

# TURF GUIDELINES

## TURFGRASS TOLERANCE TO HERBICIDES

Herbicide	Common Bermuda	Hybrid Bermuda	Centipede	St. Augustine	Zoysia
2,4-D	Yes	Yes	Yes	S	Yes
2,4-D + 2,4-DP	Yes	Yes	Yes	S	Yes
2,4-D + dicamba	Yes	Yes	Yes	S	Yes
2,4-D + MCPP	Yes	Yes	Yes	S	Yes
2,4-D + MCPP + dicamba	Yes	Yes	Yes	Y/N <sup>1</sup>	Yes
2,4-D + MCPP + dicamba + carfentrazone	Yes	Yes	Y/N	Y/N	Yes
2,4-D + clopyralid + dicamba	Yes	Yes	No	No	Yes
asulam	-	Yes	-	Yes	-
atrazine	Yes	Y/N	Yes	Yes	Yes
benefin	Yes	Yes	Yes	Yes	Yes
benefin + oryzalin	Yes	Yes	Yes	Yes	Yes
bensulide	Yes	Yes	Yes	Yes	Yes
bentazon	Yes	Yes	Yes	Yes	Yes
bromoxynil	Yes	Yes	-	Yes	Yes
bentazon + atrazine	Yes	Yes	Yes	Yes	Yes
carfentrazone	Yes	-	Yes	Yes	Yes
chlorsulfuron	Yes	Yes	-	-	-
clopyralid	Yes	Yes	Yes	Yes	Yes
clopyralid + triclopyr	Yes	Yes	-	-	-
CMA	Yes	Yes	S	S	Yes
dicamba	Yes	Yes	Yes	Yes	Yes
diclofop	Yes	Yes	-	-	-
dithiopyr	Yes	Yes	Yes	Yes	Yes
DCPA	Yes	Yes	Yes	Yes	Yes
DSMA	Yes	Yes	S	S	Yes
fenarimol	Yes	Yes	-	-	-
fenoxaprop	S	S	S	S	Yes
fluazifop	S	S	S	S	Yes
foramsulfuron	Yes	Yes	-	-	-
halosulfuron	Yes	Yes	Yes	Yes	Yes
imazaquin	Yes	Yes	Yes	Yes	Yes
isoxaben	Yes	Yes	Yes	Yes	Yes
MCPP	Yes	Yes	Yes	Yes	Yes
mesotrione	S	S	Yes	Y/N	S
metolachlor	Yes	Yes	Yes	-	Yes
metribuzin	Yes	Yes	-	-	-
metsulfuron	Yes	Yes	Yes	Yes	Yes
MSMA	Yes	Yes	S	S	Yes
MSMA + metribuzin	Yes	Yes	-	-	-
oryzalin	Yes	Yes	No	Yes	Yes
oxadiazon	Yes	Yes	Yes	Yes	Yes
pendimethalin	Yes	Yes	Yes	Yes	Yes
pronamide	Yes	Yes	Yes	Yes	Yes
prodiamine	Yes	Yes	Yes	Yes	Yes
quinclorac	Yes	Y/N	S	S	Yes
rimsulfuron	Yes	Yes	-	-	-
sethoxydim	S	S	Yes	S	S
simazine	Yes	Yes	Yes	Yes	Yes
sulfentrazone	Yes	Yes	Yes	Y/N	Y/N
sulfosulfuron	Yes	Yes	Yes	Yes	Yes
trifloxysulfuron	Yes	Yes	-	-	Yes

**Explanations of abbreviations, footnotes, etc.**

<sup>1</sup> Use only products with a 0.5 : 1 : 0.1 ratio of 2,4-D: MCPP: and dicamba on St. Augustinegrass

S Indicates susceptible, herbicide known to severely damage or kill turfgrass.

Y/N Indicates intermediate, use with caution, or at reduced rates. Consult label for product use instructions and restrictions prior to considering use.

Yes Indicates tolerant when applied according to label directions.

- Indicates not labeled or data not available.

**Consult labels for approved adjuvants.**

**Weed resistance to recommended use-rates of certain herbicides has been documented in Mississippi — SEE PAGE 9.**

ESTIMATED PREEMERGENCE CONTROL

Weeds	atrazine	benefin	bensulide	benefin + oryzalin	benefin + trifluralin	dithiopyr	fenarimol	isoxaben	metolachlor	oryzalin	oxadiazon	oxadiazon + prodiamine	pendimethalin	prodiamine	pronamide	simazine
annual bluegrass	G	G	G	G	G	E	E	N	-	E	G	-	E	E	E	E
bahiagrass	-	G	G	G	-	-	-	-	-	G	G	-	G	-	-	-
buttercup	N	N	N	N	-	-	N	-	-	N	F	-	N	-	-	N
carpetweed	-	G	G	G	-	-	N	F	-	G	E	-	N	-	-	E
chamberbitter	G	-	-	-	-	-	-	G	-	-	G	-	-	G	-	G
chickweed	E	N	F	F	G	-	N	E	-	G	F	-	G	-	F	E
clovers	G	N	N	N	-	-	N	G	-	N	N	-	N	-	-	F
crabgrass	F	G	E	E	G	E	N	N	G	E	G	E	E	E	-	F
dallisgrass	-	G	G	G	-	-	N	N	-	G	-	-	G	-	-	-
dandelion	-	N	N	N	-	-	N	G	-	N	N	-	N	-	-	F
dichondra	E	N	N	N	-	-	N	-	-	N	N	-	N	-	-	N
Florida betony	E	N	N	N	-	-	N	-	-	N	N	-	N	-	-	-
Florida pusley	E	N	F	F	-	-	N	F	-	N	-	-	N	-	-	G
goosegrass	F	F	F	F	G	G	N	-	-	G	E	E	G	E	-	N
ground ivy	N	N	N	N	-	-	N	-	-	N	G	-	N	-	-	G
henbit	-	N	N	N	-	-	N	G	-	N	G	-	N	-	-	E
knotweed	G	N	F	F	G	-	N	G	-	F	-	-	N	-	-	G
lawnburweed	G	N	N	N	-	-	N	-	-	N	F	-	N	-	-	E
lespedeza	G	N	N	N	-	-	N	-	-	N	-	-	N	-	-	F
pennywort	-	N	N	N	-	-	N	G	-	N	-	-	N	-	-	N
plantain	-	N	N	N	-	-	N	G	-	N	N	-	N	-	-	F
prostate spurge	-	N	N	N	-	-	N	F	-	N	G	-	F	-	-	G
sandbur	F	G	G	G	-	-	N	-	-	G	G	-	G	-	N	-
shepherdspurse	-	N	N	N	-	-	N	E	-	N	G	-	N	-	-	E
speedwell	E	N	N	N	-	-	N	G	-	N	G	-	N	-	-	F
Virginia buttonweed	-	N	N	N	-	-	N	-	-	N	G	-	N	-	-	G
wood sorrel	G	N	N	N	-	-	N	G	-	F	G	-	F	-	-	G

