# WEED CONTROL IN GRASS FORAGES

*Mike Marshall, Extension Weed Specialist*

## *Postemergence Herbicides for Weed Management in Newly Sprigged Bermudagrass*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Direx 4L (*diuron*) | 0.8-2.4 qt | 0.8-2.4 lb | 7 | 70 days | 12 hours |

Diuron 4L

**Comments:** Apply DIREX immediately after sprigging to control of annual broadleaves and grasses (up to 4" in height). Add a surfactant at 1 pt per 100 gallons of spray solution. Bermudagrass sprigs should be planted 2 inches deep to minimize chance of injury. Emerged bermudagrass at the time of treatment may be temporarily injured. DIREX is not labeled for use in established bermudagrass hayfields and pastures.

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| Graslan 3.81L | 1.0 pt | | | 30 days | 48 hours |
| (*2,4-D choline* | | 0.375 lb | 4 | | |
| + | | | | | |
| *picloram*) | | 0.10 lb | 4 | | |

**Comments:** GRASLAN is a RESTRICTED USE PESTICIDE. Apply GRASLAN at 1.0 pt/A to sprigged bermudagrass once runners (stolons) have reached 6 inches in length and growing conditions are favorable. *GRASLAN should not be used in areas of the state where cotton, tobacco, or other sensitive broadleaf crops are grown. Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

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| Outrider 75DF (*sulfosulfuron*) | 1.33 oz | 0.062 lb | 2 | 14 days | 12 hours |

**Comments:** Apply OUTRIDER at 1.33 oz/A to control johnsongrass, yellow and purple nutsedge, and other weeds in newly sprigged bermudagrass hayfields and pastures 4 weeks after emergence of sprigged areas. For best results, do not graze or mow pasture/hayfield 2 weeks before or 2 weeks after application. Addition of NIS at 1 qt/100 gal is required. A follow-up application of OUTRIDER can be made when sufficient weed regrowth is observed, but no sooner than 4 weeks after the previous application.

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| Surmount 2.15SL | 1.5-6.0 pt | | | 0 days | 12 hours |
| (*picloram* | | 0.22-0.9 lb | 4 | | |
| + | | | | | |
| *fluroxypyr*) | | 0.18-0.72 lb | 4 | | |

**Comments:** SURMOUNT is a RESTRICTED USE PESTICIDE. *Do not use SURMOUNT in areas of the state where cotton, tobacco, or other sensitive broadleaf crops are grown.* Apply at 1.5 pt/A to sprigged bermudagrass once runners (stolons) have reached 6 inches in length and growing conditions are favorable. Do not apply more than 3 qt/A per year. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

## *Herbicides for Weed Management in Newly Sprigged Bermudagrass (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| 2,4-D 3.8SL<br>*amine or low volatile ester* | 1.0-2.0 qt | 1.0-2.0 lb ae | 4 | 7 days | 48 hours |

**Comments:** Apply 2,4-D to emerged broadleaf weeds 3-4 inches tall. Apply 1 lb ae/A for susceptible annual and biennial broadleaves and 2 lb ae/A for difficult-to-control broadleaf biennials and perennials. Apply low volatile esters from October through March. Use only non-volatile AMINE formulations from late March through September. Do not apply more than 2.0 qt per acre per season. Do not make more than 2 applications per year. Minimum interval between sequential applications is 30 days. For best results, apply to thistles when they are in the rosette stage of growth (less than 3 inches). *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

## *Herbicides for Weed Management in Dormant Established Grass Forages*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| *Paraquat* 2S | 1.0-2.0 pt | 0.25-0.50 lb | 22 | 40 days | 12 hours |
| *Paraquat* 3S | 0.7-1.3 pt | 0.26-0.49 lb | | | |

**Comments:** PARAQUAT is a RESTRICTED USE PESTICIDE. Apply in a minimum of 10 gallons of water in late winter or early spring (February or March) before bermudagrass breaks dormancy and begins spring green-up. Add 1 pt NIS per 100 gal. of spray mix. Do not mow for hay until 40 days after treatment. Do not make more than 3 applications per year.

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| Glyphosate<br>*acid equivalent (ae)* | | | 9 | 21 days | 12 hours |
| 4.5 lb ae/gal | 8-11 oz | 0.28-0.38 lb ae | | | |

**Comments:** Apply in early- to late-winter months to early spring (prior to green-up) in bermudagrass pastures to control winter weeds. Apply before bermudagrass exhibits new growth in the spring. Some stunting will occur when applications are made when crop is not dormant. Only one application of GLYPHOSATE is permitted per year. If a spring application prior to growth initiation was made, then an application following the first cutting may not be made in the same year.

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| Prowl $H_2O$ 3.8CS<br>(*pendimethalin*) | 1.1-4.2 qt | 1.1-4.0 lb | 3 | 0 days | 24 hours |

**Comments:** Apply PROWL $H_2O$ in late-February to mid-March in early spring to dormant bermudagrass, bahiagrass, and switchgrass pastures. Apply before any new growth appears in the spring. Provides residual control of crabgrass, sandburs, and pigweed. PROWL H2O may be applied in two split applications with the first half at the onset of winter dormancy and the remainder in early spring before green-up. Do not apply more than 4.2 qt/A of PROWL H2O in any one cropping season.

## *Postemergence Herbicides for Weed Management in Grass Forages*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Aim 2 EC (*carfentrazone*) | 0.5-1.5 fl oz | 0.008-0.024 lb | 14 | 0 days | 12 hours |
| Aim 1.9 EW | | | | | |
| **Comments:** Apply AIM in a minimum of 25 gallons of finished spray solution with ground equipment to control broadleaf weeds up to 4 inches tall including bitter sneezeweed, cocklebur, hophornbeam copperleaf, woolly croton, and jimsonweed. AIM, at the higher rate, will provide suppression of buttercup, horsenettle, and dogfennel. Add a nonionic surfactant at 1 qt/100 gals plus ammonium sulfate at 2.5 lbs/A. May be tank mixed with other herbicides labeled for pasture use. Do not make sequential applications less than 7 days apart. Do not apply more than 5.9 fl oz/A per season. Do not make more than 3 applications per season. | | | | | |
| Banvel 4SL (*dicamba*) | 1.0-3.0 pt | 0.5-1.5 lb | 4 | 30 days | 24 hours |
| Clarity 4SL | | | | | |
| **Comments:** If thistles are present, apply while they are in the rosette stage of growth. This treatment may severely injure or kill clovers, alfalfa, and other legumes. *Do not spray when circumstances favor vapor and/or particle drift from application site to sensitive crops.* | | | | | |
| Chaparral 0.71DF (*aminopyralid* + *metsulfuron*) | 2.0-3.0 oz | 0.014-0.020 lb<br>0.002-0.003 lb | 4<br>2 | 14 days | 48 hours |
| **Comments:** Apply CHAPARRAL at 2.0 oz/A to control most broadleaf species common in bermudagrass pastures and hayfields. Add a NIS at 1 qt per 100 gallons of spray solution *or* COC at 1 gallon per 100 gal spray solution *plus* ammonium nitrogen fertilizer at 2 qt/A or spray grade ammonium sulfate at 2 lb/A. Do not plant a broadleaf crop until conducting a field bioassay. CHAPARRAL will kill legume crops such as clovers or alfalfa. Do not exceed 3.3 oz/A per year. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*<br><br>**Aminopyralid Hay/Manure Restrictions:** Do not use grasses treated with CHAPARRAL in the preceding 18 months for hay intended for export outside of United States. Hay from areas treated with CHAPARRAL in the preceding 18 months CAN NOT be distributed or made available for sale off farm or ranch where harvested. Hay from areas treated with CHAPARRAL in the preceding 18-months CAN NOT be used for silage, baylage, haylage, and green chop. Do not move hay made from grass treated with CHAPARRAL within the preceding 18-months off farm. Do not use hay or straw from areas treated with CHAPARRAL within the preceding 18-months or manure from animals feeding on hay treated with CHAPARRAL in compost. Do not use grasses treated with CHAPARRAL in the preceding 18 months for seed production. | | | | | |
| Cimarron Max 3SL | | | | 37 days | 48 hours |
| (*metsulfuron* + *dicamba* + *2,4-D*) | 0.25-1.0 oz<br>1.0-4.0 pt | 0.009-0.037 lb<br>0.25-0.5 lb<br>0.72-1.44 lb | 2<br>4<br>4 | | |
| **Comments:** CIMARRON MAX is a 2 part (Part A – metsulfuron; Part B – dicamba + 2,4-D) product used for annual and perennial broadleaf weed control in bermudagrass pastures. Desirable broadleaf forage plants, such as clover or alfalfa, may be severely injured or killed. Apply with NIS (1 qt/100 gal) or COC (1 gal/100 gal) plus nitrogen fertilizer at 2 qt/A (UAN) or 2 lb/A (AMS). *Do not make applications when circumstances favor movement from treatment site to sensitive areas.* | | | | | |

