

GRASS ROADSIDE VEGETATION MANAGEMENT

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SITE	HERBICIDE FORMULATION	MOA	BROADCAST RATE/ACRE			REMARKS AND PRECAUTIONS
			AMOUNT OF FORMULATION	ACTIVE INGREDIENT	REI (Hours)	
In portions of the United States, numerous weed species have developed resistance to members of the sulfonyleurea herbicide family (e.g. Telar, Oust, Escort). Sulfonyleurea resistant biotypes are able to survive use rates several times higher than needed to control susceptible biotypes. Roadside managers are encouraged to adhere to the following weed control practices to prevent the occurrence of sulfonyleurea resistant weeds. 1. Tank mix sulfonyleurea herbicides with herbicides that have a different mode-of-action (e.g. glyphosate, 2,4-D, etc.). 2. Do not let weed escapes go to seed in areas that were treated with sulfonyleurea herbicide. 3. Respray problem areas with an herbicide that has a different mode-of-action than a sulfonyleurea. 4. Rotate the use of sulfonyleurea herbicides with herbicides that have a different mode-of-action.						
These dormant treatments are designed for roadsides having predominantly bermudagrass.						
Annual Grass and Broadleaf Weed Suppression in <u>Dormant</u> Bermudagrass	<i>sulfometuron</i> Oust 75DG	2	1 oz	0.75 oz	4 H	Oust may be applied once in November–early-February <u>while the bermudagrass is dormant</u> for the control of winter annual grass and broadleaf weeds. This treatment may delay greenup of the bermudagrass.
	<i>glyphosate</i> (numerous brands)	9		0.38-0.5 lb	4 H	Glyphosate may be applied in December–mid-March <u>while the bermudagrass is dormant</u> for the control of winter annual grass and broadleaf weeds. This treatment does not provide residual control.
	<i>glyphosate</i> + Oust 75 DG	9 + 2	– + 0.25 oz	0.25 lb + 0.19 oz	4 H	Apply in December–mid-March while the bermudagrass is dormant for the control of winter annual grass and broadleaf weeds. Bermudagrass greenup is not delayed extensively with this treatment.
	<i>glyphosate</i> + Oust 75DG + Telar 75DG	9 + 2 + 2	– + 0.25 oz + 0.25 oz	0.25 lb + 0.19 oz + 0.19 oz	4 H	Glyphosate + Oust + Telar may be applied in December–mid-March <u>while the bermudagrass is dormant</u> for the control of winter annual grasses and broadleaf weeds. Bermudagrass greenup is not extensively delayed by this treatment.
	<i>imazapic</i> + <i>glyphosate</i> Journey 0.75 + 1.5 lb/gal	2 + 9	16 fl oz	0.094 + 0.25	12 H	Apply to dormant bermudagrass for the control of annual broadleaf weeds. Add a nonionic surfactant at 0.25% v/v to the spray mix. DO NOT apply immediately before or during spring green-up of bermudagrass or significant delays in greenup will occur.
	<i>glyphosate</i> + 2,4-D amine Campaign 3.1 lb/gal	9 + 4	1-2 qt	0.3 + 0.48 to 0.6 + 0.95 lb		Campaign may be applied once for the control of winter annual grass and broadleaf weeds before bermuda greenup. It may also suppress or control broadleaf weeds tolerant of these other treatments. Refer to the label for rates for particular species. It is not necessary to add a surfactant to Campaign. Since Campaign is a formulation containing 2,4-D, use special precautions when applying in the vicinity of 2,4-D sensitive crops such as vegetables, tobacco, fruit trees, ornamentals and cotton.
	<i>diflufenzopyr</i> + <i>dicamba</i> Overdrive 76.4% DF 0.2 lb ai + 0.5 lb ai/lb	19 + 4	4-8 oz	0.05 + 0.125 to 0.1 + 0.25	24 H	Controls annual and perennial broadleaf weeds. Add a nonionic surfactant at 0.25% v/v or methylated seed oil at 2 pt/A to the spray mix. Diflufenzopyr has been shown to improve the activity of “auxin-like” herbicides such as triclopyr, clopyralid and picloram. May be tank-mixed with Garlon 4 and 3A, 2,4-D, Plateau, glyphosate, Escort, Oust, Telar and M SMA to increase spectrum of weed species controlled. Overdrive is rainfast within 4 hours after application.

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Maintenance of Actively Growing Bermudagrass (Weed Control or Suppression)	<i>MSMA</i> (Several trade names) 6 lb/gal or <i>DSMA</i> (Several trade names) 3.6 lbs/gal	17 17	1/3 gal 1 gal	2 lb 3.6 lb	12 H	May be applied during summer months every 4-6 weeks for suppression or control of emerged weeds. This treatment will release actively growing bermudagrass and suppress bahiagrass, dallisgrass, johnsongrass, and several broadleaf weeds.