E = Excellent, G = Good, F = Fair, N = No control, - = Data not available

ESTIMATED POSTEMERGENCE CONTROL

Weeds	asulam	atrazine	bentazon	chlorsulfuron	clopyralid	clopyralid + triclopyr	2,4-D	2,4-D + mecoprop	2,4-D + dicamba	2,4-D + mecoprop + dicamba	2,4-D + mecoprop + dicamba + carfentrazone	diclofop	dicamba	diquat	foramsulfuron	fenoxaprop	fluzifop	glyphosate	halosulfuron	imazaquin	mecoprop	mesotrione	metribuzin	metisulfuron	MSMA, DSMA, & CMA	MSMA + metribuzin	pronamide	quinclorac	rimsulfuron	sethoxydim	simazine	sulfentrazone	sulfosulfuron	trifloxysulfuron	
annual bluegrass	-	E	N	N	N	N	N	N	N	N	N	-	N	G	E	N	-	E	N	N	N	N	G	N	N	N	E	-	E	F	E	N	G	E	
bahiagrass	-	N	-	-	N	N	N	N	N	N	N	N	N	-	N	G	-	E	N	N	N	-	N	E	F	F	N	-	-	G	N	N	N	F	
buttercup	-	N	-	-	-	G	F	G	G	E	E	N	E	F	-	N	N	E	-	-	F	-	G	-	N	N	-	-	-	N	N	-	-	-	
carpetweed	-	E	-	-	N	-	G	G	G	G	G	N	G	N	-	N	N	E	-	-	F	Y	N	N	N	G	-	-	-	N	E	-	-	-	
chamberbitter	-	G	-	F	-	-	-	-	-	-	-	-	-	-	-	N	-	-	N	-	-	-	-	G	-	-	-	-	-	G	-	N	F		
chickweed	G	E	-	-	-	E	F	G	G	E	E	N	E	G	-	N	N	E	-	G	G	-	G	G	N	N	F	-	G	N	E	-	E	E	
clovers	-	G	-	N	E	E	N	G	E	E	E	N	E	P	N	N	N	E	-	N	E	-	N	G	N	N	-	-	-	N	G	F	N	G	
crabgrass	G	F	N	-	N	N	N	N	N	N	N	-	N	N	-	E	G	E	-	-	N	G	N	N	E	E	N	G	N	G	F	-	N	-	
dallisgrass	N	N	N	-	N	N	N	N	N	N	N	N	N	N	F	N	-	E	N	N	N	N	N	N	E	E	-	-	N	F	N	N	N	-	
dandelion	-	F	-	G	-	E	E	E	E	E	E	N	G	N	N	N	N	E	N	F	F	-	N	G	N	N	-	-	-	N	F	-	F	E	
dichondra	-	N	-	-	-	-	F	G	G	G	-	N	G	N	-	N	N	E	-	-	-	-	N	N	N	N	-	-	-	N	N	-	-	-	
Florida betony	-	N	N	N	-	G	N	-	G	G	G	N	G	N	-	N	N	E	N	N	-	-	N	E	-	N	-	-	-	N	-	-	-	-	
Florida pusley	-	N	-	-	-	-	N	N	-	-	-	N	-	N	-	N	N	E	-	-	N	-	-	G	N	N	-	-	-	N	N	-	-	-	
goosegrass	F	N	N	-	N	N	N	N	N	N	N	E	N	N	G	G	-	E	-	-	N	G	N	N	F	E	N	-	N	F	N	G	N	-	
ground ivy	-	G	-	-	-	-	G	-	-	-	-	N	-	N	-	N	N	E	-	-	-	-	G	G	N	G	-	-	-	N	N	-	-	-	
henbit	-	E	-	-	-	E	F	G	G	E	E	N	E	G	E	N	N	E	-	F	F	-	G	G	N	N	-	-	E	N	E	-	E	E	
knotweed	-	G	-	-	G	-	F	G	G	G	-	N	E	N	-	N	N	E	-	-	G	-	N	E	N	N	-	-	-	N	G	-	-	N	
kyllinga	-	-	-	N	N	N	N	N	N	N	N	N	N	-	N	N	N	E	F	F	N	-	-	N	-	-	-	-	-	-	N	N	E	E	G
lawnburweed	-	E	-	E	-	-	F	F	G	G	G	N	G	G	N	N	N	E	N	E	-	-	G	E	N	N	N	-	G	N	E	-	E	E	
lespedeza	-	F	-	-	-	-	F	G	G	G	G	N	E	N	-	N	N	E	-	-	G	-	N	G	N	F	-	-	-	N	F	-	-	-	
nutsedge, purple	N	N	N	-	N	N	N	N	N	N	N	N	N	N	-	N	N	G	E	E	N	-	N	N	F	F	N	-	-	N	N	G	E	E	
nutsedge, yellow	N	N	E	-	N	N	N	N	N	-	N	N	N	N	-	N	N	G	E	E	N	-	N	N	F	F	N	-	-	N	N	G	E	E	
path rush	-	-	-	N	-	-	G	-	-	G	-	-	N	-	-	N	N	E	-	N	-	-	-	N	-	-	-	-	-	-	-	-	N	-	
pennywort	-	F	-	-	-	G	F	-	-	F	-	N	-	N	-	N	N	E	-	F	-	-	-	G	F	E	-	-	-	N	N	-	-	-	
plantain	-	F	-	-	G	F	E	G	G	G	E	N	F	N	-	N	N	E	-	-	F	-	N	G	N	N	-	-	-	N	F	-	-	-	
prostrate spurge	-	G	-	-	N	E	N	F	G	G	G	N	F	N	-	N	N	E	-	-	N	-	N	G	N	N	-	-	-	N	G	-	-	-	
ryegrass	-	-	-	E	N	-	N	N	N	N	N	-	N	-	E	N	-	E	N	N	N	N	-	E	N	-	E	-	E	-	E	N	N	E	
sandbur	-	-	-	-	N	N	N	N	N	N	N	-	N	N	N	-	-	E	-	-	N	-	N	N	G	E	N	-	-	F	-	-	-	-	
shepherdspurse	-	E	-	-	-	-	G	G	G	G	G	N	G	G	-	N	N	E	-	-	F	-	G	G	N	N	-	-	-	N	E	-	-	-	
speedwell	-	-	-	-	G	-	N	F	F	F	F	N	N	G	-	N	N	E	-	N	N	-	N	N	N	-	-	-	N	-	-	N	-	-	
tall fescue	N	N	N	F	N	N	N	N	N	N	N	N	N	N	-	-	N	G	N	N	N	N	N	N	N	N	N	-	-	F	N	N	F	G	
torpedograss	N	N	N	-	N	N	N	N	N	N	N	N	N	N	-	N	N	N	N	N	N	-	N	N	N	N	N	G	-	N	N	-	N	G	
tufted lovegrass	-	N	-	N	N	N	N	N	N	N	N	N	N	-	N	G	G	E	N	N	N	E	N	N	N	-	N	N	N	N	G	N	N	N	
Virginia buttonweed	-	N	-	G	-	F	N	F	G	G	G	N	F	N	-	N	N	E	-	N	N	-	N	F	N	N	-	-	-	N	N	-	N	-	
wild garlic	-	N	-	-	N	F	F	F	F	F	F	N	F	N	F	N	N	G	-	E	N	-	N	F	N	N	N	-	E	N	N	F	N	E	
wood sorrel	-	G	-	-	-	-	N	N	F	F	F	N	G	N	-	N	N	E	-	F	F	-	N	G	N	N	-	-	-	N	G	-	-	-	