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Cimarron Plus 63DF | 0.125-1.25 oz | | | 0 days | 4 hours |
| (*metsulfuron* | | 0.004-0.038 lb | 2 | | |
| + | | + | | | |
| *chlorsulfuron*) | | 0.001-0.011 lb | 2 | | |
| Chisum 63DF | | | | | |
| **Comments:** Apply CIMARRON PLUS to established bermudagrass for the control of 'Pensacola' bahiagrass and certain broadleaf weeds. Add 1.0 pt to 1.0 qt nonionic surfactant per 100 gal. of spray mix. Not effective for the control of 'Common' or 'Argentine' bahiagrass. Desirable broadleaf forage plants, such as clover or alfalfa, may be severely injured or killed. | | | | | |
| Crossbow 3SL | 1.0-4.0 qt | | | 14 days | ** |
| (*2,4-D* | | 0.5-2.0 lb | 4 | | |
| + | | | | | |
| *triclopyr*) | | 0.25-1.0 lb | 4 | | |
| **Comments:** Apply CROSSBOW to control broadleaf weeds and woody plants. Desirable forage broadleaf plants such as clover or alfalfa may be killed if sprayed. For range and pasture sites, do not apply more than 1 gallon CROSSBOW per acre per season. Do not make more than 1 application per year in rangeland and pasture areas. *Do not make applications when circumstances favor movement from treatment site to sensitive areas. **Do not enter or allow others to enter treated area until sprays have dried completely.* | | | | | |
| Facet 1.5SL | 22-64 fl oz | | | 7 days (hay) | 12 hours |
| (*quinclorac*) | | 0.26-0.75 lb ae | 4,26 | 0 days (grazing) | |
| **Comments:** Apply FACET to established grass pastures for control of small actively growing large crabgrass, broadleaf signalgrass, barnyardgrass, annual morningglory, eclipta, and hemp sesbania. Activity on perennial grasses (i.e., vaseygrass and knotroot foxtail) in enhanced at rate above 32 fl oz/A. Add 2 pts of crop oil concentrate (COC) or 1 to 2 pts of methylated seed oil (MSO) per acre for enhanced herbicide activity on weeds. A nitrogen fertilizer source (ammonium sulfate or urea ammonium sulfate can also improve weed control. If the tank mix partner with FACET restricts the use of oil additives, a non-ionic (NIS) surfactant may be substituted at 1 qt per 100 gal of spray solution plus a nitrogen fertilizer source (AMS or UAN) at 8.5 lb per 100 gal of spray solution. The use of NIS may result in reduce weed control. Do not apply in areas where surface water is present or to irrigation ditches or areas that act as a channel for water entering a crop field. | | | | | |
| Freelexx 3.8SL | 2.0-4.0 pt | | | 7 days | |
| (*2,4-D choline*) | | 0.95-1.9 lb ae | 4 | | |
| **Comments:** Apply FREELEXX to established grass pastures for control of annual and perennial herbaceous broadleaf and woody brush/trees. For susceptible annual and biennial broadleaf weeds, do not apply more than 2 pints per acre of FREELEXX per acre per application. For more difficult to control biennials, perennials, and woody species, do not apply more than 4 pints per acre of FREELEXX per application. Do not use on newly seeded areas until grass is well established. Do not use from early boot to milk stage where grass seed productin is desired. For grazed areas, the maximum use rate if 4.21 pt of FREELEXX (2 lb ae) per acre per application. Do not apply more than two applications per season or more than 8.42 pt of FREELEXX (4 lb ae) per area per season. For spot treatments, mix 1.28 fl oz of FREELEXX per gallon of spray solution. The addition of a non-ionic surfactant is recommended for improved coverage when applying spot treatments. | | | | | |

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Garlon 3A (*triclopyr*) | 2.0-5.0 pt | 0.75-1.88 lb ae | 4 | 14 days | 48 hours |
| **Comments:** Apply GARLON 3A to established grass pastures for control of annual and perennial broadleaf weeds and woody brush/trees. Desirable forage broadleaf plants, such as clover or alfalfa, may be killed if sprayed. Applications at air temperatures >85°F may cause moderate to severe bermudagrass injury for two to three weeks. Do not apply more than 2.0 lb ae/A of GARLON 3A per growing season. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.* | | | | | |
| Graslan 3.81SL | 0.67-2.67 pt | | | 21 days | 48 hours |
| (*2,4-D choline* + *picloram*) | | 0.38-1.0 lb<br>0.07-0.27 lb | 4<br>4 | | |
| **Comments:** GRASLAN is a RESTRICTED USE PESTICIDE. Apply GRASLAN at 2.67 pt/A or less to control broadleaf weeds permanent grass pastures that will be over-seeded with grasses (annual ryegrass, wheat, rye, oats, or tall fescue). Use higher rate for larger weeds and heavier infestations. Site should be left undisturbed for 21 days after application. Apply GRASLAN at 5.0 pt/A for control of prickly pear cactus, horsenettle, and other woody plants. For permanent pastures that have been over-seeded with ryegrass or small grains, do not apply GRASLAN in excess of 1.0 pt/A and delay application until seedling grasses are well established and at the tiller stage or later. Not recommended for use in rotational systems that utilize broadleaf crops or in temporary summer or winter grazing grass systems unless temporary grass is seeded into a permanent pasture. Do not apply more than 5 qt/A per year. Do not make more than 2 applications per year. Do not apply within 30 days of the previous application. Do not use manure from animals that have grazed treated areas for growing broadleaf crops, ornamentals, orchards, or other susceptible crops. Do not use hay or other plant materials from treated areas or manure from animals being fed treated forage or hay for composting or mulching desirable, susceptible broadleaf crops. *GRASLAN should not be used in areas of the state where cotton, tobacco, or other sensitive broadleaf crops are grown. Do not make applications when circumstances favor movement from treatment site to sensitive areas.* | | | | | |
| Glyphosate* *acid equivalent (ae)* | | | | 21 days | 4 hours |
| 4.5 lb ae/gal. | 10 oz | 0.35 lb ae | 9 | | |
| **Comments:** Apply GLYPHOSATE after the first bermudagrass cutting when bermudagrass has not yet initiated regrowth. Controls crabgrass, field sandbur, seedling johnsongrass and most annual grasses. Applications made after regrowth has begun will injure bermudagrass. Only one application of GLYPHOSATE is permitted per year. If a spring application prior to growth initiation and application following the first cutting may not be made in the same year. | | | | | |

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
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| | Formulation | Active Ingredient | | | |
| GrazonNext HL 3.74SL | 1.2-2.1 pt | | | 7 days | 48 hours |
| (*aminopyralid* | | 0.06-0.11 lb | 4 | | |
| + | | | | | |
| *2,4-D*) | | 0.50-0.87 lb | 4 | | |

**Comments:** Controls annual and perennial broadleaf weeds as listed for MILESTONE. Add a nonionic surfactant at 0.25% v/v. Do not plant a broadleaf crop until conducting a field bioassay. GRAZONNEXT HL will kill legume crops such as clovers or alfalfa. Do not apply more than 2.1 pt/A per season. Do not make more than 2 applications per year. Do not apply within 30 days of previous application. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

**Aminopyralid Hay/Manure Restrictions:** Do not use grasses treated with GRAZONNEXT HL in the preceding 18-months for hay intended for export outside the United States. Hay from areas treated with GRAZONNEXT HL in the preceding 18 months cannot be distributed or made available for sale off the farm or ranch where harvested. Do not move hay made from grass treated with GRAZONNEXT HL within the preceding 18 months off farm. Do not use hay or straw from areas treated with GRAZONNEXT HL or manue from animals feeding on hay treated with GRAZONNEXT HL in compost. Do not use the grasses treated with GRAZONNEXT HL in the preceding 18 months for seed production.

