

## Weed Management in Alfalfa<sup>1</sup>

J.A. Ferrell and B. A. Sellers<sup>2</sup>

**Table 1.** Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks
<b>Preplant Incorporated (PPI)</b>		
Balan 60DF 2 lb	benefin	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.
Eptam 3.5 pt	EPTC	
<b>Postemergence - Seedling Alfalfa (First Season)</b>		
Butyrac 200 or Butoxone (1.75 lb gal) 2 to 3 qts	2,4-DB	Apply in fall or spring after alfalfa has two to four trifoliate 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. <b>DO NOT add wetting agents or surfactants to the spray solution.</b>

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2. J.A. Ferrell, assistant professor, Agronomy Department; B. A. Sellers, assistant professor, Agronomy Department, Range Cattle Research and Education Center--Ona, FL; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

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**Table 1.** Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks
Buctril 2L 1.5 pt	bromoxynil	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. <b>DO NOT</b> apply when temperatures exceed 70°F. at and 3 days after application or unacceptable crop injury may occur. <b>DO NOT</b> add a surfactant or crop oil. <b>DO NOT</b> cut for feed or graze spring treated alfalfa for 30 days after application. <b>DO NOT</b> cut for feed or graze fall or winter treated alfalfa for 60 days after application.
Pursuit 70DG 1.08 to 2.16 oz.	imazethapyr	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. <b>DO NOT</b> 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 1.5 to 2.0 pts/A 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 oz. during the last year of the stand.
Raptor 4 to 6 fl oz.	imazamox	Apply after the 2nd trifoliolate stage, or larger, when weeds are 3" in height or less. There may be temporary reduction in growth, but alfalfa will quickly recover. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1% v/v to the spray solution. <b>DO NOT</b> harvest alfalfa hay for 20 days, or graze for 70 days, after application. A maximum total of 6 fl. oz./A of Raptor may be applied per year.
Kerb 50W 1 to 1.5 lb	pronamid	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.
Poast (1.5 lb gal) 1 to 2.5 pt or Poast Plus (1 lb gal) 1.5 to 2.25 pt	sethoxydim	Apply 1 pt. of Poast or 1.5 pts. of Poast Plus with 2 pts. of crop oil concentrate/A for control of annual grasses up to 8 inches tall (varies with species). Use 2 1/2 pts./A of Poast or 2.25 pts./A of Poast Plus 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 Poast or Poast Plus within 7 days of feeding, grazing or harvesting undried forage, or within 14 days of cutting for dry hay.
Select 2EC or Arrow 6 to 8 fl oz.	clethodim	Apply with a crop oil concentrate at 1% v/v for the control of most annual grasses up to 6 to 8 inches tall. Also, has good activity on johnsongrass and suppresses common bermudagrass. <b>DO NOT</b> apply within 15 days of grazing, feeding, or harvesting alfalfa for forage or hay. May be tank-mixed with 2,4-DB; however, the risk of temporary injury to alfalfa will increase.

Table 1. Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks
<b>Postemergence - Seedling (Between Cuttings)</b>		
Raptor 4 to 6 fl oz.	imazamox	Apply when weeds are 3" in height or less. See above for additional surfactant and grazing information.
Gramoxone Max 0.7 pt	paraquat	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.
<b>Postemergence - Established Dormant Alfalfa (greater than 1 year old)</b>		
Sencor 4L 12 fl oz Sencor 75DF or Lexone 75DF 8 oz	metribuzin	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, Lexone 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 Lexone treatment. Do not graze or cut for hay within 30 days after Velpar treatment. Do not tank-mix any of these herbicides.
Velpar 2L 2 to 3 pt or Velpar 90SP 8 to 12 oz	hexazinone	
Kerb 50W 1 to 1.5 lb	pronamide	Apply in January at lower rate for most annual winter grasses, except higher rate for annual ryegrass or orchardgrass. Do not graze or cut for hay for 120 days after treatment. Provides preemergence and early postemergence control. Do not tank mix with other herbicides.
Raptor 4 to 6 fl oz.	imazamox	Apply when weeds are 3" in height or less. See above for additional surfactant and grazing information.
Gramoxone Max 0.7 to 1.3 pt	paraquat	Apply during the winter months when established alfalfa is dormant. <b>DO NOT apply dormant treatments to seedling alfalfa less than 6 months old.</b> Controls Italian ryegrass (less than 6 in. tall), chickweed and most other winter annual weeds. Green alfalfa foliage present at time of application will become necrotic (brown). <b>DO NOT</b> apply after the initiation of new spring growth. Add a nonionic surfactant at 1.0 pt./100 gals. of spray solution. <b>DO NOT graze or harvest within 60 days of application.</b> Make only one application per season.