	<i>diflufenzopyr</i> + <i>dicamba</i> Overdrive 76.4% DF 0.2 lb + 0.5 lb/lb	19 + 4	4-8 oz	0.05 + 0.125 to 0.1 + 0.25	12 H	Controls annual and perennial broadleaf weeds. Add a nonionic surfactant at 0.25% v/v or methylated seed oil at 2 pt/A to the spray mix. Diflufenzopyr has been shown to improve the activity of “auxin-like” herbicides such as triclopyr, clopyralid and picloram. May be tank-mixed with Garlon 4 and 3A, 2,4-D, Plateau, glyphosate, Escort, Oust, Telar and M SMA to increase spectrum of weed species controlled. Overdrive is rainfast within 4 hours after application.
	<i>glyphosate</i> (numerous brands)	9	—	0.19-0.3125 lb	4 H	May be applied during summer months to suppress or control emerged weeds and to release well-established and actively growing bermudagrass. For bahiagrass growth and seedhead suppression apply a second application at 0.125 lb ai/A 6-8 weeks after the initial application.
	<i>imazapic</i> Plateau Impose 2.0 lb/gal	2	3-4 fl oz	0.047-0.0625	12 H	Apply after full spring green-up of bermudagrass or during the summer months to suppress bahiagrass growth and seedhead development. Add a nonionic surfactant at 0.25% v/v or methylated seed oil at 1.5-2 pt/A to the spray mix. Do not apply immediately before or during bermudagrass green-up. A second treatment may be applied in 6-10 weeks for continued growth suppression.
	<i>sulfometuron</i> Oust 75DG	2	0.5 oz	0.375 oz	4 H	Oust may be applied after full spring green-up of bermudagrass to suppress bahiagrass growth and seedhead development and for the control of certain broadleaf weeds. A second treatment may be applied 6-10 weeks later for continued suppression. Be certain that no bermudagrass injury is present before making the second application. A nonionic surfactant at 0.25% v/v should be added to the spray mix.
	<i>glyphosate</i> + Oust 75DG	9 + 2	— + 0.25 oz	0.19 lb + 0.19 oz	4 H	Glyphosate + Oust may be applied to bermudagrass to provide bahiagrass seedhead inhibition and vegetative suppression. Apply 1-2 weeks after full greenup of bermudagrass and bahiagrass or after the bahiagrass has been mowed. Application should be made prior to seedhead emergence.
	<i>imazapic</i> + <i>glyphosate</i> Journey 0.75 + 1.5 lb/gal	2 + 9	8-16 fl oz	0.047 + 0.125 to 0.094 + 0.25	12 H	Apply to actively growing bermudagrass for the control of annual broadleaf weeds, certain annual and perennial grasses and various sedges. Add a nonionic surfactant at 0.25% v/v to the spray mix.
	<i>nicosulfuron</i> + <i>metsulfuron</i> Pastora 56% + 15%	2 + 2	1-2 oz	0.025-0.05 + 0.0067-0.013	4 H	Use for control of grassy and broadleaf weeds in bermudagrass on uncultivated nonagricultural areas (such as airports, highway, railroad, and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas (such as farmyards, fuel storage areas, fence rows, soil bank land, barrier strips, etc.); and, industrial sites (such as lumberyards, pipelines, tank farms, etc.) including grazed areas on all these sites. Apply with a nonionic surfactant, crop oil concentrate, or ammonium nitrogen fertilizer.

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Maintenance of Actively Growing Bermudagrass (Weed Control or Suppression) <i>(continued)</i>	<i>aminopyralid</i> Milestone VM 2 lb/gal	4	4-7 fl oz	0.06-0.11	48 H	Controls numerous broadleaf weed species such as horseweed, dogfennel, horsenettle and tropical soda apple. Milestone is non-volatile, but use care when applying in the vicinity of broadleaf crops, fruit trees, and ornamentals. Milestone can be tank-mixed with Plateau, glyphosate, MSM A, 2,4-D and numerous other herbicides labeled for use on grass roadsides. Add a nonionic surfactant at 0.25% v/v to the spray mix.
	<i>aminocyclopyrachlor</i> + <i>metsulfuron</i> Streamline 52DF 39.5% + 12.6%	4 + 2	1.75-10 oz	0.06-0.04 + 0.01		Apply for weed and brush control on non-crop areas, rights of ways industrial sites and natural areas such as campgrounds. Apply early postemergence treatments when broadleaf weeds are actively germinating or growing. The length of control is dependent on the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Applications to bermudagrass, Kentucky bluegrass and tall fescue industrial and roadside turfgrasses can cause transient stunting, yellowing and/or seedhead suppression. To reduce these transient symptoms, make application later in the spring after new growth is 4-6" tall or make application in the fall. Do not apply more than 11.5 oz broadcast/A/year.