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| Impose 2SL | 4-12 oz | | | 0 days | 12 hours |
| (*imazapic*) | | 0.063-0.188 lb | 2 | | |

**Comments:** Apply 4-6 oz/A for summer annual broadleaf and grass weeds and 6-12 oz/A for perennial grass weeds. Bermudagrass growth may be suppressed for 30-45 days after application. Do not apply to drought stressed bermudagrass. Add a NIS (1 qt/100 gal) or MSO at 1.5-2.0 pt/A to the spray mix. Do not apply during transition from dormancy to full green-up. Do not use on newly sprigged or seeded bermudagrass. Apply IMPOSE or PANORAMIC in 10-20 gal/A nitrogen fertilizer (28-32% N) as a spray carrier will shorten the recovery time.

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| Metsulfuron 60DF | 0.1-0.4 oz | | | 0 days | 4 hours |
| (*metsufluron*) | | 0.004-0.015 lb | 2 | | |
| Accurate 60DF | | | | | |

**Comments:** Apply 0.1-0.4 oz/A for control of summer annual and perennial broadleaf weeds. Add a nonionic surfactant at 1 qt per 100 gal of spray solution. METSULFURON may be tank mixed with 2,4-D (ester formulations preferred), BANVEL, GRAZON P+D, REMEDY, TORDON 22K, or WEEDMASTER.

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| Milestone 2S | 3.0-7.0 oz | | | 14 days | 48 hours |
| (*aminopyralid*) | | 0.047-0.109 lb | 4 | | |

**Comments:** Controls annual and perennial broadleaf weeds, including invasive and noxious weeds. Add a nonionic surfactant at 1 qt/100 gal. Do not plant a broadleaf crop until conducting a field bioassay. Do not apply more than 7 fl oz/acre of MILESTONE per year. MILESTONE will kill legume crops such as clovers or alfalfa. Do not use MILESTONE on grasses grown for seed production. Hay from grass treated with MILESTONE within the preceding 18 months can only be used on the farm or ranch where the product is applied*. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

**Aminopyralid Hay/Manure Restrictions:** Do not use grasses treated with AMINOPYRALID in the preceding 18 months for hay intended for export outside the United States. Hay from areas treated with AMINOPYRALID in the preceding 18 months can not be distributed or made available for sale off the farm or ranch where harvested. Hay from areas treated with AMINOPYRALID can not be used for silage, baylage, or green chop. Do not move hay from grass treated with AMINOPYRALID within the preceding 18 months. Do not use hay or straw from areas treated with AMINOPYRALID within the preceding 18 months or manure from animals feeding on hay treated with AMINOPYRALID in compost. Do not use grasses treated with AMINOPYRALID in the preceding 18 months for seed production.

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Outrider 75DF (*sulfosulfuron*) | 1.33-2.0 oz | 0.047-0.094 lb | 2 | 14 days | 12 hours |
| **Comments:** Apply OUTRIDER at 1.33 oz/A from early spring through fall to control johnsongrass (minimum of 18-24 inches tall), yellow and purple nutsedge, and other weeds in bahiagrass and bermudagrass hayfields and pastures. A follow-up application can be made 40 days after last application. For control of large weeds or when weed growth is heavy or dense, a single application of 2.0 oz/A is permitted. For best results, do not graze or mow pasture/hayfield 2 weeks before or 2 weeks after application. Addition of non-ionic surfactant at 1 qt/100 gal is required. No crop, except wheat, may be planted into a treated pasture within 12 months of application. | | | | | |
| Pastora 71.2DF | 1.0-1.5 oz | | | 0 days | 4 hours |
| (*nicosulfuron* | | 0.035-0.053 lb | 2 | | |
| + | | + | | | |
| *metsulfuron*) | | 0.009-0.014 lb | 2 | | |
| **Comments:** Apply PASTORA to *bermudagrass hayfields and pastures* anytime during the growing season for control of sandburs, crabgrass, blackberry, vaseygrass, and Pensacola bahiagrass. Allow at least 16 days between applications of PASTORA. For control of vaseygrass, apply PASTORA at 1.0-1.5 oz/A 7 to 14 days after cutting bermudagrass for hay when vaseygrass has regrown 2-4 inches above the bermudagrass. A repeat application may be necessary for adequate level of control. Do not apply more than 2.5 oz/A of PASTORA per year. Add non-ionic surfactant at 1 qt/100 gal of spray solution plus nitrogen fertilizer at 2 qt/A or a spray grade AMS at 4 lb/A. There is no grazing or haying restrictions after using PASTORA. | | | | | |
| Pastora 71.2DF | 1.0-1.5 oz | | | 0 days | 4 hours |
| (*nicosulfuron* | | 0.035-0.053 lb | 2 | | |
| + | | + | | | |
| *metsulfuron*) | | 0.009-0.014 lb | 2 | | |
| + | | | | | |
| Glyphosate* *acid equivalent (ae)* | 4.0-6.0 fl oz | 0.14-0.21 lb ae | 9 | | |
| 4.5 lb ae/gal. | | | | | |
| **Comments:** For improved control of crabgrass, sandburs, foxtails, rescuegrass, little barley, and ryegrass, tank mix PASTORA with GLYPHOSATE and apply to *bermudagrass hayfields and pastures*. A repeat application may be necessary for adequate level of control. Allow at least 14 days between applications of PASTORA plus GLYPHOSATE. Do not apply more than 2.5 oz/A of PASTORA per year. Add non-ionic surfactant at 1 qt/100 gal of spray solution. Applications of PASTORA plus GLYPHOSATE may result in temporary stunting or yellowing of bermudagrass. | | | | | |
| PastureGard HL 4SL | 1.5-8.0 pt | | | 14 days | 12 hours |
| (*triclopyr* | | 0.3-1.5 lb | 4 | | |
| + | | | | | |
| *fluroxypyr*) | | 0.1-0.5 lb | 4 | | |
| **Comments:** Controls a wide range of herbaceous and woody broadleaf plants. Use 1.5 to 3.0 pts./acre for herbaceous broadleaf weeds. Use 2.0 to 8.0 pts./acre for woody brush and trees. Do not graze lactating dairy animals on treated areas during the same growing season following application. Withdraw meat animals from treated forage at least 3 days before slaughter. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.* | | | | | |

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Prowl H2O 3.8CS (*pendimethalin*) | 1.1-4.2 qt | 1.0-4.0 lb | 3 | 0 days | 24 hours |

**Cool-Season Forage Grasses Comments:** Apply PROWL $H_2O$ before target weed germination during the fall after the last cutting, in winter, in spring, or in-season between cuttings. PROWL H2O will not control emerged weeds. Do not apply PROWL H2O to mixed stands of cool-season forage grasses with other forage legumes besides alfalfa. Provides residual control of crabgrass, sandburs, and pigweed. Do not apply more than 4.2 qt/A of PROWL H2O in any one cropping season. Do not apply Prowl H2O to areas where standing water is present in the field. There is no prehavest interval following a PROWL H2O application and livestock grazing or forage harvest.

**Warm-Season Forage Grasses Comments:** Apply PROWL $H_2O$ before target weed germination during the fall after the last cutting, during dormancy period or in early spring before greenup, or in-season between cuttings. PROWL H2O will not control emerged weeds. Do not apply PROWL H2O to bermudagrass and bahiagrass after greenup in the spring before the first cutting. Provides residual control of crabgrass, sandburs, and pigweed. For residual control of sandburs through the growing season, consider applying PROWL H2O in a split application with the first half (1-2 qt) at the end of the dormant season and the remainder (1-2 qt) in mid-summer following a cutting. Do not apply more than 4.2 qt/A of PROWL H2O in any one cropping season. Do not apply Prowl H2O to areas where standing water is present in the field. There is no prehavest interval following a PROWL H2O application and livestock grazing or forage harvest.

