

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per 1,000 Square Feet	Time of Application	Method of Application and Precautions
<p>TURF GRASSES Using Preemergence Herbicides – While degree of persistence varies, most preemergence herbicides provide about 100 days of control and thus require repeat applications for season-long control in the mid-south. Applications must be made before weeds emerge or poor control will result. Recommended dates of application for crabgrass and other annual grasses are February 15 - March 5 for southern Arkansas and March 1 - 20 in northern Arkansas. Fall preemergence applications for winter annual control: Apply simazine after September 1 for winter weed control unless annual bluegrass is the target, then apply after October 1. Apply atrazine after October 1. If you are not using atrazine or simazine for fall preemergence control of annual bluegrass apply preemergence treatments on or near September 1 in all parts of the state. Where possible, water-in preemergence herbicides immediately after application. Dinitroaniline herbicides such as benefin, oryzalin, proflam, pendimethalin are not recommended for high traffic areas such as cart path margins, par-3 tees, and bare or poorly established areas. For these high traffic areas, especially those with goosegrass, consider using a preemergence product containing oxadiazon. Herbicide-only formulations have been the standard for many years but the practice of impregnating herbicides on dry fertilizer granules is becoming increasingly popular. Common sense suggests that choosing a fertilizer carrier with relatively uniform particle size will improve the uniformity of herbicide distribution.</p>				
Preemergence - Established Grasses				
benefin @ 2 to 3 lb/A	Summer annual grasses and selected broadleaf weeds.	Balan 2.5G 2 to 3 lb of 2.5% G.	Before crabgrass germinates. Applying between March 15 and April 1 is usually effective.	An additional application may be made 8 weeks after the initial treatment for continued weed control. DO NOT apply to newly sprigged grasses until these turfs are well established. DO NOT use on golf course greens or make a spring application to fall planted turfgrasses. Delay reseeding for 6 weeks after application for the low rate, and for 12 to 16 weeks at the high rate.
proflam @ 0.33 to 0.75 lb/A	Annual grasses and some broadleaf weeds.	Barricade 65 WDG 0.18 to 0.4 oz.	Before crabgrass germinates. Applying around March 15 is usually effective.	Apply only to well established turf. See label for limitations. Do not apply to tees or greens. Do not exceed a maximum of 2.3 lb/A per year for bermuda, centipede, tall fescue and zoysia. Do not exceed 1.15 lb/A per year for St. Augustine. Do not make more than 2 applications per calendar year and allow at least 60 days between treatments. Use a split application for goosegrass control. Wait 4 to 6 months per 0.75 lb of Barricade applied before reseeding.
pendimethalin @ 1 to 3 lb/A	Same as above.	Pendulum AquaCap 3.8 AS 1.1 to 2.3 oz.	Spring. Preemergence to target weeds.	DO NOT use on newly sprigged turf grasses NOT recommended for turfgrass that has been severely thinned due to winter stress. DO NOT reseed within 4 months of application. Use the low rate for tall fescue and Ky. bluegrass. The high rate may be used on warm season grasses.
siduron @ 3 lb/A	Crabgrass.	Tupersan 50W 2.2 oz.	Spring seeding – as final operation following seeding. Fall seeding – apply following spring.	Use only on newly seeded Kentucky Bluegrass or tall or red fescue. Irrigate after application. Do not use on warm season grasses. Granular formulation available.
benefin + oryzalin @ 1.0 + 1.0 to 1.5 + 1.5 lb/A	Summer annual grasses and selected broadleaf weeds.	XL 2G 2.3 to 3.5 lb 2%G.	March 15 to April 1.	DO NOT apply to newly sprigged grasses until well established. DO NOT apply to golf course greens. DO NOT make a spring application to fall planted turfgrasses. Delay reseeding for 6 weeks (low rate) and for 12 to 16 weeks (high rate) after application.
benefin + trifluralin @ 1.33 to 2 lb + 0.67 to 1 lb/A	Same as above.	Team Pro 2.3 to 3.4 lb 2%G.	Same as above.	DO NOT apply to newly sprigged grasses until well established. DO NOT apply to putting greens. DO NOT make a spring application to fall planted turfgrasses. Delay reseeding for 6 weeks (low rate) and 12 to 16 weeks (high rate) after application.