E = Excellent, G = Good, F = Fair, N = No control, - = Data not available

Turf, Continued

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
<b>Preplant — new lawns or other turf areas</b>					
methyl bromide	10 - 20 lb		435 - 870	Seed, vegetative structures of perennial weeds, nematodes and fungi	Apply when soil temperatures are above 60 °F and before planting and soil is moist but not saturated with water. Spade or plow soil about 8-10 inches. Release chemical under a gas proof cover. <b>CAUTION: Deadly Gas.</b> Plant in soil 2-4 days after treatment. Follow label directions.  <b>Additional Comments</b> <b>Restricted Use Pesticide</b>
metham	0.9 - 1.72 gal of 4.62 lb/gal	37.5 - 75 gal/A of 4.26 lb/gal	159 - 319	Dormant weed seed	Mix with water and apply uniformly to plowed soil. Water adequately after applying to seal the soil, and maintain soil moisture for next few days per label instructions, if a gas-proof cover is not used. Till 5-7 days after treating on sandy soil or 14 days on clay soil. Soil temperature should be above 60 °F.  Soil should be moist at the time of application. Although a gas-proof cover such as plastic is not required, efficacy is generally increased with one.
glyphosate	4.5 - 8.8 tbsps of 3 lb ae/gal 3.2 - 5.5 tbsps of 4 lb ae/gal 1.5 - 0.75 oz of 64.9% dry formulation	3 - 5 qt/A of 3 lb ae/gal 2.2 - 3.7 qt/A of 4 lb ae/gal 67 - 112 oz of 64% DF See table on pages 5-6 for other formulations	2.25 - 3.75 lb ae/A	Most annuals and perennials including bermudagrass	Turfgrass renovation. Follow label specification. <b>Do not</b> mow or till for 7 days after treatment. Turfgrass may be established as soon as control is accomplished. Consult label to determine if surfactant is needed.
diquat	0.5 - 0.75 fl oz of 2 lb/gal	16 - 32 fl oz/A of 2 lb/gal	0.25 - 0.5	Most annuals	Turfgrass renovation. Same as glyphosate. Use 0.25% v/v non-ionic surfactant.
dazomet	8 lb of a 99G formulation	350 lb of a 99G formulation	347	Annual weeds and reduction of root-propagated weeds such as bermudagrass and sedges	Follow the label for tillage and water requirements both pre- and postapplication. Use lettuce seed bioassay to determine if it is safe to plant or sprig after application. For use on golf greens and tees.

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
<b>Preemergence — lawns and general turf</b>					
Apply only to established warm-season turfgrasses. Most preemergence herbicides may not be applied during the establishment year. Consult labels for restrictions.					
Apply in sufficient water to insure uniform coverage.					
Apply before weeds emerge. Most preemergence herbicides have no postemergence activity.					
Irrigate with a minimum of 0.5 inch of water following application to activate.					
atrazine	0.75 - 1.5 fl oz of 4 lb/gal 0.4 - 0.8 oz of 90 WDG 3.74 - 5 lb of 20-0-20 containing 0.9% atrazine 3 lb of 35-0-0 containing 0.8% atrazine	1 to 2 qt/A or 4 lb/gal or 1.1 to 2.2 lb/A of 90%	1 - 2	Annual bluegrass, henbit, chickweeds, clovers, lawnburweed, and other broadleaf weeds	Apply after Oct. 1 for control of winter weeds or in late winter to control summer weeds. Use lower rate for annual bluegrass control and on hybrid bermudagrass. <b>Do not</b> make more than two applications per year. <b>Do not</b> use around trees and ornamentals. <b>Do not</b> use in areas overseeded with cool-season turfgrasses or in areas where water may move from treated areas to areas overseeded with cool season turfgrasses.
benefin	3 lb of 2.5 G	120 lb/A of 2.5 G	3	Crabgrass, annual bluegrass, and other grassy weeds	Apply March 1 for summer weed control. For winter weed control, apply in August or September. Follow directions on label. <b>Do not</b> use on golf-putting greens.
benefin + oryzalin	3.4 lb of 2G	150 lb/A of 2 G	3	Annual grasses including goosegrass	<b>Do not</b> use on golf greens.
benefin + trifluralin	6 - 8 lb of 0.86% on fertilizer or 2.25 - 3.50 lb of 2G	100 - 150 lb/A of 2 G	2 - 3	Annual grasses and some small seeded broadleaves	<b>Do not</b> use on golf greens.
bensulide	7 - 10 lb of 2 G	600 - 750 lb/A of 2 G	12 - 15	Crabgrass, annual bluegrass, and other grassy weeds	Same as benefin. If used on golf putting greens, apply at least 120 days before overseeding. Some root pruning can be expected.
DCPA	5.1 oz of 75 WP	14 lb/A of 75 WP	10.5	Crabgrass, annual bluegrass, creeping speedwell, and spurge	Early spring applications may be made to new turfgrass seedlings after the grasses have exhibited a uniform greening of the newly sprouted grass, preferably when 1 to 2 inches in height.
dithiopyr	1.5 fl oz of 1 lb/gal product or 0.35 oz of 40 WSP	2 qt/A of 1 EC 0.95 lb/A of 40 WSP	0.5 (EC) 0.38 (WSP)	Annual grasses	May be used early postemergence for crabgrass prior to tillering. Consult label for use directions and precautions.
fenarimol	4-6 fl oz of 1 lb/gal	1.36 - 2.04 gal/A of 1 lb/gal	1.36 - 2.04	Annual bluegrass	Use on bermudagrass greens to be overseeded with perennial ryegrass (two or three application sequence with the last application 2 weeks prior to overseeding). Consult label for timing restrictions for overseeded bentgrass and <i>Poa trivialis</i> .