Table 1. Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks
<b>Preemergence - Established Alfalfa</b>		
Solicam (80 DG) 1.25 to 2.5 lb	norflurazon	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. <b>DO NOT apply to seedling alfalfa earlier than 5 months after emergence.</b> DO NOT apply Solicam within 28 days of harvest. Use the low rate on sandy soils. Zorial Rapid 80 may be tank-mixed with Gramoxone Extra, Poast, Kerb, Sencor, Lexone and 2,4-DB. For 16 months following application rotate only to cotton, soybeans or peanuts.
<b>Postemergence - Established Alfalfa</b>		
Butyrac 200 or Butoxone 2 to 3 qts	2,4-DB	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.
Pursuit 70DG 1.08 to 2.16 oz	imazethapyr	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. 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 1.5 to 2.0 pts/A 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 oz. during the last year of the stand.
Raptor 4 to 6 fl oz.	imazamox	Apply when weeds are 3" in height or less. See above for additional surfactant and grazing information.
Poast (1.5 lb gal) 1 to 2.5 pt or Poast Plus (1 lb gal) 1.5 to 2.25 pt	sethoxydim	Apply 1 pt. of Poast or 1.5 pts. of Poast Plus with 2 pts. of crop oil concentrate/A for control of annual grasses up to 8 inches tall (varies with species). Use 2 1/2 pts./A of Poast or 2.25 pts./A of Poast Plus 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 Poast or Poast Plus within 7 days of feeding, grazing or harvesting undried forage, or within 14 days of cutting for dry hay.

**Table 1.** Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks
Select 2EC or Arrow 6 to 8 fl oz.	clethodim	Apply with a crop oil concentrate at 1% v/v for the control of most annual grasses up to 6 to 8 inches tall. Also, has good activity on johnsongrass and suppresses common bermudagrass. <b>DO NOT</b> apply within 15 days of grazing, feeding, or harvesting alfalfa for forage or hay. May be tank-mixed with 2,4-DB; however, the risk of temporary injury to alfalfa will increase.
<b>Postemergence - Established Alfalfa (Between Cuttings)</b>		
Pursuit 70DG 1.08 to 2.16 oz	imazethapyr	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. <b>DO NOT</b> 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 1.5 to 2.0 pts/A 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 oz. during the last year of the stand.
Raptor 4 to 6 fl oz.	imazamox	Apply when weeds are 3" in height or less. See above for additional surfactant and grazing information.
Gramoxone Inteon	paraquat	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. <b>DO NOT</b> 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.

**Table 1.** Weed Management in Alfalfa.

Trade Name and Broadcast Rate/Acre of Commercial Product	Common Name	Remarks

**Table 2.** Estimated effectiveness of recommended herbicides on common weeds in Florida Alfalfa.

Time of Application	PPI	PPI	PRE	POT	POT
	Balan	EPTC - Eptam	Kerb	Poast or Select	Pursuit or Raptor
bahiagrass	P	P	P	F	--
bermuda grass	P	P	P	F-G	P
bitter sneezeweed	P	P	P	P	--
blackberry	P	P	P	P	--
bracken fern	P	P	P	P	--
briars (Smilax)	P	P	P	P	--
broomsedge	P	P	P	P	--
bulrush	P	P	P	P	--
buttercup	P	P	P	P	--
chickweed	F	E	G	P	E
crabgrass	E	G	F	G-E	F
cudweed	P	P	P	P	--
curly dock	P	P	P	P	F
dallisgrass	P	P	P	P	--
dandelion	P	G	P	P	--
dodder	P	P	E	P	--
dogfennel	P	P	P	P	--
evening primrose	F	F-G	P	P	--
foxtails	G	G	P	E	G
gallberry	P	P	P	P	--
goldenrod	P	P	P	P	--
henbit	F	G	P	P	E
honeysuckle	P	P	P	P	--
horsenettle	P	P	P	P	--
horseweed	P	P	P	P	--
Italian ryegrass	G	E	G	E	P
johnson grass	P	P	P	G	P
kudzu	P	P	P	P	--
little barley	G	G	E	F	--
mayweed	--	--	P	P	--
nettle, stinging	P	P	P	P	--
nutsedge	P	F	P	P	F
palmetto	P	P	P	P	--
perilla mint	P	P	--	P	--
persimmon	P	P	P	P	--
pigweed species	G	G	--	P	G
pokeberry	P	P	P	P	--
prickly pear	P	P	P	P	--
ragweed	P	P	P	P	F
red sorrel	P	P	P	P	--
sandbur	E	G	P	G	--
shepherds- purse	P	G	G	P	E
sicklepod	P	F	P	P	--
smutgrass	P	P	P	P	--

**Table 2.** Estimated effectiveness of recommended herbicides on common weeds in Florida Alfalfa.

Time of Application	PPI	PPI	PRE	POT	POT
	Balan	EPTC - Eptam	Kerb	Poast or Select	Pursuit or Raptor
swinecress	P	G	F	P	--
Texas panicum	G-E	G	P	E	--
thistles	P	E	P	P	P
tropical soda apple	P	P	P	P	--
vaseygrass	P	P	P	P	--
Virginia pepperweed	P	G	P	P	--
wax myrtle	P	P	P	P	--
wild cherry	P	P	P	P	--
wild garlic	P	P	P	P	--
wild radish	P	P-F	P	P	G-E
wild plum	P	P	P	P	--
wild rose	P	P	P	P	--
wooly croton	P	P	P	P	P