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| Redeem R&P 3S | 1.5-4.0 pt | | | 14 days | 48 hours |
| (*triclopyr* | | 0.38-1.12 lb | 4 | | |
| + | | | | | |
| *clopyralid*) | | 0.14-0.38 lb | 4 | | |

**Comments:** Apply for control of broadleaf weeds. Use 2.5 to 4.0 pts./acre to control dogfennel, spiny amaranth, and horsenettle. Desirable forage broadleaf plants such as clover or alfalfa may be killed if sprayed. Do not apply to newly-seeded or sprigged grasses until they are well established. Do not transfer livestock from treated grazing areas onto broadleaf crop areas without first allowing 7 days of grazing of untreated grass pasture. Do not use grass from treated areas or manure from animals being fed treated forage for composting or mulching of desirable, susceptible broadleaf plants. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

| | | | | | |
|---|---|---|---|---|---|
| Remedy Ultra 4S | 1.0-2.0 pt | | | 14 days | ** |
| (*triclopyr*) | | 0.5-1.0 lb | 4 | | |

**Comments:** Apply to established grass pastures for control of broadleaf weeds and woody brush. REMEDY ULTRA may be tank-mixed with 2,4-D for broader spectrum weed control and control of sensitive herbaceous species. Desirable forage broadleaf plants such as clover or alfalfa may be killed if sprayed. Applications at air temperatures >85°F may cause moderate to severe bermudagrass injury for two to three weeks. Do not apply more than 0.5 gal/A of REMEDY ULTRA per growing season. *Do not make applications when circumstances favor movement from treatment site to sensitive areas. **Do not enter or allow others to enter treated area until sprays have dried completely.*

| | | | | | |
|---|---|---|---|---|---|
| Sandea 75DF (*halosulfuron-methyl*) | 0.67-1.33 oz | 0.031-0.62 lb | 2 | 37 days | 12 hours |

**Comments:** Apply SANDEA to actively growing broadleaf weeds 1-3 inches tall. For perennial nutsedge (yellow and purple), apply SANDEA at the 3 to 5 leaf growth stage. Temporary crop stature reduction may occur after application of SANDEA if millet is under stress. Apply SANDEA in a minimum of 10 gal of water per acre. Add a non-ionic surfactant (NIS) at 1-2 qt per 100 gal of spray solution. Avoid applications when weeds are under drought or heat stress. Do not make more than 2 applications or 1.33 oz/A of SANDEA in a 12-month period. Do not harvest green or dry forage within 37-days application. Animals are permitted to graze fields immediately following applications of SANDEA. **Rainfast interval 4 hours.**

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Stinger 3S (*clopyralid*) | 0.5-1.33 pt | 0.19-0.50 lb | 4 | 0 days | 12 hours |
| **Comments:** STINGER controls numerous annual, biennial, and perennial broadleaves. Consult label for specific weed spectrum. Legumes including alfalfa and clovers will be severely injured or killed by STINGER. Do not apply to newly seeded pasture grasses until they are well established as evidenced by tillering and establishment of secondary root system. Do not use hay or straw cut from treated areas for composting or mulching on broadleaf crops. Do not apply more than 1.33 pt/A per growing season. *Do not make applications when circumstances favor movement from treatment site.* | | | | | |
| Surmount 2.15SL (*picloram* + *fluroxypyr*) | 1.5-6.0 pt | 0.22-0.9 lb<br>0.18-0.72 lb | 4<br>4 | ** | 12 hours |
| **Comments:** SURMOUNT is a RESTRICTED USE PESTICIDE. *Do not use SURMOUNT in areas of the state where cotton, tobacco, or other sensitive broadleaf crops are grown.* Controls a wide range of herbaceous and woody broadleaf plants. Use 1.5 to 2.0 pt/A for herbaceous broadleaf weeds. Use 3.0 to 6.0 pt/A for woody brush and trees. Do not apply more than 3 qt/A per season of SURMOUNT. Do not transfer livestock from treated grazing areas onto broadleaf crop areas without first allowing 7 days of grazing of untreated grass pasture. Do not move treated soil or use treated soil for growing other plants until soil residues of picloram are no longer detectable by chemical assay. Do not use grass from treated areas or manure from animals being fed treated forage for composting or mulching of desirable, susceptible broadleaf plants. *Do not make applications when circumstances favor movement from treatment site. **14 days for lactating dairy animals; 0 days for all other animal types.* | | | | | |
| Telar XP 75DF (*chlorsulfuron*) | 0.25-1.0 oz | 0.012-0.047 lb | 2 | 0 days | 4 hours |
| **Comments:** TELAR XP is effective on dewberry, blackberry, pigweeds, and radish. Do not apply more than 0.5 oz/A on Tall Fescue, Bluestems, or Switchgrass. Fescues may exhibit temporary stunting or yellowing after TELAR application. Do not apply TELAR over ryegrass (annual or Italian). Do not apply more than 1.3 oz/acre/year of TELAR XP. No grazing or haying restrictions following TELAR XP application. | | | | | |
| Velpar 2SL (*hexazinone*) | 2.75-4.5 pt | 0.68-1.13 lb | 5 | 60 days | 48 hours |
| Velpar 75DF | 0.9-1.5 lb | | | | |
| **Comments:** Controls smutgrass in established bermudagrass and bahiagrass pastures and hayfields. Use low rate on coarse sandy soils, and high rate on fine-textured soils. VELPAR will moderately to severely injure bermudagrass and may eliminate the first cutting of hay. Bahiagrass and bermudagrass will recover from temporary burn and yellowing within two to four weeks of application. Use only on bermudagrass and bahiagrass that have been established one year or more. Do not apply VELPAR near oak trees. | | | | | |
| Weedmaster 3.87SL (*2,4-D* + *dicamba*) | 1.0-4.0 pt | 0.72-1.44 lb<br>0.25-0.5 lb | 4<br>4 | 37 days | 48 hours |
| **Comments:** For control of a broad spectrum of weeds, apply in late spring or early summer to annual or perennial broadleaf weeds before flowering. If thistles are present, apply while they are in the rosette stage of growth. For horsenettle, use 4.0 pt/A rate. WEEDMASTER may severely injure or kill clovers or alfalfa. *Do not make applications when circumstances favor movement from treatment site.* | | | | | |

## *Postemergence Herbicides for Weed Management in Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Yukon 67.5WDG (*halosulfuron-methyl* + *dicamba*) | 4.0-8.0 oz | 0.031-0.077 lb + 0.14-0.28 lb | 2 4 | 37 days | 24 hours |

**Comments:** Apply YUKON to actively growing broadleaf weeds 1-3 inches tall. For perennial nutsedge (yellow and purple), apply YUKON at the 3 to 5 leaf growth stage. Use higher rate for larger weeds and/or higher field infestations. Apply YUKON in a minimum of 10 gal of water per acre. Add a non-ionic surfactant (NIS) at 1-2 qt per 100 gal of spray solution. Crop oil concentrate at 1 gal per 100 gal of spray solution may be substitutied for NIS. Nitrogen fertilizer (AMS or UAN) at 2-4 lb per acre may improve YUKON efficacy on difficult to control weeds. Do not apply YUKON using nitrogen fertilizer as the total carrier or severe crop injury may occur. To maximize control of perennial nutsedge (purple and yellow), two applications may be required to areas in the treated field where nutsedge has emerged or regrown since the last application. Avoid applications when weeds are under drought or heat stress. Do not make more than 2 applications per 12-month period. Do not harvest green or dry forage within 37 days of application. Dairy animals are permitted to graze fields immediately following applications of YUKON. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

| | | | | | |
|---|---|---|---|---|---|
| 2,4-D 3.8EC *amine or low volatile ester* | 2.0-4.0 pt | 1.0-2.0 lb ae | 4 | 7 days | 48 hours |

Weedar 64 3.8S

**Comments:** Apply 2,4-D to emerged broadleaf weeds 3-4 inches tall. Apply 1 lb ae/A for susceptible annual and biennial broadleaves and 2 lb ae/A for difficult-to-control broadleaf biennials and perennials. Apply low volatile esters from October through March. Use only non-volatile AMINE or ACID formulations from late March through September. Do not apply more than 2.0 qt per acre per season. Do not make more than 2 applications per year. Minimum interval between sequential applications is 30 days. If thistles are present, apply while they are in the rosette stage of growth. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

## *Spot Treatments for Weed Management in Grass Forages*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Arsenal 2SL (*imazapyr*) | 2.0-48.0 fl oz | 0.03-0.75 lb | 2 | 7 days | 48 hours |

**Comments:** Apply ARSENAL for control of undesirable broadleaves and grasses in permanent grass pastures using approved ground application methods (see label). Spot applications to grass pastures using ARSENAL cannot exceed 10% of the area to be grazed or cut for hay. Do not apply more than 48 fl oz of ARSENAL per acre per year.

| | | | | | |
|---|---|---|---|---|---|
| Spike 20P (*tebuthiuron*) | 10-20 lb (3/8-3/4 oz per 100 $ft^2$) | 2-4 lb | 7 | 1 year (hay) | -- |

**Comments:** Apply SPIKE for control of woody vegetation such as trees, shrubs, and vines in permanent grass pastures. Recommended time for a SPIKE application is during the dormant season prior to woody vegetation growth which minimizes the injury on desirable forage grasses. Spot applications to grass pastures using SPIKE cannot exceed 10% of the area to be grazed or cut for hay.