Turf, Continued

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
isoxaben	0.25 - 0.5 oz	0.66 - 1.33 lb/A of 75 DF	0.5 - 1	Annual broadleaf weeds	<b>Do not</b> apply to golf course greens or tees.
metolachlor	1-2 oz of 7.62 EC	1.3 to 2.6 pt/A of 2.62 EC	1.2 - 2.4	Yellow nutsedge	Apply before March 1.
oryzalin	1.1 + 1.1 fl oz of 4 lb/gal or 1 + 1 oz 75 WSP	1.5 + 1.5 qt/A of 4 lb/gal	1.5 + 1.5	Annual grasses including goosegrass	<b>Do not</b> use on golf greens. Make sequential application 8 weeks after initial application.
oxadiazon	2.5 - 4.5 lb of 2G	100 to 200 lb/A of 2 G	2 - 4	Goosegrass, crabgrass, and some small-seeded broadleaf weeds	<b>Do not</b> use on centipedegrass. <b>Do not</b> apply to golf greens. <b>Do not</b> apply to wet turfgrass.
oxadiazon + prodiamine	4.5 lb of 1.2 G on 38-0-0 fertilizer	200 lb/A of 1.2 G	2.4	Crabgrass, goosegrass, and some broadleaf weeds	<b>Do not</b> apply to wet foliage. Contains slow-release fertilizer.
pendimethalin	3 lb of 2 G or 2.5 lb of 2.45 G or 1.75 oz of 60 WDG or 2.7 fl oz of 3.3 lb/gal or 2.3 fl oz of 3.8 CS	150 lb/A of 2 G or 122 lb/A of 2.45 G or 5 lb/A of 60 WDG or 0.9 gal/A of 3.3 EC or 6.3 pt of 3.8 CS	1.5 - 3	Crabgrass, goosegrass, other grasses, and some small-seeded broadleaf weeds	Certain formulations or mixtures containing pendimethalin may be used on bermudagrass greens. Consult label for specific information. Also consult the label for residential and sod farm turfgrass, which is lower than the use rate for commercial turf.
prodiamine	0.36 - 0.83 oz of 65 WG or 0.5 - 1.1 fl oz of 4 FL	1 - 2.3 lb/A of 65 WDG or 21 - 48 fl oz/A of 4 FL	0.65 - 1.5	Annual grasses	Sequential applications may be needed, especially if goosegrass is the target weed. <b>Do not</b> make more than two applications per year, and do not apply more than 1.5 pounds of active ingredient per acre per year.
pronamide	0.367 oz of 50 WSP	1 lb/A of 50 WSP	0.5	Annual bluegrass	May also be used postemergence.
simazine	0.75 - 1.5 fl oz of 4 lb/gal	1 - 2 qt/A of 4 lb/gal	1 - 2	Annual bluegrass, henbit, chickweed, lawnburweed, and other grass and broadleaf weeds	Apply after Oct. 1 for control of winter weeds or during late winter to control summer weeds. Use lower rate for annual bluegrass control and on hybrid bermudagrass. <b>Do not</b> make more than two applications per year. <b>Do not</b> use around trees and ornamentals. <b>Do not</b> use in areas overseeded with cool-season turfgrasses or in areas where water may move from treated areas to areas overseeded with cool-season turfgrasses. May also be used postemergence (uptake only through soil, irrigate following application to activate).

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
<b>Postemergence</b>					
Use postemergence herbicides when weeds are actively growing, preferably when weeds are in the seedling stage.					
Apply postemergence herbicides in sufficient carrier (water) to provide good coverage, usually 25 – 30 gallons per acre.					
A nonionic surfactant may enhance control. Consult labels to determine if surfactant should be used.					
Apply when temperatures are sufficient for active growth of weeds. For MSMA and other arsenicals, temperature should be above 80 °F. For phenoxy herbicides (2,4-D, etc) temperatures above 70 °F are desirable. Always consult the product label for temperature requirements for maximum efficacy.					
2,4-D (amine) Bermudagrass Centipedegrass Zoysiagrass	1.5 tbsp of 4 lb/gal	1 qt/A or 4 lb/gal	1	Dandelion, dock, plantain, certain clovers, wild garlic, VA buttonweed, other broadleaf weeds	Apply when weeds are young and actively growing. Repeat applications may be necessary. Use low pressure (25 psi) and avoid spray drift onto susceptible flowers and shrubs. Use 0.5 lb on 'Tifgreen' and 'Tifdwarf' bermudagrass.
2,4-D + dicamba Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	5 tbsp of 1.25 + 0.125 lb/gal	0.8 gal/A of 1.25 + 0.125 lb/gal	1.0 + 0.1	Many broadleaf weeds	Consult product label for turfgrass tolerance. Labeling varies. <b>Do not</b> use more than 0.5 pound ae per acre of 2,4-D per application in St. Augustinegrass. <b>Do not</b> use within drip line of trees or shrubs. <b>Do not</b> use more than a total of 1.5 pounds of 2,4-D + dicamba having a ratio 8:1 to 10:1. See 2,4-D and dicamba for additional comments.
2,4-D + mecoprop Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	3 tbsp of 0.88 + 0.88 lb/gal	0.56 gal/A of 0.88 to 0.88 lb/gal	0.5 + 0.5	Spurges, clovers, and other broadleaf weeds	Observe precautions for 2,4-D. Consult product label for turfgrass tolerance. <b>Labeling varies. Do not</b> use more than 0.5 pound ae per acre of 2,4-D per application in St. Augustinegrass. <b>Do not</b> exceed total of 1.5 pounds of this combination per acre.
2, 4-D + mecoprop + dicamba Bermudagrass Centipedegrass Zoysiagrass	1.2 - 1.5 fl oz of 2.03 + 1.08 + 0.21 lb/gal	3 - 4 pt/A	1 + 0.5 + 0.1	Broad spectrum of broadleaf weeds	Many three-way products of this type [ <b>1 : 0.5 : 0.1 ratio of 2,4-D : mecoprop : dicamba</b> ] are available. Labeling varies; most are labeled for use on bermudagrass and zoysiagrass. Few are labeled for use on St. Augustinegrass, and then only at reduced rates. Few with this ratio are labeled for use in centipedegrass. <b>Consult product labels for specific labeling, including restrictions. Do not</b> use within drip lines of trees or shrubs. Observe precautions for each component part.