Estimated effectiveness based on rates recommended in this report. Effectiveness may vary depending on factors such as herbicide rate, size of weeds, time of application, soil type, and weather conditions.  
Weed Control Symbols: E = 90-100% control; G = 80-90% control; F = 60-80% control; P = less than 60% control.  
Time of Application Symbols: PPI = preplant incorporated; PRE = preemergence; POT = postemergence over the top; -- = insufficient observations.

**Table 3.** Estimated effectiveness of recommended herbicides on common weeds in Florida Alfalfa (continued).

Time of Application	POT	POT	POT	POT	POT	POT
	Velpar	Sencor or Lexone	Paraquat-Gramoxone Max	Buctril	2,4-D	2,4-DB
bahiagrass	P	P	P	P	P	P
bermuda grass	P	P	P	P	P	P
bitter sneezeweed	--	--	--	--	E	G
blackberry	F	P	P	P	F	P
bracken fern	F	--	P	--	P	P
briars (Smilax)	F	P	P	P	P	P
broomsedge	P	P	P	P	P	P
bulrush	--	--	P	P	G	P
buttercup	G	G	G	--	E	F
chickweed	E	E	E	F	F	P
crabgrass	P	F	F	P	P-F	P
cudweed	--	--	G	P	F	--
curly dock	P	--	P	--	F	P
dallisgrass	--	P	P	P	P	P
dandelion	E	G	G	P	E	G
dodder	--	--	G-E	--	P	P
dogfennel	--	--	P	P	F	P
evening primrose	E	G	P-F	--	E	G

**Table 3.** Estimated effectiveness of recommended herbicides on common weeds in Florida Alfalfa (continued).

Time of Application	POT	POT	POT	POT	POT	POT
	Velpar	Sencor or Lexone	Paraquat-Gramoxone Max	Buctril	2,4-D	2,4-DB
foxtails	--	P	F	P	P	P
gallberry	P	P	P	P	G	P
goldenrod	--	--	P	P	F	P
henbit	E	E	G	F	F	P
honeysuckle	--	P	P	P	E	P
horsenettle	--	P	P	P	P	P
horseweed	--	P	P	P	F	P
Italian ryegrass	G	P	G-E	P	P	P
johnson grass	--	P	P	P	P	P
kudzu	--	P	P	P	P-F	P
little barley	E	P	G-E	P	P	P
mayweed	F-G	--	E	--	F	P
nettle, stinging	--	--	--	--	P	P
nutsedge	P	P	P	P	P	P
palmetto	P	P	P	P	P	P
perilla mint	--	--	--	--	P	--
persimmon	F	P	P	P	P	P
pigweed	G	G	G	F	F	G
pokeberry	--	--	--	P	E	G
prickly pear	P	P	P	P	P	P
ragweed	F	G	G	F	E	G
red sorrel	--	--	P-F	--	P	P
sandbur	--	F	G	P	P	P
shepherds-purse	E	E	G	G	E	G
sicklepod	--	F	F-G	--	G	F
smutgrass	G	P	P	P	P	P
swinecress	E	E	E	E	E	F
Texas panicum	--	P-F	G	P	P	P
thistles	E	G	G	P	E	F
tropical soda apple	G	P	P	P	P-F	P
vaseygrass	--	P	P	P	P	P
Virginia pepperweed	E	G	G	G	G	E
wax myrtle	P	P	P	P	G	P
wild cherry	E	P	P	P	E	P
wild garlic	--	P	E	P	G-E	P
wild radish	E	E	P	F-G	G	P
wild plum	E	P	P	P	E	P
wild rose	--	P	P	P	G	P
wooly croton	P	P	P	P	G	P

**Table 3.** Estimated effectiveness of recommended herbicides on common weeds in Florida Alfalfa (continued).

<b>Time of Application</b>	<b>POT</b>	<b>POT</b>	<b>POT</b>	<b>POT</b>	<b>POT</b>	<b>POT</b>
	<b>Velpar</b>	<b>Sencor or Lexone</b>	<b>Paraquat-Gramoxone Max</b>	<b>Buctril</b>	<b>2,4-D</b>	<b>2,4-DB</b>
<p>Estimated effectiveness based on rates recommended in this report. Effectiveness may vary depending on factors such as herbicide rate, size of weeds, time of application, soil type, and weather conditions.</p> <p>Weed Control Symbols: E = 90-100% control; G = 80-90% control; F = 60-80% control; P = less than 60% control.</p> <p>Time of Application Symbols: POT = Postemergence over the top.</p>						