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TURF GRASSES Preemergence - Established Grasses [cont.]				
oryzalin @ 1.5 to 3 lb/A	Same as above.	Surflan 4 AS 1.5 fl oz. 0.75 oz fb 0.75 oz for goosegrass.	Same as above.	Apply 2.0 to 3.0 qt/A for summer annual grass control, or apply 1.5 qt/A and apply an additional 1.5 qt/A 8 to 10 weeks after the initial application. Split applications are recommended for improved goosegrass control and for tall fescue. DO NOT apply to newly sprigged grasses until well established. DO NOT apply to golf course greens. DO NOT make a spring application to fall planted turfgrasses. Surflan is recommended for use on healthy, established turf. Delay reseeding for 3 to 4 months after applications.
dithiopyr @ 0.5 lb/A	Annual grasses and small seeded broadleaf weeds.	Dimension Ultra 40 WP 0.36 oz.	Mid-March to early April.	May be used on bentgrass and bermudagrass, zoysia, St. Augustine, centipede, tall fescue, Kentucky bluegrass and most other species of turfgrass. Has postemergence activity on very small crabgrass. Do not reseed, overseed or sprig within 8 weeks of application.
bensulide @ 12 to 15 lb/A	Summer annual grasses and selected broadleaf weeds.	Betasan, Presan, Betamec 4 EC 3.4 lb of 8.5 G. 7.4 to 9.4 oz of 4 lb/gal liquid.	March 15 to April 1.	Apply high rate in fall for annual bluegrass control. Apply a light irrigation immediately after treatment. DO NOT apply to newly sprigged grasses. Delay reseeding for 4 months after treatment. May be used on bermudagrass and bentgrass greens.
isoxaben @ 0.5 to 1 lb/A	Broadleaf weeds including spurge.	Gallery 75 DF 0.25 to 0.5 oz.	Mid-March to early April for summer weeds, October for winter annuals.	Tank mix with a grass herbicide such as Surflan, etc. If using for fall preemergence treatment to improve annual bluegrass control. May be used on most common turfgrasses. Do not use on putting greens.
oxadiazon @ 2 to 4 lb/A	Same as above.	Ronstar 2G 2.25 to 4.5 lb of 2% G or 1.5 to 3.0 oz of 50WP.	Same as above.	DO NOT apply more than 3 lb ai/acre on St. Augustine. May cause temporary discoloration of bermudagrass and St. Augustine which is normally outgrown in 2 to 3 weeks. DO NOT apply to wet turf. Delay reseeding for 4 months after treatment. DO NOT apply to red fescue, centipede, or golf course greens.
oxadiazon + bensulide @ 1.5 + 6 lb/A	Same as above.	Goosegrass/Crabgrass Control 2.6 lb.	Same as above.	Apply a light irrigation after treatment. DO NOT use on newly sprigged grasses until well established. Delay reseeding for 5 months after treatment. May be used on bermudagrass and bentgrass greens under conditions of heavy goosegrass infestations. See label for precautions concerning use on putting greens.

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metolachlor @ 1.2 to 2.5 lb/A	Annual grasses and some small seeded broadleaf weeds, yellow nutsedge suppression.	Pennant Magnum 7.62 0.5 to 1.0 oz.	Mid-March to early April.	May be used on bermuda, zoysia, St. Augustine or centipede. See label for overseeding restrictions. May cause delayed greenup when applied to dormant bermuda. Needs 0.5 inch rainfall or irrigation within 7 days of application. Do not apply more than once per year.