Turf, Continued

Herbicide and Tolerant Turfgrass	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
2,4-D + mecoprop + dicamba  Bermudagrass Centipedegrass Zoysiagrass St. Augustinegrass	0.4 - 0.56 fl oz of 1.5 + 2.77 + 0.31 lb/gal	1 - 1.5 pt/A	0.28 + 0.52 + 0.05	Broad spectrum of broadleaf weeds	A few three-way products of this type [ <b>0.5 : 1 : 0.1 ratio of 2,4-D: mecoprop : dicamba</b> ] are available. Although many of these products may be used on all warm-season turfgrasses, they are targeted for use in St. Augustinegrass.
2,4-D + MCPP + dicamba + carfentrazone  Bermudagrass Zoysiagrass	0.75 - 1.5 fl oz of 0.05 + 1.53 + 0.48 + 0.14 lb/gal	2 - 4 pt	0.025 + 0.75 + 0.24 + 0.07	Broad spectrum of broadleaf weeds	<b>Do not</b> use on St. Augustinegrass or centipedegrass. Consult label for restrictions. Do not use within drip lines of trees or shrubs. Do not apply when temperatures exceed 90 °F.
2,4-D + MCPP + dicamba + carfentrazone  St. Augustinegrass Centipedegrass Bermudagrass Zoysiagrass	0.75 - 1.8 fl oz of 0.04 + 0.52 + 0.2 + 0.05 lb/gal	2 - 5 pt	0.025 + 0.325 + 0.125 + 0.031	Broad spectrum of broadleaf weeds	<b>Do not</b> use more than 4 pints per acre except on common bermudagrass. Consult label for restrictions. Do not use within drip lines of trees or shrubs. Do not apply when temperatures exceed 90 °F.
2,4-D + clopyralid + dicamba  Bermudagrass Zoysiagrass	0.72 - 1.1 fl oz of 3 - 0.375 + 0.375 lb/gal	2 - 3 pt/A	1.25 + 0.14 + 0.14	Broad spectrum of broadleaf weeds	<b>Do not</b> use on centipedegrass or St. Augustinegrass. Not labeled for use on sod farms.
asulam  St. Augustinegrass Tifway Bermudagrass	3 - 4 tbsp of 3.34 lb/gal	5 pt/A	2	Crabgrass	Sod production use only. <b>Do not</b> apply to St Augustinegrass under stress or freshly mowed. <b>Do not</b> make more than one application per year.
atrazine + bentazon  Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.66 - 0.88 fl oz of 2.5 + 2.5 lb/gal	1.8 - 2.4 pt/A	0.56 + 0.56 - 0.75 + 0.75	Annual and perennial broadleaf weeds and yellow nutsedge	Perennial weeds and sedges require two applications 7-10 days apart. Apply with crop oil concentrate at 2 pints per acre. Apply no earlier than 10 days after sprigging or plugging. Some discoloration and slowing of growth may occur on newly sprigged turfgrasses.
bentazon  Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.75 fl oz of 4 lb/gal	2 pt/A	1	Yellow nutsedge	Apply to actively growing yellow nutsedge at 10- to 14-day intervals, but no more than three applications per season. <b>Do not</b> mow for 3-5 days after application. Will not control purple nutsedge. <b>Do not</b> use on golf greens.

Turf, Continued

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
bromoxynil Bermudagrass Zoysiagrass St. Augustinegrass Perennial ryegrass	0.375 to 0.75 fl oz of 2 lb/gal	1 - 2 pt	0.25 - 0.5	Broadleaf weeds	For use only on established and newly seeded grasses grown for seed or sod and nonresidential turfgrasses. <b>Do not</b> apply with backpack or hand-held equipment.
carfentrazone Bermudagrass Bahigrass Zoysiagrass St. Augustinegrass Centipedegrass	0.012 - 0.048 fl oz of 1.9 lb/gal	0.55 - 2.1 fl oz	0.008 - 0.03	Broadleaf weeds	Works best as an addition to other herbicides such as 2,4-D, dicamba, dichloroprop, or other auxin type herbicides or combinations. Provides a faster burndown of weeds.
carfentrazone Bermudagrass Bentgrass	0.154 fl oz	6.7 fl oz	0.099	Silvery thread moss	Apply twice 2 weeks apart. Use a surfactant at 1 quart per 100 gallons. Repeated applications can be made but not to exceed 0.40 pound of active ingredient per acre. It is labeled for bermudagrass and bentgrass greens.
chlorsulfuron Bermudagrass Zoysiagrass St. Augustinegrass Centipedegrass	0.05 - 0.25 oz	(1 - 5.33 oz/A of 75 DF)	0.08 - 0.24	Tall fescue, perennial ryegrass, chickweed, henbit, and many other broadleaf and grassy weeds	Use in bermudagrass only. Not for use on sod farms. <b>Do not</b> apply in the root zones of desirable trees or shrubs or where runoff may flow into agricultural land.
clopyralid Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.1 - 0.5 fl oz of 3 lb/gal	0.25 - 1.33 pt/A	0.09 - 0.45	Clovers, black medic, and other broadleaf weeds	Can cause injury to desirable legumes and composite species. Consult label for tank-mixing with other postemergence herbicides for broadleaf weed control.
clopyralid + triclopyr Bermudagrass	0.37 - 0.74 fl oz of 0.75 + 2.25 lb/gal	1 - 2 pt/A	0.09 + 0.29	Wild violet, common lespedeza, and other broadleaf weeds	<b>Do not</b> use on golf tees or greens. <b>Do not</b> use more than 4 pints per acre per year. <b>Do not</b> allow contact with desirable trees or shrubs. Mow newly seeded turf two or three times prior to first application. Additional applications should not be made less than 4 weeks apart.
CMA Bermudagrass Zoysiagrass	5 fl oz of 1 lb/gal	2.5 gal/A	2.5	crabgrass dallisgrass	Generally causes less discoloration than other arsenicals.
dicamba Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.75 tbsp of 4 lb/gal	0.5 pt/A	0.25	Many broadleaf weeds	<b>Do not</b> use within dripline of shrubs or trees. Roots take up the chemical from the soil and some species are damaged. Good for use on golf greens and tees.