## *Postemergence Herbicides for Weed Management in Temporary Grass Forages*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Atrazine 4L (*atrazine*) | 1.0-2.0 qt | 1.0-2.0 lb | 5 | 45 days | 12 hours |
| **Comments:** *Labeled for forage sorghum/sudangrass hybrids*. Apply ATRAZINE before weeds exceed 1.5 inches in height and before forage sorghum is taller than 12 inches. Add COC at 1 gallon per acre to the spray mixture. Do not apply this mixture to forage sorghum grown on sands or loamy sands or injury may occur. | | | | | |
| Banvel 4S (*dicamba*) | 1.0 pt | 0.5 lb | 4 | 30 days | 24 hours |
| Clarity 4L | | | | | |
| **Comments:** *Labeled for forage sorghum.* Treat broadleaves when small and actively growing (less than 4 inches in height). Do not apply more than 1.0 pt/A of BANVEL to reduce risk of crop injury. *Do not make applications when circumstances favor movement from treatment site.* | | | | | |
| Basagran 4S (*bentazon*) | 1.0-2.0 pt | 1.0-2.0 lb | 6 | 12 days | 48 hours |
| **Comments:** *Labeled for forage sorghum.* Treat broadleaves when small and actively growing. Adjust rate according to weed size indicated on the product label. Do not apply more than 2 pt/A per season in forage sorghum. Do not apply to forage sorghum that is heading or blooming. Tank mix partners include ATRAZINE, CLARITY, or MARKSMAN. | | | | | |
| Huskie 2.06EC (*pyrasulfotole* + *bromoxynil*) | 13-16 fl oz | 0.031-0.039 lb + 0.18-0.22 lb | 27 + 6 | 7 days | 24 hours |
| **Comments: HUSKIE is a RESTRICTED USE PESTICIDE**. *Labeled for forage sorghum*. Apply to forage sorghum from 3-leaf growth stage up to 12 inches in height. Treat broadleaves when small and actively growing. Do not apply more than 16 fl oz/A per application. Do not apply more than 2 applications of HUSKIE with a season maximum of 32 fl oz/A. Wait a minimum of 11 days between HUSKIE applications. Do not use air induction or flood jet nozzles to apply HUSKIE. Unacceptable crop response may occur if HUSKIE is applied to acreage previously treated with any product containing mesotrione (i.e., LUMAX, LEXAR, CALLISTO). Do not apply HUSKIE in a tank mixture with LORSBAN. | | | | | |
| Sandea 75DF (*halosulfuron-methyl*) | 0.5-0.67 oz | 0.023-0.031 lb | 2 | 37 days | 12 hours |
| **Comments:** *Labeled for proso millet*. Apply SANDEA from the 2-leaf to layby stage (before grain head emergence) of proso millet to actively growing broadleaf weeds 1-3 inches tall. For perennial nutsedge (yellow and purple), apply SANDEA at the 3 to 5 leaf growth stage. Temporary crop stature reduction may occur after application of SANDEA if millet is under stress. Apply SANDEA in a minimum of 10 gal of water per acre. Add a non-ionic surfactant (NIS) at 1-2 qt per 100 gal of spray solution. Avoid applications when weeds are under drought or heat stress. Do not make more than 1 application of 0.67 oz/A in a 12-month period. Do not harvest green or dry forage within 37 days of application. Animals are permitted to graze fields immediately following applications of SANDEA. **Rainfast interval 4 hours.** | | | | | |
| Starane Ultra (*fluoxypyr*) | 0.3-0.4 pt | 0.105-0.14 lb | 4 | 7 days | 24 hours |
| **Comments:** *Labeled for forage sorghum/sudangrass hybrids.* Treat broadleaves when small and actively growing. Adjust rate according to weed size indicated on the product label. Wait a minimum of 14 days between applications (2 permitted per season). Do not apply more than 0.7 pt/A per season in forage sorghum. | | | | | |

## *Postemergence Herbicides for Weed Management in Temporary Grass Forages (cont)*

| Herbicide | Rate/Acre Broadcast | | Mode of Action | Preharvest Interval | Restricted Entry Interval |
|---|---|---|---|---|---|
| | Formulation | Active Ingredient | | | |
| Yukon 67.5WSG | 3.0-4.0 oz | | | 37 days | 24 hours |
| (*halosulfuron-methyl* | | 0.029-0.031 lb | 2 | | |
| + | | + | | | |
| *dicamba*) | | 0.10-0.14 lb | 4 | | |

**Comments:** *Labeled for proso millet.* Apply YUKON from the 3- to 5-leaf growth stage of proso millet to actively growing broadleaf weeds 1-3 inches tall. For perennial nutsedge (yellow and purple), apply YUKON at the 3 to 5 leaf growth stage. Temporary crop stature reduction may occur after application of YUKON if millet is under stress. Apply YUKON in a minimum of 10 gal of water per acre. Add a non-ionic surfactant (NIS) at 1-2 qt per 100 gal of spray solution. Crop oil concentrate at 1 gal per 100 gal of spray solution may be substitutied for NIS. Nitrogen fertilizer (AMS or UAN) at 2-4 lb per acre may improve YUKON efficacy on difficult to control weeds. Do not apply YUKON using nitrogen fertilizer as the total carrier or severe crop injury may occur. Avoid applications when weeds are under drought or heat stress. Do not make more than 1 application per 12-month period. Do not harvest green or dry forage within 37 days of application. Animals are permitted to graze fields immediately following applications of YUKON. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

| | | | | | |
|---|---|---|---|---|---|
| Weedmaster 3.87SL | 1.0 pt | | | 37 days | 48 hours |
| (*2,4-D* | | 0.72 lb | 4 | | |
| + | | | | | |
| *dicamba*) | | 0.25 lb | 4 | | |

**Comments:** *Labeled for forage sorghum.* Apply WEEDMASTER to forage sorghum in the 3 to 5 leaf stage of growth (4 to 8 inches tall). For best results, apply when weeds are less than 3 inches tall. Applications during period of rapid growth may result in temporary leaning of plants or rolling of leaves. These effects are usually outgrown in 10 to 14 days. Do not use oils or other surfactants with postemergence applications of WEEDMASTER. Do not make more than 1 postemergence application per crop cycle. Tank mix partners include ATRAZINE, BASAGRAN, and BUCTRIL. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

| | | | | | |
|---|---|---|---|---|---|
| 2,4-D 3.8EC<br>*amine or low volatile ester* | 0.5-2.0 pt | 0.5-1.0 lb ae | 4 | ** | 48 hours |

**Comments:** *Labeled for millet and forage sorghum.* Apply 2,4-D to emerged broadleaf weeds 3-4 inches tall. Apply low volatile esters from October through March. Use only non-volatile AMINE formulations from late March through September. *Do not make applications when circumstances favor movement from treatment site to sensitive areas.*

**Forage sorghum:** Apply 0.5 to 0.75 lb ae/A postemergence when crop is 6 to 15 inches tall. If forage sorghum is more than 8 inches tall (top of canopy), use drop nozzles to keep spray off foliage. Do not use with oil or other adjuvants. Do not treat during boot, flowering, or dough stage. Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application. Do not make more than 1 application per crop cycle. ***Preharvest interval for forage sorghum is 30 days*

**Millet:** Apply 0.5 to 1.0 lb ae/A after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall). Do not apply before tillering or from early boot through milk stage of growth. Do not make more than 1 application per crop cycle. Do not apply more than 1.0 lb ae/A (2 pt/A) per application. For preharvest applications, do not apply more than 0.5 lb ae/A (1 pt/A). ***Preharvest interval for millet is 14 days.*