simazine @ 1 to 2 lb/A	Annual bluegrass, spurweed and many other winter annual weeds.	Princep 0.4 to 0.8 oz Princep DF. 0.75 to 1.5 oz Princep Liquid.	Between October and April 15 for control of winter annual weeds.	Apply simazine in October or November for pre-emergence control of winter annual weeds. Apply December through February for late postemergence control of winter annuals. Apply low rate for annual bluegrass control; or high rate for winter annual broadleaf control. DO NOT overseed with desirable turfgrass within 4 months before or 6 months after treatment. DO NOT apply more than 1 lb ai/acre on newly sprigged turfgrasses or on hybrid bermudagrass such as Tiflawn, Tifway, and Ormond.
atrazine @ 1 to 2 lb/A	Annual bluegrass, spurweed, chickweed, and many other weeds.	AAtrex 0.4 to 0.8 oz 90WDG. 0.75 to 1.5 oz 4L.	October to November for spurweed. October 1 to April 1 for most winter annuals.	Atrazine provides both preemergence and postemergence control of annual broadleaf weeds. Restricted use herbicide. See label for special instructions. Do not apply to fairways, etc. that drain onto golf greens. Avoid applications during greenup. For bermudagrass and zoysiagrass, atrazine should be applied only to dormant turf. DO NOT overseed 4 months before or 6 months after treatment. DO NOT apply within the active root zone of azaleas, camellias, boxwoods, etc.
pronamide @ 0.5 to 1 lb/A	Annual bluegrass (<i>Poa annua</i>).	Kerb 50W or WSP 0.4 to 0.8 oz of 50W.	Apply in the fall or late winter when <i>Poa annua</i> begins to germinate or is in the 1- to 2-leaf stage.	For use on bermudagrass, centipedegrass, St. Augustinegrass and zoysiagrass. Do not overseed with cool-season grass within 90 days. Avoid spraying areas on fairways that drain onto bentgrass greens or overseeded areas. Use the high rate for postemergence control.
Using Postemergence Herbicides – Postemergence herbicides are active only on emerged weeds. In general, these herbicides are most effective on young weeds. Applying postemergence herbicides when temperatures are above 85-90°F may result in increased turfgrass yellowing. In many cases, repeat applications may be needed for satisfactory control. Repeat applications should be timed 10-14 days apart or until regrowth appears. Repeat applications at moderate rates will usually be preferable for turfgrass safety and weed control compared to single treatments at excessive rates. A rain-free period of 6 to 24 hours is needed for effective control.				
Postemergence - Established Grasses				
metsulfuron @ 0.0038 to 0.038 lb/A	Many broadleaf weeds and bahiagrass.	Patriot, Manor, Blade 60 DF 0.003 to 0.22 oz.	Postemergence.	Safe for use on bermudagrass, centipedegrass, St. Augustinegrass and zoysiagrass. Add 0.25% nonionic surfactant. Do not exceed the 0.25 oz rate on centipedegrass.

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TURF GRASSES	Postemergence - Established Grasses [cont.]			
rimsulfuron @ 0.031 to 0.062 lb/A	Annual bluegrass.	TranXit GTA 25 DF 0.046 to 0.09 oz.	See label for details.	Labeled for Poa annua control in nonoverseeded bermudagrass, for transition of perennial ryegrass and Poa annua control before overseeding.
chlorsulfuron @ 0.046 to 0.25 lb/A	Tall fescue, wild garlic, chickweed.	Corsair 75 DF 0.022 to 0.12 oz.	Postemergence.	Safe for use on bermudagrass. Add 0.25% non-ionic surfactant. Very slow acting.
foramsulfuron @ 0.02 to 0.03 lb/A	Cool season grasses, goosegrass, centipedegrass.	Revolver 0.19 SC 0.2 to 0.4 oz.	Postemergence.	For use on bermudagrass and zoysiagrass. Do not apply to areas where runoff water may come into contact with cool season grasses.
trifloxysulfuron @ 0.015 to 0.026 lb/A	Cool season grasses, Virginia buttonweed, sedges, white clover, dichondra, carpetweed.	Monument 75 WG 0.007 to 0.013 oz.	Postemergence.	For use on bermudagrass and zoysiagrass. For spot treatment, add 0.0176 oz per gallon plus two teaspoons of surfactant. Use repeat applications for sedges. Do not apply to areas where runoff water may come into contact with cool season grasses.
sulfosulfuron @ 0.06 to 0.12 lb/A	Johnsongrass, sedges including yellow, purple and kyllinga.	Certainty 75 DF 0.029 to 0.045 oz.	Postemergence.	Apply to 3 to 6 leaf sedges. Do not exceed 2.66 oz per acre per year. Apply in boot stage to johnsongrass. Add 0.25% nonionic surfactant.