	<i>aminocyclopyrachlor</i> + <i>chlorsulfuron</i> Perspective 55DF 39.5 + 15.8%	4 + 2	1.75-11 oz	0.06-0.38 (0.04 + 0.02 to 0.27 + 0.11)		Controls broadleaf and grassy weeds in non-crop areas, rights of ways at industrial sites and natural areas such as campgrounds. Applications to bermudagrass, Kentucky bluegrass and tall fescue industrial and roadside turfgrasses can cause transient stunting, yellowing and/or seedhead suppression. To reduce these transient symptoms, make application later in the spring after new growth is 4-6" tall or make application in the fall. Do not apply more than 11.5 oz broadcast/A/year. Do not apply more than 11 oz/broadcast/A/year as a result of broadcast, spot or repeat applications. Do not apply more than 3 times per year.
	<i>glyphosate</i> + 2,4-D Campaign 3.1 lb/gal	9 + 4	1-1.5 qt	0.3 + 0.48 to 0.45 + 0.72 lb		Campaign may be applied to actively growing well-established bermudagrass and bahiagrass to suppress or control emerged weeds and to allow the release of the bermudagrass. Use the low rate on bahiagrass. This treatment will control many broadleaf weeds tolerant of MSMA, DSMA, Roundup Pro, or Roundup Pro + Oust due to the 2,4-D which is one of the ingredients. Rate of application should be based on the weed species most common on the roadside (Refer to label). It is not necessary to add a surfactant to Campaign. Since Campaign is a formulation containing 2,4-D, use care when applying in the vicinity of 2,4-D sensitive crops such as vegetables, cotton, tobacco, fruit trees, and ornamentals.
	<i>sulfosulfuron</i> OutRider 75DF	2	1.33 oz	0.062	12 H	Recommended for the control of emerged johnsongrass and sedges in bermudagrass and bahiagrass. DO NOT use OutRider on other grass species such as tall fescue. OutRider does not control annual grasses such as crabgrass and sandbur, or perennial grasses such as dallisgrass and vaseygrass. Apply to johnsongrass at a minimum of 18" tall up to the heading stage. Apply to sedges 6-10" tall. Add a nonionic surfactant at 0.25% v/v. OutRider may be tank-mixed with other herbicides; however, amine formulations may reduce johnsongrass control. For best results, do not mow for two weeks before or after application.

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Maintenance of Actively Growing Bermudagrass (Weed Control or Suppression) <i>(continued)</i>	<i>penoxsulam</i> + <i>oxyfluorfen</i> Cleantraxx 0.83 + 3.93 lb/gal	2 + 14	3-4.5 pt	0.3-0.5 + 1.5-2.2	24 H	Cleantraxx provides pre and postemergence control of susceptible weeds in roadsides, railroads, industrial sites, and other non-crop areas. The best weed control is obtained by applications to weeds either preemergence or at early postemergence timings. For the best control of emerged grass and broadleaf weeds, apply a tank mix of Cleantraxx with a postemergence herbicide registered for use on the specific site. For postemergence applications, Cleantraxx must be applied with an approved adjuvant. Do not apply more than 4.5 pt/A/year. Do not apply Cleantraxx when weather conditions favor drift. Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes. A single rainfall of 0.5" or more, within 21 days after application, is necessary to activate treatments for preemergence control.
	<i>foramsulfuron</i> + <i>iodosulfuron-methyl</i> + <i>thiencarbazonemethyl</i> Derigo WDG 24 + 2.4 + 10%	2 + 2 +	3-6 oz	0.045 + 0.005 + 0.019 to 0.09 + 0.10 + 0.038 lb		Apply 3-6 oz/A for grassy and broadleaf weed control. Do not exceed the maximum amount of 6 oz/A/year as a broadcast spray of this product. For broadcast applications, use a minimum of 10 gal water/A. For weed control in dense weed populations, control of weeds under adverse growing conditions, or control of mature weeds, spray volume should be increased to obtain adequate spray coverage of targeted weeds. Do not use this product on cool-season grass types, including tall fescue, fine fescue, Kentucky bluegrass, or perennial ryegrass unless control of these species is desired. Rainfall within 2 hours of spray drying may result in reduced weed control and may necessitate retreatment. Do not mow immediately after application or before spray has dried or weed control may be reduced. After treatment, do not transfer clippings to non-target areas. For johnsongrass, dallisgrass, and vaseygrass control, apply in combination with MSO at 0.5-1% v/v and apply as a broadcast, spot application, or directed spray. Make a second application if regrowth is observed 30-60 days later. Application should be made in the fall for optimum control of dallisgrass.