## *Interval After Herbicide Application Before Grazing, Haying, or Removal for Slaughter*

| Herbicide | Time Interval (days)[1] | | | | |
|---|---|---|---|---|---|
| | Grazing | | | Removal before Slaughter[3] | Hay Cutting |
| | Lactating Dairy | Beef | Other Animals[2] | | |
| Aim | 0 | 0 | 0 | 0 | 0 |
| Arsenal | 0 | 0 | 0 | --- | 7 |
| Banvel/Clarity | | | | | |
| up to 1 pt/A | 7 | 0 | 0 | 30 | 37 |
| up to 2 pt/A | 21 | 0 | 0 | 30 | 51 |
| up to 4 pt/A | 40 | 0 | 0 | 30 | 70 |
| Chaparral | 0 | 0 | 0 | 3 | 14 |
| Cimarron Max | 7 | 0 | 0 | 30 | 37 |
| Cimarron Plus/Chisum | 0 | 0 | 0 | 0 | 0 |
| Crossbow | Next Growing Season | 0 | 0 | 3 | 14 |
| Direx | 70 | 70 | 70 | --- | 70 |
| Diuron | 70 | 70 | 70 | --- | 70 |
| Facet | 0 | 0 | 0 | --- | 7 |
| Freelexx | --- | --- | --- | --- | 7 |
| Garlon 3A | Next Growing Season | 0 | 0 | 3 | 143 |
| GrazonNext HL | 0 | 0 | 0 | 3 | 14 |
| Gramoxone SL | --- | --- | --- | --- | 40 |
| Glyphosate | --- | --- | --- | --- | 0 |
| Graslan | 7 | 0 | 0 | 3 | 30 |
| Huskie | 7 | 7 | 7 | --- | 7 |
| Impose | --- | --- | --- | --- | --- |
| Metsulfuron/Accurate | 0 | 0 | 0 | 0 | 0 |
| Milestone[4] | 0 | 0 | 0 | 3 | 14 |
| Outrider | 0 | 0 | 0 | --- | 14 |
| Panoramic | --- | --- | --- | --- | --- |
| Pastora | 0 | 0 | 0 | 0 | 0 |
| PastureGard HL | Next Growing Season | 0 | 0 | 3 | 14 |
| Prowl H2O | 0 | 0 | 0 | 0 | 0 |
| Redeem R&P[5] | Next Growing Season | 0 | 0 | 3 | 14[6] |
| Remedy Ultra | Next Growing Season | 0 | 0 | 3 | 14 |
| Sandea | 0 | 0 | 0 | 0 | 37 |
| Spike | 0 | 0 | 0 | --- | 365 |
| Stinger[5] | 0 | 0 | 0 | --- | 0 |
| Starane Ultra | 0 | 0 | 0 | 2 | 7 |
| Surmount[7] | 14 | 0 | 0 | 3 | 0[8] |
| Velpar | 60 | 60 | 60 | --- | 60 |
| Weedmaster | 7 | 0 | 0 | 30 | 37 |
| Yukon | 0 | 0 | 0 | 0 | 37 |
| 2,4-D (various) | 7 | 0 | 0 | 3 | 7 |

[1]--- no information provided by the label.
[2]Other animals include goats, horses, and sheep.
[3]For the removal period indicated animals for slaughter should be withdrawn from treated areas or consumption of hay harvested from treated areas.
[4]Do not use or transfer treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be spread to areas where broadleaf crops may be grown. Manure from animals that have grazed forage or eaten hay harvested from treated areas within the past 3 days may only be used pasture grasses, grass grown for seed, and wheat.
[5]Do not transfer livestock from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 7 days of grazing in an untreated area (or feeding of untreated hay), manure and urine may contain enough clopyralid to cause injury to sensitive broadleaf crops
[6]Do not harvest hay from the treated area until the next growing season for consumption by lactating dairy cattle.
[7]Do not transfer livestock from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 7 days of grazing in an untreated area (or feeding of untreated hay), manure and urine may contain enough picloram to cause injury to sensitive broadleaf crops
[8]Do not harvest hay from treated area for consumption by lactating dairy animals within 14 days after application.

## *Plant-back Restrictions Following Herbicide Application in Forage Grasses*

| Herbicide | Time Interval (months) | | | | |
|---|---|---|---|---|---|
| | Clovers[1] | Wheat | Oats | Tall Fescue | Annual Ryegrass |
| Aim | 0 | 0 | 0 | 0 | 0 |
| Arsenal | 12 + Soil Assay[10] | 12 + Soil Assay[10] | 12 + Soil Assay[10] | 12 + Soil Assay[10] | 12 + Soil Assay[10] |
| Banvel/Clarity | 12 | 4 | 4 | 4 | 4 |
| Chaparral | Soil Assay[9] | 0 | 12 | 0 | 4 |
| Cimarron Max | 4 | 1 | 10 | 4 | 4 |
| Cimarron Plus/Chisum | 4 | 1 | 10 | 4 | 4 |
| Crossbow | Soil Assay[7] | 3 weeks | 3 weeks | 3 weeks | 3 weeks |
| Facet | 10 | 0 | 10 | 10 | 10 |
| Freelexx | None indicated on label | | | | |
| Garlon 3A | Soil Assay[7] | 3 weeks | 3 weeks | 3 weeks | 3 weeks |
| Glyphosate | None indicated on label | | | | |
| GrazonNext HL | Soil Assay[2] | 4 | 4 | 4 | 4 |
| Graslan | Soil Assay[5] | 2[4] | 2[4] | Soil Assay[5] | Soil Assay[5] |
| Huskie | Soil Assay[9] | 1 | 1 | 1 | 1 |
| Impose | | | | | |
| <4 oz/A | 26 | 12 | 18 | 26 | 26 |
| 5-8 oz/A | 30 | 12 | 22 | 30 | 30 |
| 9-12 oz/A | 36 | 12 | 24 | 36 | 36 |
| Metsulfuron/Accurate | Soil Assay[9] | 1 | 10 | 18 | 6 |
| Milestone[4] | Soil Assay[2] | Fall[3] | Fall[3] | Fall[3] | Fall[3] |
| Outrider | 12 | 0 | 12 | 12 | 12 |
| Panoramic | | | | | |
| <4 oz/A | 26 | 12 | 18 | 26 | 26 |
| 5-8 oz/A | 30 | 12 | 22 | 30 | 30 |
| 9-12 oz/A | 36 | 12 | 24 | 36 | 36 |
| Pastora | 12 | 4 | 10 | 4 | 4 |
| PastureGard HL | 1 | 4 | 4 | 3 weeks | 3 weeks |
| Prowl H2O | 12 | 4 | 12 | 10 | 10 |
| Redeem R&P | Soil Assay[6] | 0 | 0 | Soil Assay[6] | Soil Assay[6] |
| Remedy Ultra | Soil Assay[7] | 3 weeks | 3 weeks | 3 weeks | 3 weeks |
| Sandea | 9 | 2 | 2 | 2 | 2 |
| Spike | 24 | 24 | 24 | 24 | 12 |
| Stinger | Soil Assay[6] | 0 | 0 | 0 | 0 |
| Surmount | 12[8] | 0 | 0 | 0 | 0 |
| Velpar | None indicated on label | | | | |
| Weedmaster | 4 | 4 | 4 | 4 | 4 |
| Yukon | 9 | 2 | 2 | 2 | 2 |
| 2,4-D (various) | 12 | 4 | 4 | 4 | 4 |

[1]Clover species include red, white, and sweet.
[2]Do not plant forage legumes until a soil assay has been conducted to determine if aminopyralid residues remaining in the soil will adversely affect establishment.
[3]If GRAZONNEXT HL or MILESTONE is applied in the spring or early summer, grasses may be planted the following fall when conditions are favorable for grass establishment.
[4]Wait 60 days or 2 months with temperatures above 40 F during that period.
[5]Do not plant any crop except small grains until a soil assay has been conducted to determine if picloram residues remaining in the soil will adversely affect rotational crop establishment.
[6]Do not plant a rotational crop until a soil assay has been conducted and shows that no clopyralid residues remain in the soil.
[7]Do not plant forage legumes until a soil assay has been conducted to determine if triclopyr residues remaining in the soil will adversely affect legume establishment.
[8]After 12 months, a soil assay should be conducted before seeding forage legumes to verify no picloram residues remain in the soil.
[9]Do not plant forage legumes until a soil assay has been conducted to determine if herbicide residues remaining in the soil will adversely affect legume establishment.
[10]Following 12 months after ARSENAL application and before planting any crop, a successful field bioassay must be completed. See label for more information.