Turf, Continued

Herbicide and Tolerant Turfgrass	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
diclofop Bermudagrass	0.75 - 1 fl oz of 3 lb/gal	32 - 43 fl oz/A	0.75 - 1	Goosegrass	Bermudagrass on golf courses only. May be used on bermudagrass golf greens. Apply postemergence to actively growing goosegrass with four or fewer leaves in a spray volume of 30 to 60 gallons per acre. <b>Do not</b> apply to stressed grasses. Activity may be increased on larger goosegrass if applied with a 0.25%, by-volume, nonionic surfactant. <b>Do not</b> tank mix with other herbicides, make applications to newly established turfgrass with stolons less than 4 inches, or overseed areas for 3 months following application.  <b>RESTRICTED USE PESTICIDE.</b>
diquat Dormant Bermudagrass or Zoysiagrass turf only	0.5 - 0.75 fl oz of 2 lb/gal	1 - 2 pt/A	0.25 - 0.5	Winter annual broadleaf and grassy weeds	Bermudagrass or zoysiagrass must be dormant or injury will occur.
DSMA Bermudagrass Zoysiagrass	2.5 - 4 fl oz of 3.6 lb/gal	3.3 - 5.5 qt/A	3 - 5	Crabgrass, dallisgrass	Repeat applications at 7- to 10-day intervals are necessary. Best results are obtained when adequate soil moisture is present. Apply only when temperatures are above 80 °F. <b>Do not</b> use on newly established turfs until turfgrasses are well established.
fenoxaprop Zoysiagrass	0.64 fl oz of 0.57 lb/gal	28 fl oz/A	0.125	Crabgrass, goosegrass	Zoysiagrass only. <b>Do not</b> apply to bermudagrass or other warm-season turfgrasses. Consult label for recommended rate according to weed stage at application. <b>Do not</b> mow within 24 hours after application.
fluazifop-p-butyl Zoysiagrass Tall fescue	0.07 - 0.14 oz of 2 lb/gal	3 - 6 oz of 2 lb/gal	0.047 - 0.093	Bermudagrass suppression and control of some annual grasses	Higher rates can cause discoloration. Avoid summer applications. Repeat applications can be made every 28-30 days. Use nonionic surfactant at the rate of 1 quart per 100 gallons. Not for use on residential lawns. Do not use more than 4 ounces per acre on zoysiagrass.
fluroxypyr Bermudagrass Centipedegrass Zoysiagrass St. Augustinegrass	0.25 - 0.5 fl oz of 1.5 lb/gal	11 - 21 fl oz/A of 1.5 lb/gal	0.25 - 0.5	Annual and perennial broadleaf weeds	Do not use on golf greens or tees. Do not use within drip lines of trees and shrubs. Do not apply more than 0.66 pint per acre to bermudagrass or St. Augustinegrass.
foramsulfuron Bermudagrass Zoysiagrass (consult label for tolerant varieties)	0.2 - 0.6 fl oz of 0.19 lb/gal	8.8 - 26.2 fl oz	0.013 - 0.039	Annual bluegrass, ryegrass, and Poa trivialis	<b>Do not</b> use more than 0.4 fluid ounce per 1,000 square feet to remove ryegrass or other overseeding grass from bermudagrass. <b>Do not</b> use more than 1.25 ounce per 1,000 square feet per year. <b>Do not</b> allow traffic on the treated area until completely dry. May be used up to 2 weeks prior to overseeding with perennial ryegrass.

Turf, Continued

Herbicide and Tolerant Turfgrass	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
halosulfuron Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.03 oz of 75 DF	1.33 oz/A	0.062	Purple and yellow nutsedge Green kyllinga (suppression)	<b>Do not</b> use on golf-putting greens. Apply after nutsedge has reached 3- to 8-leaf growth stage. Use 0.5%, by-volume, nonionic surfactant for broadcast applications. A second treatment may be needed 6 to 10 weeks after the initial application. <b>Do not</b> make more than two applications with a total use rate not to exceed 0.125 pound per acre per year. <b>Do not</b> mow turf for 2 days before or 2 days after application. <b>Do not</b> apply to centipedegrass prior to tillering.
imazaquin Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.5 - 1 fl oz of 1.5 lb/gal or 0.13 - 0.26 oz of 70 DG	21 - 42 fl oz/A of 1.5 lb/gal or 5.7 - 11.4 oz/A of 70 DG	0.25 - 0.5	Purple nutsedge, yellow nutsedge, other sedges, and wild garlic	Apply when weeds are actively growing. May be tank mixed with MSMA when used in bermudagrass and zoysiagrass. <b>Do not</b> use on golf greens.
mecoprop Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	3 - 5 tbsp of 2 lb/gal	2 - 3.5 qt/A	1 - 1.75	Clovers, spurges	May be used on golf greens. Acts slower than 2,4-D.
mesotrione Centipedegrass St. Augustinegrass Tall fescue Perennial ryegrass	0.09 - 0.18 oz of 4 lb/gal	4 - 8 oz of 4 lb/gal	0.125 - 0.25	tufted lovegrass, crabgrass, goosegrass, broadleaf weeds	Apply to St. Augustine on sod farms only. May require second application for control of some annual grasses. Use surfactant at the rate of 1 quart per 100 gallons.
metribuzin Bermudagrass	0.2 - 0.25 oz of 75 DF or 0.5 - 1 tbsp of 4 lb/gal	8 - 10.6 oz/A of 75 DF	0.37 - 0.5	Many winter annual broadleaf weeds	Use on dormant bermudagrass only. See below for tank-mix with MSMA for goosegrass control. Follow all label precautions.
metsulfuron Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.006 - 0.023 oz of 60 DF	0.25 - 1 oz/A of 60 DF	0.009 - 0.04	Bahiagrass and many winter and summer broadleaf and grassy weeds, and for removal of overseeded perennial ryegrass	'Meyer' and 'Emerald' zoysiagrass only. <b>Do not</b> apply more than 0.5 ounce per acre to centipedegrass. Some discoloration to turfgrasses may occur. Use of a surfactant at 1 quart per 100 gallons of solution will increase performance, but it may also increase chlorosis of turfgrasses.
MSMA Bermudagrass Zoysiagrass	1 - 2 fl oz of 6 lb/gal	1.3 - 2.6 qt/A of 6 lb/gal	2 - 4	Crabgrass, dallisgrass	Repeat applications at 7- to 10-day intervals are necessary. Best results are obtained when adequate soil moisture is present. Apply only when temperatures are above 80 °F. <b>Do not</b> use on newly established turfs until turfgrasses are well established.