2,4-D amine @ 1 to 2 lb/A	Annual and perennial broadleaf weeds.	Weedar 64, Dacamine 4D 1 to 2 oz of 4 lb/gal.	Apply in spring or fall when weeds are actively growing.	Amine formulations of 2,4-D are nonvolatile and are safer than ester formulations to use near ornamental trees and shrubs. Apply to small and actively growing broadleaf weeds as a summer or winter treatment. To control wild garlic/onion, use 2 lb ai/acre plus a commercial surfactant. Make first application in late November or early December and follow with a second application in February or March Repeat this schedule for 3 consecutive years to control this weed. DO NOT apply 2,4-D to St. Augustinegrass or to centipede. DO NOT allow spray to drift to contact the foliage of ornamentals.
dicamba @ 0.25 to 0.5 lb/A	Annual and perennial broadleaf weeds. Provides better control of henbit, knotweed, clovers, docks, woodsorrel, spurge and lespedeza than 2,4-D alone.	Banvel 4S 0.2 to 0.4 oz of 4 lb/gal.	Apply in spring or fall when weeds are actively growing.	Do not apply over the root zone of ornamental trees and shrubs. Repeat applications may be needed. Do not exceed 1 lb/acre during the growing season. Do not apply to St. Augustinegrass.
fluroxypyr @ 0.12 to 0.56 lb/A	Broadleaf weeds, primarily legumes and sunflower family.	Spotlight 3 SL 0.25 to 0.9 oz.	Postemergence.	Use the low rate on warm season grasses. Do not use on St. Augustine if injury cannot be tolerated.
2,4-D + mecoprop @ 1.2 + 1.1 to 1.4 to 1.3 lb/A	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	2 Plus 2 2 to 2.5 oz.	Apply in spring or fall when weeds are actively growing.	Use on bermudagrass, ryegrass, fescue, bluegrass. Do not apply to drought stressed grass or at temperatures > 90°F. Do not use on newly seeded areas. Do not use on St. Augustine or centipede.

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2,4-D + mecoprop + dicamba	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	Trimec Classic, Super Trimec (ester), Trimec 992, Others (See label for rates.)	Apply in spring or fall when weeds are actively growing.	Several commercial formulations are available. See label for the recommended amount of the formulated product. Do not spray when the turfgrass is emerging from winter dormancy. Do not spray St. Augustine or centipede. Delay reseeding for 4 weeks after application.
2,4-D + mecoprop + dicamba	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	Trimec Southern, Triplet (See label for rates.)	Apply in spring or fall when weeds are actively growing.	Refer to label for centipede and St. Augustine rates. Do not spray when the turfgrass is emerging from winter dormancy.
MCPA + mecoprop + dicamba	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	Tri-Power, Trimec Encore (See label for rates.)	Apply in spring or fall when weeds are actively growing.	Delay reseeding for 4 weeks after treatment. Do not spray when the turfgrass is emerging from winter dormancy.
MCPA + mecoprop + dichlorprop	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	Triamine II, Tri-Ester II (See label for rates.)	Apply in spring or fall when weeds are actively growing.	Delay reseeding for 4 weeks after treatment. Weeddestroy Triamine II is labeled at low rates in centipede and St. Augustine. Do not spray when the turfgrass is emerging from winter dormancy.
carfentrazone + mecoprop + 2,4-D + dicamba	Most broadleaf weeds.	Speed Zone 0.75 to 1.8 fl oz.	Postemergence.	Carfentrazone is a contact herbicide, which will cause rapid appearance of symptoms on target species. See label for details.