## *Weed Response[1] to Herbicides for Weed Management in Grass Forages*

| | | PRE | POST | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lifecycle[2] | Prowl H2O | Banvel/Clarity | Chaparral | Cimarron MAX | Cimarron Plus | Crossbow | Facet | Glyphosate | Gramoxone SL | GrazonNext HL | Grasalan | Impose | Metsulfuron | Milestone |
| alligatorweed | P | P | P | --- | --- | --- | E | G | G | P | --- | --- | --- | --- | --- |
| amaranth, spiny | A | FG | GE | E | E | E | E | P | E | F | E | GE | G | E | G |
| apple, tropical soda | P | P | FG | E | P | P | F | P | P | P | E | GE | P | P | E |
| bahiagrass | P | P | P | G | FG | G | P | P | FG | P | P | P | PF | G | P |
| barley, little | A | P | P | P | P | P | P | --- | GE | FG | P | P | --- | P | P |
| bedstraw, smooth | A | F | P | G | P | P | G | G | G | F | E | E | G | P | E |
| blackberry/dewberry | P | P | FG | GE | F | GE | G | P | P | PF | P | F | P | GE | G |
| broomsedge | P | P | P | P | P | P | P | --- | FG | P | P | P | P | P | P |
| boneset, lateflower | P | --- | G | --- | --- | --- | G | --- | G | F | --- | G | --- | --- | --- |
| bullrush | P | P | G | --- | --- | --- | GE | P | P | P | P | --- | --- | --- | P |
| buttercup | A | P | P | GE | E | E | E | --- | FG | G | E | E | --- | E | GE |
| carrot, wild | B | P | --- | G | --- | G | --- | --- | FG | G | FG | GE | G | G | FG |
| cheat | A | G | P | P | P | P | P | --- | E | G | P | P | G | P | P |
| chickweed, common | A | F | E | E | E | E | F | --- | G | E | F | F | --- | E | F |
| cocklebur, common | A | P | E | E | E | E | E | P | E | G | E | E | --- | E | E |
| crabgrass | A | G | P | P | P | P | P | GE | E | F | P | P | E | P | P |
| croton, woolly | A | P | E | GE | E | G | E | --- | P | P | E | E | --- | G | E |
| cudweed | A | P | E | G | G | G | E | --- | P | P | E | G | --- | --- | E |
| dallisgrass | P | P | P | P | P | P | P | --- | GE | P | P | P | F | P | P |
| dandelion | P | P | E | GE | GE | GE | E | G | P | P | GE | E | --- | GE | P |
| dock, curly | P | P | E | E | E | E | G | --- | P | P | E | E | --- | E | E |
| dodder | A | P | P | --- | --- | --- | P | --- | P | G | --- | --- | --- | --- | --- |
| dogbane, hemp | P | P | F | P | P | P | FG | --- | P | P | P | F | --- | --- | P |
| dogfennel | P | P | FG | P | F | F | E | --- | P | P | G | G | --- | F | PF |
| eveningprimrose, cutleaf | A | P | E | G | G | G | E | --- | F | PF | E | E | --- | G | E |
| falsedandelion, Carolina | B | P | E | GE | GE | GE | E | --- | P | P | GE | E | --- | GE | P |
| fingergrass | A | P | P | P | P | P | P | --- | G | P | P | P | --- | P | P |
| foxtail, knotroot | P | P | P | P | P | P | P | --- | FG | P | P | P | PF | P | P |
| foxtail, yellow | A | F | P | P | P | P | P | GE | G | F | P | P | FG | P | P |
| garlic, wild | P | P | E | G | GE | G | --- | --- | P | E | G | F | --- | G | P |
| geranium, Carolina | A | P | --- | G | G | --- | --- | --- | P | P | E | E | --- | --- | E |
| goldenrod | P | P | G | P | P | P | G | --- | P | P | G | G | --- | P | G |
| goosegrass | A | G | P | P | P | P | P | GE | E | F | P | P | E | P | P |
| greenbriar (smilax) | P | P | F | --- | --- | --- | P | --- | P | P | G | --- | --- | P | --- |
| henbit | A | FG | G | GE | E | E | F | --- | F | G | F | PF | --- | E | FG |
| honeysuckle | P | P | E | --- | --- | --- | E | --- | P | P | F | --- | --- | --- | --- |
| horsenettle | P | P | G | E | F | PF | PF | --- | P | P | E | GE | P | PF | E |
| horseweed | A | P | E | G | F | F | G | --- | G | P | E | E | P | F | E |
| Johnsongrass | P | FG | P | P | P | P | P | --- | E | FG | P | P | G | P | P |

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## *Weed Response[1] to Herbicides for Weed Management in Grass Forages (cont)*

| | | PRE | POST | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lifecycle[2] | Prowl H2O | Banvel/Clarity | Chaparral | Cimarron MAX | Cimarron Plus | Crossbow | Facet | Glyphosate | Gramoxone SL | GrazonNext HL | Grasalan | Impose | Metsulfuron | Milestone |
| kudzu | P | P | G | G | PF | PF | FG | P | P | P | G | F | P | PF | G |
| lespedeza, sericea | P | P | P | P | FG | GE | PF | P | P | P | --- | P | --- | GE | --- |
| lettuce, prickly | B | P | --- | E | --- | --- | --- | P | FG | --- | E | E | F | --- | E |
| mint, perilla | A | P | GE | GE | G | --- | GE | P | --- | FG | GE | E | --- | --- | P |
| mustard, wild | A | P | G | --- | --- | --- | G | --- | F | G | G | GE | --- | G | G |
| nutsedge | P | P | P | P | P | P | P | P | FG | PF | P | P | GE | P | P |
| orange, trifoliate | P | --- | --- | GE | --- | --- | --- | P | F | P | --- | --- | --- | --- | GE |
| palmetto | P | P | F | P | P | P | --- | P | P | P | --- | --- | P | P | P |
| panicum, Texas | A | FG | P | P | P | P | P | GE | GE | G | P | P | PF | P | P |
| passionflower, maypop | P | P | P | P | P | P | P | P | P | P | P | F | P | P | P |
| pear, prickly | P | P | F | P | P | P | --- | P | PF | P | P | P | P | P | P |
| pepperweed, Virginia | A | FG | E | --- | --- | --- | --- | --- | --- | G | G | E | --- | --- | P |
| persimmon | P | P | G | --- | P | P | G | P | --- | P | P | F | P | --- | P |
| pigweeds | A | FG | E | E | E | E | E | P | E | G | E | G | G | E | E |
| plantains | P | P | E | E | E | E | G | P | --- | P | G | FG | G | E | P |
| pokeweed, common | P | P | E | P | --- | P | G | P | PF | P | G | F | --- | F | F |
| radish, wild | A | P | E | GE | GE | GE | E | --- | FG | P | G | --- | E | GE | P |
| ragweed, common | A | P | E | E | G | G | E | --- | FG | G | E | E | F | G | E |
| rescuegrass | A | --- | P | P | P | P | P | --- | G | F | P | P | --- | P | P |
| rose, Cherokee | P | P | --- | GE | --- | --- | --- | P | --- | P | E | FG | P | --- | GE |
| ryegrass, annual | A | G | P | P | P | P | P | --- | GE | FG | P | P | F | P | P |
| sandbur | A | G | P | P | P | P | P | GE | GE | FG | P | P | FG | P | P |
| shepherdspurse | A | F | E | --- | --- | --- | E | --- | G | G | E | E | E | G | P |
| sicklepod | A | P | E | G | G | G | E | --- | G | E | GE | E | FG | G | P |
| sida, arrowleaf | A | P | G | --- | G | G | PF | --- | P | P | E | E | F | F | P |
| sida, prickly | A | P | G | --- | G | G | PF | --- | P | P | E | E | F | F | P |
| smartweed | A | P | G | GE | E | E | GE | --- | G | E | E | E | --- | E | E |
| smutgrass | P | P | P | P | P | P | P | --- | G | P | P | P | P | P | P |
| sneezeweed, bitter | P | P | E | E | E | E | E | P | GE | --- | E | E | --- | --- | GE |
| sorrel, red | P | P | G | E | G | GE | E | P | FG | PF | E | --- | --- | E | --- |
| spurge, nodding | A | P | P | P | E | E | P | P | FG | F | P | P | P | E | P |
| spurry, corn | A | --- | --- | --- | --- | E | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| swinecress | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| thistles | B | P | G | E | G | F | E | P | G | G | E | E | --- | F | E |
| torpedograss | P | P | P | P | P | P | P | --- | G | P | P | P | F | P | P |
| trumpetcreeper | P | P | F | P | P | P | P | P | P | P | P | F | P | P | P |
| vaseygrass | P | P | P | P | P | P | P | --- | FG | P | P | P | FG | F | P |
| vervain, blue | P | P | --- | --- | --- | --- | --- | P | --- | P | G | G | --- | --- | F |

[1]***Key to Response Ratings:*** E = excellent control, 90% or better; G=good control, 80-90%; F=fair control, 70-80%; P=poor control, less than 70%; --- =Insufficient data.

