring to dormant or semi-dormant alfalfa. Spring treatments should be made before excessive alfalfa growth (less than 3 inches of new growth) to reduce spray interference. Apply when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches in diameter. DO NOT feed, graze, or harvest alfalfa for 30 days after application. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.25% v/v to the spray solution. If replanting is necessary in a field treated with Pursuit, do not plant alfalfa for 4 months following the application of Pursuit.
imazamox (Raptor) 1.0 lb./ gal.	4.0- 6.0 fl. ozs.	0.031-0.047	Apply to established alfalfa in the fall, or in the spring to dormant or semi-dormant alfalfa. Spring treatments should be made before excessive alfalfa growth (less than 3 inches of new growth) to reduce spray interference. Apply when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches in diameter. Raptor requires a 1 hour rain free period. A temporary growth reduction may occur after application. DO NOT feed, graze, or harvest alfalfa for 20 days after application. A maximum total of 6.0 fl. ozs./acre may be applied per season. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.0 to 2.0% v/v to the spray solution. If replanting is necessary in a field treated with Raptor, do not plant alfalfa for 4 months following the application of Raptor.
glyphosate (Roundup WeatherMax) 5.5 lbs./gal.	44.0 fl. ozs.	1.9	USE ONLY ON ALFALFA VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY (RR) GENE. May be applied at any alfalfa growth stage. Sequential applications may be made as needed (allow a minimum of 7 days between applications) but do not exceed 4.1 qts./acre per year. Remove livestock before application and wait 5 days after the last application before grazing, cutting for silage or hay harvest. Glyphosate will control most weed species, including dodder. Weeds that are not effectively controlled by a single application of glyphosate include: hemp sesbania, bermudagrass, yellow nutsedge, tropical spiderwort, greenbrier species, cutleaf eveningprimrose, Carolina geranium, maypop passionflower and trumpetcreeper. Repeat applications, or other appropriate herbicides, will be needed to control this group of weeds. Other brands of glyphosate may be used on Roundup Ready alfalfa, if the specific brand label lists this use.

ALFALFA WEED CONTROL (continued)

STAGE OF APPLICATION/ HERBICIDE	BROADCAST RATE PER ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
POSTEMERGENCE - ESTABLISHED ALFALFA (continued)			
sethoxydim (Poast) 1.5 lbs./gal. (Poast Plus) (Sethoxydim E-Pro) (Sethoxydim G-Pro) 1.0 lbs./gal.	1.0 - 1.5 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts.	0.19 - 0.3	Apply low rate with 2 pts. of crop oil concentrate/A for control of annual grasses up to 8 inches tall (varies with species). Use high rate if rhizome johnsongrass is to be controlled, followed by a second application to regrowth or new plants. Do not apply to grass or alfalfa under stress. Apply before the grass has been cut. Do not apply sethoxydim products within 7 days of feeding, grazing or harvesting undried forage, or within 14 days of cutting for dry hay.
clethodim (Select Max) 0.97 lbs./gal. (Intensity One) 0.97 lbs./gal. (TapOut) 0.97 lbs./gal. (Shadow) 2.0 lbs./gal. (Arrow) 2.0 lbs./gal.	9.0 to 32.0 fl. ozs. 6.0 to 16.0 fl. ozs. 6.0 to 16.0 fl. ozs.	0.07 to 0.24 0.09 to 0.25 0.09 to 0.25	Clethodim will provide excellent control of annual and perennial grasses, but will not control broadleaf weeds or sedges. Use the low rate on annual grasses, and the high rate on perennial grasses (see label). Select Max and Intensity One require the addition of a nonionic surfactant at 0.25% v/v. For Shadow and Arrow use only a crop oil concentrate at 1.0% v/v. Use a nonionic surfactant or crop oil concentrate with TapOut. Clethodim may be tank-mixed with 2,4-DB; however, the risk of temporary injury to alfalfa will increase. Clethodim may also be tank-mixed with Pursuit and Raptor. Do not cut for hay or graze for 15 days after an application of clethodim.
POSTEMERGENCE ESTABLISHED - ALFALFA (BETWEEN CUTTINGS)			
imazethapyr (Pursuit) 70DG	1.08 - 2.16 oz.	0.047 - 0.094	Apply as a between cut treatment. Remove hay from the field and apply before excessive alfalfa regrowth. Apply when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches in diameter. DO NOT feed, graze, or harvest alfalfa for 30 days after application. A maximum total of 2.16 oz./A of Pursuit may be applied per year. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.25% v/v to the spray solution. If replanting is necessary in a field treated with Pursuit, do not plant alfalfa for 4 months following the application of Pursuit. Do not apply more than 1.44 ozs. during the last year of the stand.
imazamox (Raptor) 1.0 lb./ gal.	4.0- 6.0 fl. ozs.	0.031-0.047	Apply as a between cut treatment. Remove hay from the field and apply before excessive alfalfa regrowth. Apply when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches in diameter. Raptor requires a 1-hour rain-free period. A temporary growth reduction may occur after application. DO NOT feed, graze, or harvest alfalfa for 20 days after application. A maximum total of 6.0 fl. ozs./acre may be applied per season. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.0 to 2.0% v/v to the spray solution. If replanting is necessary in a field treated with Raptor, do not plant alfalfa for 4 months following the application of Raptor.
paraquat (Firestorm) 3.0 lbs./gal. (Gramoxone Inteon) 2.0 lbs./gal.	0.7 pts. 1.0 pt.	0.25	Apply to established stands (at least one year old) immediately after alfalfa has been removed for silage or hay. Do not treat more than 5 days after cutting. Add surfactant at 1 pt./100 gals. of spray mix. DO NOT graze, cut or harvest within 30 days of application. Make 1 to 3 applications as needed during the cutting season. Apply in 20 to 40 gals. of water/A. Weeds much beyond the seedling stage and stubble of those cut off during harvest will be less affected by the treatment.
pendimethalin (Prowl H2O) 3.8 lbs./gal.	1.1 to 4.2 qts.	1.05 to 4.0	Apply as a between cut treatment before annual weeds emerge. Pendimethalin will provide good to excellent preemergence control of annual grasses and some annual broadleaf weeds. Do not cut for hay or graze for 28 days after an application of 2.1 qts./acre or less. If Prowl H2O is applied at more than 2.1 qts./acre, the grazing and haying restriction is 50 days.
flumioxazin (Chateau 51 WDG)	4.0 oz.	0.13	Apply as between cut treatment for preemergence control of annual grasses and some annual broadleaf weeds. Application should be made as soon as possible after hay harvest to minimize injury to alfalfa. Do not apply to alfalfa with more than 6 inches or new growth or significant injury can occur. Do not cut for hay or graze for 25 days after an application of flumioxazin.