carfentrazone + mecoprop + 2,4-D + dicamba	Most broadleaf weeds.	Speed Zone St. Augustine Formula 0.75 to 2.2 fl oz.	Postemergence.	Carfentrazone is a contact herbicide, which will cause rapid appearance of symptoms on target species. See label for details.
carfentrazone + MCPA + mecoprop + dicamba	Most broadleaf weeds.	Power Zone 0.75 to 2.2 fl oz.	Postemergence.	Carfentrazone is a contact herbicide, which will cause rapid appearance of symptoms on target species. Power Zone does not contain 2,4-D. See label for details.
sulfentrazone + 2,4-D + MCPA + dicamba @ 0.02 + 0.4 + 0.15 + 0.06 to 0.24 + 0.56 + 0.2 + 0.09 lb/A	Many broadleaf weeds.	Surge 1 to 1.2 oz.	Postemergence.	May be used on bermudagrass, zoysiagrass and tall fescue. See label for other species.
carfentrazone @ 0.016 to 0.03 lb/A	Broadleaf annuals, moss, star of Bethlehem.	Quicksilver 1.9L 0.025 to 0.048.	Postemergence.	Typically tank mixed with 3-way phenoxy herbicides to provide quicker burndown. It is a component of Speed Zone and Power Zone.
2,4-D + dichlorprop	Annual and perennial broadleaf weeds. Controls a broader spectrum of weeds than 2,4-D alone.	Turf D + DP (See label for rates.)	Do not treat if turf is stressed from drought or high temperature. (> 90°F)	May be used on centipede or St. Augustine at one-half the labeled rates. Fall seeded turf may be treated the following spring. Delay reseeding for 4 weeks after treatment. Do not spray when the turfgrass is emerging from winter dormancy.

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TURF GRASSES Postemergence - Established Grasses [cont.]				
clopyralid @ 0.19 to 0.5 lb/A	Legume species including kudzu, white clover, hop clover, bur clover, black medic. Also controls some composites.	Lontrel 3S 0.18 to 0.48 oz.	Postemergence during periods of active growth.	Avoid contact with any leguminous landscape plants such as mimosa, honey locust, redbud or littleleaf linden (<i>Tilia cordata</i>). St. Augustinegrass and centipedegrass have good tolerance for Lontrel.
triclopyr @ 0.25 to 0.5 lb/A	White clover, dandelion, henbit, chickweed, lespedeza, buckhorn plantain, ground ivy, wild violet, prostrate spurge.	Turflon Ester 4 EC 0.37 to 0.74 oz.	Postemergence to actively growing weeds.	For use on tall fescue, perennial ryegrass and perennial bluegrass. Do not use on other turf species unless injury can be tolerated. Wild violet and prostrate spurge control requires repeat applications.
2,4-D + triclopyr @ 0.5 + 0.25 to 1.0 to 0.5 lb/A	White clover, dandelion, henbit, chickweed, lespedeza, buckhorn plantain, ground ivy, wild violet, prostrate spurge.	Chaser 0.75 to 1.5 oz.	Postemergence to actively growing weeds.	For use on tall fescue, perennial ryegrass and perennial bluegrass. Do not use on other turf species unless injury can be tolerated. Wild violet and prostrate spurge control requires repeat applications.
triclopyr + clopyralid @ 0.28 + 0.094 to 0.56 + 0.188 lb/A	White clover, dandelion, henbit, chickweed, lespedeza, buckhorn plantain, ground ivy, wild violet, prostrate spurge.	Confront 0.37 to 0.74 oz.	Postemergence to actively growing weeds.	For use on tall fescue, perennial ryegrass and perennial bluegrass. Do not use on other turf species unless injury can be tolerated. Do not treat warm season grasses being mowed at less than 0.5 inch. Wild violet and prostrate spurge control requires repeat applications.