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## *Weed Response[1] to Herbicides for Weed Management in Grass Forages (cont)*

| | | POST | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lifecycle[2] | Outrider | Pastora | PastureGard HL | Redeem R&P | Remedy/Garlon | Sandea | Stinger | Surmount | Telar XP | Velpar | Weedmaster | Yukon | 2,4-D/Freelexx |
| alligatorweed | P | --- | --- | --- | --- | E | --- | --- | --- | --- | --- | --- | --- | P |
| amaranth, spiny | A | P | GE | PF | P | --- | G | --- | GE | --- | FG | E | GE | FG |
| apple, tropical soda | P | P | P | G | P | G | P | --- | E | --- | F | F | FG | P |
| bahiagrass | P | P | P | P | P | P | P | P | P | --- | P | P | P | P |
| barley, little | A | P | --- | P | P | P | P | --- | P | --- | P | P | P | P |
| bedstraw, smooth | A | --- | P | G | --- | P | --- | P | G | F | --- | P | P | P |
| blackberry/dewberry | P | P | G | G | GE | GE | P | P | G | GE | F | PF | FG | P |
| broomsedge | P | P | --- | P | P | P | P | P | P | --- | P | P | P | P |
| boneset, lateflower | P | --- | --- | --- | --- | --- | P | --- | --- | --- | --- | G | G | G |
| bullrush | P | P | --- | P | P | G | P | P | GE | --- | --- | --- | G | GE |
| buttercup | A | P | E | F | E | E | --- | --- | G | --- | G | E | P | E |
| carrot, wild | B | P | G | --- | --- | --- | --- | --- | FG | F | --- | --- | --- | --- |
| cheat | A | P | G | P | P | P | P | P | P | P | P | P | P | P |
| chickweed, common | A | P | E | F | G | E | P | --- | GE | --- | E | E | E | F |
| cocklebur, common | A | P | E | GE | GE | G | G | G | E | --- | GE | E | E | G |
| crabgrass | A | P | GE | P | P | P | P | P | P | P | P | P | P | P |
| croton, woolly | A | P | E | F | F | G | --- | --- | E | --- | P | E | E | GE |
| cudweed | A | P | GE | G | E | E | --- | --- | G | --- | --- | G | E | F |
| dallisgrass | P | P | FG | P | P | P | P | P | P | P | P | P | P | P |
| dandelion | P | P | G | GE | G | E | P | G | E | --- | E | E | E | E |
| dock, curly | P | P | GE | F | E | E | P | F | G | --- | P | E | E | F |
| dodder | A | P | --- | P | P | P | P | --- | --- | --- | --- | PF | P | P |
| dogbane, hemp | P | P | --- | FG | P | F | P | --- | G | --- | --- | F | F | PF |
| dogfennel | P | P | P | E | GE | GE | P | --- | E | --- | G | G | FG | FG |
| eveningprimrose, cutleaf | A | P | F | G | --- | E | --- | --- | E | E | E | E | E | E |
| falsedandelion, Carolina | B | P | G | GE | G | E | --- | --- | E | --- | E | E | E | E |
| fingergrass | A | P | --- | P | P | P | P | P | P | P | P | P | P | P |
| foxtail, knotroot | P | P | --- | P | P | P | P | P | P | P | P | P | P | P |
| foxtail, yellow | A | P | FG | P | P | P | P | P | P | --- | P | P | P | P |
| garlic, wild | P | P | --- | P | --- | --- | --- | P | P | --- | --- | G | E | GE |
| geranium, Carolina | A | P | G | --- | --- | --- | --- | --- | E | --- | --- | E | --- | E |
| goldenrod | P | P | G | G | G | G | P | --- | G | --- | --- | GE | G | F |
| goosegrass | A | P | GE | P | P | P | P | P | P | P | P | P | P | P |
| greenbriar (smilax) | P | P | --- | G | P | P | P | --- | F | --- | F | F | F | P |
| henbit | A | P | E | GE | G | F | --- | --- | G | GE | GE | P | G | G |
| honeysuckle | P | P | --- | P | P | PF | P | --- | G | --- | --- | E | E | E |
| horsenettle | P | P | P | F | F | FG | P | --- | E | --- | --- | F | G | P |
| horseweed | A | P | --- | G | G | G | P | G | E | --- | F | E | E | F |
| Johnsongrass | P | E | GE | P | P | P | P | P | P | P | P | P | P | P |

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## *Weed Response[1] to Herbicdes for Weed Management in Grass Forages (cont)*

| | | POST | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lifecycle[2] | Outrider | Pastora | PastureGard HL | Redeem R&P | Remedy/Garlon | Sandea | Stinger | Surmount | Telar XP | Velpar | Weedmaster | Yukon | 2,4-D/Freelexx |
| kudzu | P | P | FG | F | F | F | P | --- | F | --- | --- | F | G | PF |
| lespedeza, sericea | P | --- | --- | E | --- | GE | P | --- | --- | --- | --- | P | P | P |
| lettuce, prickly | B | P | --- | --- | --- | --- | P | G | E | --- | --- | --- | --- | --- |
| mint, perilla | A | --- | --- | F | --- | FG | --- | --- | F | --- | --- | FG | GE | PF |
| mustard, wild | A | --- | --- | G | G | G | P | P | GE | --- | --- | GE | G | GE |
| nutsedge | P | E | P | P | P | P | GE | --- | P | P | P | P | GE | P |
| orange, trifoliate | P | --- | --- | --- | --- | GE | P | --- | --- | --- | --- | --- | --- | --- |
| palmetto | P | --- | --- | G | P | F | P | --- | P | --- | P | PF | F | P |
| panicum, Texas | A | P | GE | P | P | P | P | P | P | P | P | P | P | P |
| passionflower, maypop | P | P | P | G | F | F | P | P | P | --- | --- | PF | P | P |
| pear, prickly | P | P | --- | F | P | G | P | --- | E | --- | P | PF | F | P |
| pepperweed, Virginia | A | P | --- | G | --- | P | P | --- | G | --- | E | E | E | G |
| persimmon | P | P | --- | F | P | F | P | --- | GE | --- | F | F | G | P |
| pigweeds | A | P | E | F | GE | E | G | P | GE | E | G | E | E | GE |
| plantains | P | P | F | F | P | F | P | --- | F | --- | FG | E | E | E |
| pokeweed, common | P | P | --- | P | P | P | F | --- | G | --- | --- | E | E | G |
| radish, wild | A | P | GE | GE | F | E | G | --- | E | --- | E | E | E | G |
| ragweed, common | A | N | E | E | E | E | G | G | E | --- | F | E | E | E |
| rescuegrass | A | P | --- | P | P | P | P | P | P | P | P | P | P | P |
| rose, Cherokee | P | N | --- | P | --- | --- | P | --- | E | --- | --- | --- | --- | --- |
| ryegrass, annual | A | P | GE | P | P | P | P | P | P | F | G | P | P | P |
| sandbur | A | P | GE | P | P | P | P | P | P | P | P | P | P | P |
| shepherdspurse | A | P | --- | G | G | E | F | --- | G | --- | E | E | E | E |
| sicklepod | A | P | E | GE | G | E | P | G | E | G | --- | E | E | G |
| sida, arrowleaf | A | P | --- | F | P | P | F | --- | E | --- | --- | E | G | G |
| sida, prickly | A | P | --- | F | P | P | F | --- | E | --- | --- | E | G | G |
| smartweed | A | P | G | --- | --- | --- | F | --- | --- | --- | FG | G | G | F |
| smutgrass | P | P | P | P | P | P | P | --- | P | P | GE | P | P | P |
| sneezeweed, bitter | P | P | GE | E | E | E | P | --- | E | --- | --- | E | E | E |
| sorrel, red | P | P | --- | F | FG | E | P | G | E | --- | --- | G | G | P |
| spurge, nodding | A | P | E | P | P | P | --- | P | P | --- | --- | P | P | P |
| spurry, corn | A | P | --- | --- | --- | --- | P | --- | --- | E | --- | --- | --- | G |
| swinecress | A | P | --- | --- | --- | --- | P | --- | --- | --- | --- | --- | --- | G |
| thistles | B | P | G | GE | E | E | P | E | GE | --- | E | E | G | E |
| torpedograss | P | --- | --- | P | P | P | P | P | P | P | P | P | P | P |
| trumpetcreeper | P | P | P | F | P | F | P | P | P | --- | P | P | F | P |
| vaseygrass | P | P | FG | P | P | P | P | P | P | P | P | P | P | P |
| vervain, blue | P | P | --- | --- | --- | --- | P | --- | E | --- | --- | E | --- | E |

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