Tall Fescue Seedhead Suppression and/or Weed Control	<i>MSMA</i> (Several trade names) or <i>DSMA</i> (Several trade names)		1/3 gal 1 gal	2 lb 3.6 lb	12 H	Mow roadsides, if needed, when bahiagrass or dallisgrass seedheads begin to appear (usually in early June). Begin treatment when grasses begin to send up new seedheads. Air temperature in afternoons should be 80°F or above. Apply as needed when new seedheads or other weeds emerge usually at 4-6 week intervals. During the summer, 2-3 applications will be needed. This treatment suppresses bahiagrass, dallisgrass, johnsongrass and broadleaf weeds and allows fescue to remain with little injury.
	<i>glyphosate</i> (numerous brands) + <i>sulfometuron</i> Oust 75DG	9 + 2	– + 0.25 oz	0.19-0.25 lb 0.19 oz	4 H	Glyphosate + Oust may be applied to tall fescue roadsides to suppress tall fescue seedhead production, broadleaf weeds and grasses. Apply to established, actively growing tall fescue in the spring <u>prior to seedhead emergence</u> (usually between March 1-April 1). Slight discoloration of the fescue may occur.
	<i>sethoxydim</i> Sethoxydim G-Pro 1 lb/gal	1	1 lb/gal	0.19 lb	12 H	May be applied to tall fescue roadsides to suppress tall fescue seedhead production. Apply to established tall fescue that is actively growing in the spring prior to seedhead emergence (usually between March 1-April 1). Do not apply to fescue less than 1 year old. Apply in 30-40 gal of water/A. Sethoxydim will not suppress or control broadleaf plants which may be released due to the suppression of tall fescue. Discoloration of the fescue will often occur and may sometimes be severe.

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Tall Fescue Seedhead Suppression and/or Weed Control <i>(continued)</i>	<i>chlorsulfuron</i> Telar 75DG	2	0.25 oz	0.19 oz	4 H	Telar may be applied to suppress tall fescue seedhead production. Apply to established tall fescue that is actively growing in the spring prior to seedhead emergence (usually between March 1 and April 1). Some suppression of the grass growth may occur. This treatment will also help to suppress or control many broadleaf weeds.
	<i>glyphosate</i> (numerous brands) + <i>chlorsulfuron</i> Telar 75DG	9 + 2	– + 0.25 oz	0.19-0.25 + 0.19 oz	4 H	Glyphosate + Telar may be applied to tall fescue to suppress seedhead production and control some annual weeds. Apply to established tall fescue in the spring prior to seedhead emergence (usually between March 1 and April 1). Make only one application per season. Telar provides better control of thistles and mustards than Oust.
	<i>glyphosate</i> (numerous brands) + <i>metsulfuron</i> Escort, Patriot 60 DG	9 + 2	– + 0.25 oz	0.19-0.25 0.15 oz	4 H	Glyphosate + metsulfuron may be applied to tall fescue to suppress seedhead production and control some annual weeds. Apply to established tall fescue in the spring prior to seedhead emergence (usually between March 1 and April 1).
	<i>diflufenzopyr</i> + <i>dicamba</i> Overdrive 76.4% DF 0.2 lb + 0.5 lb/lb	19 + 4	4-8 oz	0.05+0.125 to 0.1+0.25	24 H	Controls annual and perennial broadleaf weeds. Add a nonionic surfactant at 0.25% v/v or methylated seed oil at 2 pt/A to the spray mix. Diflufenzopyr has been shown to improve the activity of “auxin-like” herbicides such as triclopyr, clopyralid and picloram. May be tank-mixed with Garlon 4 and 3A, 2,4-D, Plateau, glyphosate, Escort, Oust, Telar and MSMA to increase spectrum of weed species controlled. Overdrive is rainfast within 4 hours of application.
	<i>aminopyralid</i> Milestone VM 2 lb/gal	4	4-7 fl oz	0.06-0.11	48 H	Controls numerous broadleaf weed species including horseweed, dogfennel, horsenettle and tropical soda apple. Milestone is non-volatile, but use care when applying in the vicinity of broadleaf crops, fruit trees, and ornamentals. Milestone can be tank-mixed with Plateau, glyphosate, MSMA, 2,4-D and numerous other herbicides labeled for use on grass roadsides. Add a nonionic surfactant at 0.25% v/v to the spray mix.
	<i>imazapic</i> Plateau Impose 2 lb/gal	2	2-3 fl oz	0.031-0.047	12 H	Apply in early spring to suppress tall fescue foliar growth and seedhead emergence.