bentazon @ 1 to 2 lb/A	Yellow nutsedge, spurweed, and annual sedges.	Basagran T/O 4S 0.75 to 1.5 oz.	Postemergence. Allow nutsedge to develop as much leaf area as possible.	Apply bentazon to emerged yellow nutsedge that is actively growing and under good soil moisture conditions. Apply 2 to 3 pt/acre and follow 10 to 14 days later with an additional application if necessary. Thorough spray coverage is essential for acceptable control. Spot spraying may result in possible turf injury. DO NOT mow 3 to 5 days prior to or after application. DO NOT apply more than 6 pt/acre in one season or apply to golf course greens or collars.
bromoxynil @ 0.5 to 4 lb/A	Seedling broadleaf weeds with 4 true leaves or more.	Buctril 2 EC 1 to 3 oz of 2 lb/gal or 0.5 to 1.5 oz of 4 lb/gal.	When weeds are in the 2 to 4 leaf stage. Will not control larger weeds.	On newly sprigged or seeded grasses DO NOT exceed 0.5 lb ai/acre of bromoxynil. Apply as a summer or winter treatment to control seedling annual broadleaf weeds. Repeated applications spaced 2 weeks apart may be necessary for acceptable control of prostrate spurge. Bromoxynil is a contact herbicide and uniform spray coverage is essential. Buctril is not labeled for centipede.

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imazaquin @ 0.38 to 0.5 lb/A	Nutsedge, wild garlic, selected broadleaf weeds.	Image 1.5L or 70 DG 0.75 to 1 oz of 1.5L or 0.19 to 0.26 oz of 70 DG.	Apply to actively growing weeds.	Add a nonionic surfactant (1.0 qt/100 gal.). The addition of MSMA @ 2 lb ai/A (bermudagrass only) will aid in control of nutsedge(s) and escaped weedy grasses. DO NOT apply when turfgrass is emerging from winter dormancy. Image will severely injury fescue(s) and ryegrass(s). DO NOT apply to newly planted or sprigged lawns or golf greens.
halosulfuron @ 0.031 to 0.062 lb/A	Yellow and purple nutsedge green kyllinga (suppression)	Sedgehammer 75 DF 0.03 oz..	Postemergence to actively growing nutsedge, early to mid-June.	Apply to 3-8 leaf nutsedge. Use 0.5% nonionic surfactant. Two applications may be made. Do not exceed 0.125 lb/ai per acre in a single season. Do not apply to putting greens. For spot treatment mix 0.9 grams of Manage in one gallon of water with 1/3 oz surfactant. Do not mow for 2 days before and 2 days after application.
metribuzin @ 0.25 to 0.5 lb	Goosegrass, chickweed, henbit, parsley-piert, spurweed.	Sencor 75 DF 0.12 to 0.25 oz of 75 DF.	Apply to dormant turf for control of the winter annual complex. Apply to actively growing turf for control of goosegrass.	<i>Dormant bermudagrass:</i> Apply to emerged winter annual weeds before greenup of turf. Make only 1 application per season. <i>Actively growing bermudagrass:</i> Apply to bermudagrass that is actively growing and not under stressed conditions. Controls goosegrass and selected annual weeds. Repeat if necessary but do not apply closer than 1 week intervals. DO NOT make more than two applications per season. Sencor may cause temporary discoloration. Avoid spray overlaps that will increase rate above recommended rate. Delay mowing treated areas for at least 3 days.
Postemergence Grass				
DSMA @ 3.6 lb/A or MSMA @ 2 to 3 lb/A	Crabgrass and dallisgrass, sandbur and nutsedge suppression.	DSMA or MSMA 3 oz of 3.6 lb/gal DSMA. 1 to 1.5 oz of 6 lb/gal MSMA.	Multiple applications spaced 7 to 10 days apart are needed for acceptable control. 3 to 5 applications may be needed for dallisgrass control. Do not apply this many treatments to grasses other than bermuda.	Temporary discoloration of turf will occur. May be applied to newly sprigged bermudagrass at the above rates. On new stands of fescue, apply one-half rate after 3 mowings. Add a surfactant according to label directions. Zoysiagrass cultivars vary in tolerance to MSMA. 'Meyer' is more tolerant to MSMA than 'Emerald' or 'Matrella'. DO NOT apply to centipede or St. Augustinegrass.