Turf, Continued

Herbicide	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
MSMA + metribuzin (Tank mix)  Bermudagrass	1 fl oz/A of 6 lb/gal + 0.9 g of 75 DF	1.3 qt/A of 6 lb/gal + 1.33 oz/A of 75 DF	2 + 0.0625	Goosegrass	Use only on bermudagrass turf on golf course fairways and commercial sod farms. Add 0.25% by volume of an agricultural grade surfactant. Repeat application in 7-10 days and delay mowing 3 days following each application for maximum control.
pronamide  Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.36 - 0.73 oz of 50 WSP	1 lb/A of 50 WSP	0.5 -1.5	Annual bluegrass	Apply November to February, best before January, and apply 0.5 to 1 inch of water immediately after application. <b>Do not</b> apply chemical to overseeded turf. <b>Do not</b> apply where lateral water movement may carry chemical to overseeded turf. <b>Do not</b> apply a wetting agent within 14 days before or after application.
quinclorac  Bermudagrass Zoysiagrass	0.5 oz of 75DF	1.33 lb/A of 75 DF	1 + 1 or 0.67 + 0.67 + 0.67	Torpedograss suppression	Best control with 0.67 pound per acre applied at 3-week intervals. <b>Do not</b> apply more than 2 pounds per acre in 1 year. <b>Do not</b> apply on or in the root zone of ornamentals. <b>Do not</b> apply through any type of irrigation system. Use with 1.5 pints per acre methylated seed oil.
rimsulfuron	0.6 g	1 - 2 oz/A of 25 DF	0.0156 - 0.0312	Annual bluegrass, overseeded perennial ryegrass, and broadleaf weeds	For use in non-overseeded bermudagrass, including sod farms, golf courses, professionally managed college and professional sports fields, and industrial and commercial lawns. Not for use in residential lawns. Lateral movement may occur and injure overseeded grasses downslope from the treated area. Use lower rate for removing overseeded perennial ryegrass. May be applied up to 2 weeks prior to overseeding perennial ryegrass.
sethoxydim  Centipedegrass	0.5 - 0.75 fl oz of 1 lb/gal	23 - 36 fl oz/A of 1 lb/gal	0.18 - 0.28	Crabgrass and other annual grasses	Use in centipedegrass only. Apply no sooner than 3 weeks after greenup. <b>Do not</b> mow within 7 days before or after application. <b>Do not</b> apply to seedling centipedegrass until new stolons are 3 inches long. <b>Do not</b> exceed 3 pints per acre per season. Professional applicators only.
simazine  Bermudagrass Centipedegrass St. Augustinegrass Zoysiagrass	0.75 - 1.5 fl oz of 4 lb/gal	1 - 2 qt/A of 4 lb/gal	1 -2	Annual bluegrass, henbit, chickweed, lawnburweed, and other grass and broadleaf weeds	Uptake only through soil. Irrigate following application to activate.

Turf, Continued

Herbicide and Tolerant Turfgrass	Rate/1,000 square feet	Rate/A	Active ingredient lb ai/A	Weeds controlled	Time of application and special instructions
sulfentrazone Bermudagrass St. Augustinegrass Centipedegrass Zoysiagrass Bahigrass	0.09 - 0.27 oz of 4 lb/gal	4 - 12 oz of 4 lb/gal	0.125 - 0.375	sedges, kyllinga, and broadleaf weeds	Apply to established grasses or after two mowings on newly seeded or sodded turf that has an established root system. Do not add surfactant. Not for use on golf course greens or tees.
sulfosulfuron Bermudagrass St. Augustine Centipedegrass Zoysiagrass	0.5 g of 75WG	0.75 - 2 oz of 75WG	0.035 - 0.094	Sedges, kyllinga, annual bluegrass, lawnburweed, and other winter annuals	Apply no sooner than 7 days prior to overseeding perennial ryegrass. Use nonionic surfactant at the rate of 1 quart per 100 gallons. May be applied to commercial or residential turf. <b>Do not</b> apply to greens.
sulfentrazone + prodiamine  Bermudagrass Centipedegrass Zoysiagrass	0.413 - 0.551 fl oz	18 - 36 fl oz	0.57 - 1.125	Annual grasses	For preemergence and early postemergence of annual grasses such as crabgrass. Do not exceed 1.125 pounds of active ingredient per year. Do not apply to greens or tees. Do not exceed 24 fluid ounces per acre on Centipedegrass or Zoysiagrass.
trifloxysulfuron Bermudagrass Zoysiagrass	0.008 - 0.013 oz of 75 WG	0.33 - 0.56 oz/A  0.1 - 0.3 oz/A	0.015 - 0.026	Annual bluegrass, ryegrass, nutsedges, kyllinga, broadleaf weeds, and torpedo- grass suppression  Overseeded perennial ryegrass and rough- stalk bluegrass	Use low rate to remove overseeded perennial ryegrass and <i>Poa trivialis</i> to aid in spring transition of bermudagrass. Use surfactant at a rate of 1 quart per 100 gallons. <b>Do not</b> use more than 1.7 ounces per acre per year. <b>Do not</b> allow traffic on the treated area until completely dry. May be used up to 3 weeks prior to overseeding perennial ryegrass.

## IMPROVED RIGHTS-OF-WAY/INDUSTRIAL

**Oust Precautions —**

1. Avoid applying during rainy periods or when soils are water saturated.
2. Do not apply on newly planted areas. Spray only on good stands that are in their third year of growth.
3. Do not spray when ground is frozen.
4. Do not spray near irrigation canals, ditches, etc.
5. Do not spray areas that will be planted to crops or apply where lateral water movement from treated areas to crop areas may occur.
6. Spring or summer applications of Oust may cause “brownout” and/or bermudagrass kill. Public complaints may result.

**Situation and**

<b>Application Timing</b>	<b>Herbicide</b>	<b>Rate/A</b>	<b>Comments</b>
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**FALL**

Sept. 15 to Oct. 1	pendimethalin	2 - 4 lb ai/A	Apply in areas to control Italian ryegrass resistant to ALS-inhibiting herbicides. Applications should be made as late as possible during September before emergence.
	prodiamine	0.75 - 1 lb ai/A	Apply in areas to control Italian ryegrass resistant to ALS-inhibiting herbicides. Applications should be made as late as possible during September before emergence.

**LATE FALL**

October to December	sulfometuron	1 - 2 oz	Do not add surfactant. Sulfometuron controls winter annuals and fescue and suppresses early summer annuals. Fall applications, compared with later applications, permit earlier spring greenup of bermudagrass and reduce chance of injury to nearby crops. Do not spray areas that will be planted to crops.
	aminopyralid	7 fl oz	This treatment is for winter broadleaf control. Add 1 quart of surfactant per 100 gallons of spray solution.
	diuron	2 - 3 lb ai/A	Diuron controls Italian ryegrass (which is resistant to Oust) and some other winter annuals.
	2,4-D	1 - 2 lb ae/A	This treatment is for control of emerged broadleaf weeds. Apply with the addition of 0.25 or 0.5% v/v nonionic surfactant.
	triclopyr	0.33 - 1.5 lb ae/A	This treatment is for control of emerged broadleaf weeds. Apply with the addition of 0.25 or 0.5% v/v nonionic surfactant.
	dicamba	0.5 - 1 lb ai/A	This treatment is for control of emerged broadleaf weeds. Apply with the addition of 0.25 or 0.5% v/v nonionic surfactant.
	diflufenzopyr + dicamba	4 - 8 oz/A	This treatment is for control of broadleaf weeds. Add 1 quart of surfactant per 100 gallons of spray.
	clopyralid	0.25 - 1.33 pt	This treatment is for control of broadleaf weeds. Apply with the addition of 0.25 or 0.5% v/v nonionic surfactant.
	glyphosate	0.375 - 0.75 lb ae/A	Applications can be made using 16 fluid ounces per acre of a 4# glyphosate during October while bermudagrass is actively growing. Once bermudagrass is completely dormant, rates can be increased to 32 fluid ounces per acre using a 4# glyphosate.
	glyphosate + 2,4-D	48 - 64 fl oz	This treatment provides broadleaf and grass control. The low rate should be used until bermudagrass is dormant.