MSMA + metribuzin @ 2 + 0.25 to 0.33 lb/A	Goosegrass.	MSMA + Sencor 75 DF 1 oz of 6 lb/gal MSMA + 0.14 to 0.18 oz.	Postemergence salvage application, usually done in July or August.	This tank mix provides better control of goose-grass than the use of MSMA alone. Apply ONLY to established bermudagrass that is actively growing and not under stressed conditions. Two applications, spaced 7 to 10 days apart, may be necessary for acceptable control.

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TURF GRASSES Postemergence Grass [cont.]				
diclofop @ 0.75 to 1.5 lb/A	Goosegrass, ryegrass.	Illoxan 3 EC 0.75 to 1.5 oz.	Early postemergence to actively growing goosegrass.	For use only on bermudagrass on golf courses and sod farms. Do not use on other turfgrass areas. Use the high rate on goosegrass with on to two tillers, Use the low rate on smaller goosegrass. Do not mow for 24 to 36 hours after application. Do not tank mix with other pesticides. Control requires 2 to 3 weeks. Do not over seed treated areas for at least 3 months after the last application.
glyphosate @ 0.28 lb/A	Annual bluegrass.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 0.28 oz of 3 lb/gal.	APPLY ONLY TO DORMANT BERMUDAGRASS.	Apply in 10 to 20 gal water/acre. Add surfactant according to label directions. DO NOT apply during greenup or to actively growing bermudagrass.
fenoxaprop @ 0.11 to 0.35 lb/A	Crabgrass, goosegrass.	Acclaim Extra 0.57 EC 0.08 to 0.90 oz.	Apply to actively growing crabgrass between the 3-leaf and 4-tiller stage.	Use only on established Ky. Bluegrass, tall fescue, per. ryegrass, red fescue, and zoysiagrass.
sethoxydim @ 0.19 to 0.28 lb/A	Large crabgrass, goosegrass.	Segment 1 EC 0.5 to 0.75 oz.	Apply to actively growing large crabgrass before it is well tillered.	Add 2 pt oil concentrate per acre or 3/4 fl oz/1,000 sq ft. Centipedegrass only.
Postemergence Grass and Broadleaf				
glyphosate @ 0.28 lb/A	Annual bluegrass.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 0.28 oz of 3 lb/gal.	Apply only to dormant bermudagrass.	Apply in 10 to 20 gal water/acre. Add surfactant according to label directions. DO NOT apply during greenup or to actively growing bermudagrass.
Turf Renovation				
glyphosate @ 1.5 lb/A	Existing vegetation with the exception of certain perennials such as bermudagrass and nutsedge.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 1.5 oz or a 2% solution.	Apply to actively growing bermudagrass when seedheads appear. Two applications at 2 qt/A are more effective than one application of 4 qt/A.	Apply to areas that are to be renovated to kill existing vegetation. It is almost impossible to completely eradicate common bermudagrass with Roundup. Three applications: May, June and August are needed to get greater than 90% control. Will not eradicate nutsedge. Delay cultivation for 7 days after treatment.

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GOLF COURSE PUTTING GREENS				
Preemergence				
bensulide @ 8 to 12.5 lb/A	Annual grasses and selected broadleaf weeds.	Betasan, Presan 4E 5.9 to 9.2 oz of 4E.	Preemergence to weeds.	Do not apply to newly sprigged grasses until well established. Apply high rate in fall for annual bluegrass control. Water in after treatment. Delay reseeding for 4 months after treatment.
oxadiazon + bensulide @ 1.5 + 6 lb/A	Annual grasses and selected broadleaf weeds.	Goosegrass/Crabgrass Control 2.6 lb.	Preemergence to weeds.	Apply a light irrigation after treatment. DO NOT use on newly sprigged grasses until well established. Delay reseeding for 5 months after treatment. May be used on bermudagrass and bentgrass greens under conditions of heavy goosegrass infestations. See label for precautions concerning use on putting greens.