Situation and Application Timing	Herbicide	Rate/A	Comments
<b>WINTER</b>			
January to March	glyphosate + 2,4-D	48 - 64 fl oz	Controls winter annuals, tall fescue, and some weeds that may be tolerant to Oust. Apply Campaign before bermudagrass greenup initiates in the spring or injury may result.
	glyphosate	0.56 - 0.75 lb ae/A	Controls winter annuals, tall fescue, and some weeds that may be tolerant to Oust. Will control annual ryegrass, which has developed resistance to Oust. Apply glyphosate before bermudagrass greenup initiates in the spring or injury may result. Consult the label to determine if surfactant is needed.
	aminopyralid	7 fl oz	For broadleaf control. Add 1 quart of surfactant per 100 gallons of spray solution.
	chlorsulfuron 75 DF	0.5 to 1 oz/A	For broadleaf weed control. Add 1 of quart of surfactant per 100 gallons of spray. Can be used in bermudagrass and bahiagrass.
	diflufenzopyr + dicamba	4 - 8 oz/A	For broadleaf weed control. Add 1 quart surfactant per 100 gallons of spray.
January to Feb. 15	sulfometuron 75 DF	0.5 oz	Controls winter annuals and provides tall fescue suppression. Less likely to cause delay in bermudagrass greenup than March-April treatment.
	imazapic 2L	8 - 12 fl oz	Imazapic 2L controls tall fescue, Italian ryegrass, and winter annuals. Avoid applying Plateau after bermudagrass initiates greenup. Bahiagrass should be completely dormant or injury will occur. Do not exceed 12 ounces per acre in 1 year. See the label for recommended additive.
<b>SPRING</b>			
March and April	sulfometuron 75 DF	0.5 oz	Add 0.5% v/v surfactant. Begin application to actively growing weeds in late winter to early spring. Controls a wide variety of winter and spring annuals, including bedstraw and corn speedwell and suppresses tall fescue. When 0.5 ounce of Oust is used, less delay in bermudagrass greenup will likely be observed. If brownout or delay in bermudagrass greenup is not acceptable, refer to the fall Oust application.
	triclopyr	0.33 - 1.5 lb ae/A	Apply to cover weeds using 30 to 50 gallons of spray per acre. Add 2 quarts of surfactant to each 100 gallons of spray per acre. Apply in early spring prior to emergence of susceptible crops. Controls emerged broadleaf weeds.
	2,4-D	1 - 2 lb ae/A	
	dicamba	0.5 - 1 lb ai/A	
	clopyralid	0.25 - 1.33 pt	
	aminopyralid	7 fl oz	For broadleaf control. Add 1 quart of surfactant per 100 gallons of spray solution.
	diflufenzopyr + dicamba	4 - 8 oz/A	For broadleaf weed control. Add 1 quart of surfactant per 100 gallons of spray. Apply in early spring prior to emergence of susceptible crops.
Tall fescue seedhead suppression	sulfometuron 75 DF	0.25 oz	Apply before seedheads emerge in spring. Add 2,4-D and/or dicamba (Banvel 720) plus 1 quart per acre surfactant to improve broadleaf control. <b>Do not</b> add surfactant with Oust alone. Does not control tall fescue.

Situation and Application Timing	Herbicide	Rate/A	Comments
<b>SUMMER</b>			
Bermudagrass release			The following treatments can follow spring or fall Oust applications if needed or may be used alone.
Annual weeds and johnsongrass	sulfometuron 75 DF	0.5 - 1 oz	Use low rate to control most annuals and high rate where johnsongrass is a problem. Poor control of vaseygrass, broomsedge, and dallisgrass.
Annual weeds and johnsongrass	imazapic	8 - 12 fl oz	Controls johnsongrass, crabgrass, common ragweed, and provides suppression of bahiagrass and other weeds. Do not exceed 12 ounces per acre in one year. See label for recommended additive.
late spring to summer	MSMA — 6 lb/gal or 6.6 lb/gal	3.3 - 4 pt or 3 - 3.6 pt	Same as above. Use on well-established bermudagrass to control most weed species including johnsongrass. Add surfactant as above.
late spring to summer	glyphosate	0.28 - 0.375 lb ae/gal	Use on well-established bermudagrass to suppress johnsongrass and control annual and perennial grass weeds, such as crabgrass, knotroot foxtail, tall fescue, and dallisgrass. Some discoloration of bermudagrass may occur. Consult the label to determine if surfactant is needed.
Johnsongrass	sulfosulfuron 75 DF	1.33 oz	For johnsongrass control in bermudagrass and bahiagrass highway rights-of-way and similar areas. Highly selective for johnsongrass control with little or no injury to these turfgrasses. Consult label for other weeds controlled.
Bahiagrass seedhead suppression	sulfometuron 75 DF	0.5 oz	Apply before seedheads emerge in spring or soon after mowing in summer. Add 2,4-D and/or dicamba (Banvel 720) plus 1 quart per acre of surfactant to improve broadleaf control. <b>Do not</b> add surfactant with Oust alone. Does not control bahiagrass.
	imazapic 2L	2 - 3 fl oz	Provides only seedhead suppression of bahiagrass. Do not expect weed control. Raise mowing height to leave adequate existing foliage since new growth will be suppressed.
	glyphosate	0.14 - 0.18 lb ae/A	Apply before seedheads emerge in spring or soon after mowing in summer. Will provide approximately 45 days of vegetative growth and seedhead suppression. Consult the label to determine if surfactant is needed.
Broomsedge suppression	(See above — SUMMER Bermudagrass Release — annuals and many perennials).		
Hemp sesbania control	Linuron 4L	0.5 lb ai/A 1 pt	Add 2 quarts of surfactant per 100 gallons of spray. Apply 40 to 50 gallons of spray per acre to ensure good coverage of emerged sesbania.
	metsulfuron	0.5 to 1 oz/A	Add 1 quart of surfactant per 100 gallons of spray. <b>DO NOT</b> use in bahiagrass.