pronamide@0.5 to 1.0 lb/A	Annual bluegrass.	Kerb T/O 50WSP 0.4 to 0.8 oz.	Preemergence or postemergence applications of Kerb will control annual bluegrass.	Apply to non-overseeded bermudagrass greens. Do not apply closer than 90 days before overseeding cool-season grasses unless deactivation with activated charcoal is planned. To deactivate Kerb with activated charcoal, such as Gro-Safe, use 10 pounds charcoal per 1,000 square feet. Reseed no sooner than 7 days after charcoal application. A light overhead irrigation is necessary to move Kerb into the weed root zone if no rainfall occurs within 24 hours. DO NOT apply Kerb to any cool-season turfgrass. Kerb is a Restricted Use Herbicide.
siduron @2.0 to 12.0 lb/A	Crabgrass	Tupersan 50 WP 0.09 to 0.55 lb.	May be applied at the time of seeding or to established creeping bentgrass for crabgrass spp. control.	Siduron does not control goosegrass or annual bluegrass. Irrigate within 3 days of application with 2 inches of water/acre if rainfall does not occur. Tupersan at 1.0 pound product per 1,000 square feet may be used as band treatment along the perimeter of creeping bentgrass putting greens to suppress stolon growth of bermudagrass. Make the initial application in the March/April time frame. Repeat applications can be made at 4- to 5-week intervals.
fenamirol @ 2.7 to 4.1 lb/A	Annual bluegrass.	Rubigan 1 AS See label.	Make 3 applications of 4 oz each or 2 applications of 6 oz each. Wait 30 days after application before seeding <i>Poa trivialis</i> and 14 days before seeding perennial ryegrass.	Rubigan is a systemic fungicide that reduces the level of annual bluegrass infestation. It may be applied as a single or sequential treatment to bermudagrass that is overseeded with perennial ryegrass. Rubigan will not control perennial bluegrass.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per 1,000 Square Feet	Time of Application	Method of Application and Precautions
GOLF COURSE PUTTING GREENS	Postemergence			
mecoprop @ 1 to 1.25 lb/A	Broadleaf weeds.	Mecomec 4, MCP-4 amine 0.75 to 1.0 oz of 4 lb/gal.	Apply to small actively growing weeds as a summer or winter treatment. Do not apply during periods of drought, high temperatures or very wet weather.	Check label for rates because formulations vary from brand to brand. Do not apply to bentgrass under stress. Do not apply 2,4-D or other growth regulator herbicides to bermudagrass greens during transition.
mecoprop + 2,4-D + dicamba @ 0.5 to 0.15 + 0.06 lb/A	Selected broadleaf weeds.	Bentgrass Selective, Trimec Bentgrass, Triplet (See label for rates.)	Apply to small actively growing broadleaf weeds when temperatures are below 80°F.	See above.
diclofop-methyl @ 0.75 to 1.5 lb/A	Goosegrass.	Illoxan 3 EC 0.75 to 1.5 oz.	Early postemergence.	May be used for goosegrass control on bermudagrass greens, tees and fairways. Use the higher rate for goosegrass with 1 to 2 tillers. Lower rates may be used on smaller goosegrass. Do not mow for 24 to 36 hours after application. Control requires 2 to 3 weeks. May cause temporary turfgrass injury. Do not tank mix with other pesticides or fertilizers. Do not reseed treated areas for at least 3 months after the last application.
rimsulfuron @ 0.008 to 0.015 lb/A	Annual bluegrass.	Tranxit GTA 25 DF 0.5 to 1.0 oz.	Postemergence or preemergence prior to overseeding.	Putting green bermudagrass: Apply 0.5 to 1 ounce of TranXit GTA per acre 3 weeks before desired date for overseed removal. Add a nonionic surfactant at 0.25% v/v. Apply in 15 to 60 gallons of water per acre. The lower rate of TranXit GTA can be used for slower transition. Three applications of the 0.5 ounce per acre rate or two applications of the 1 ounce per acre rate are generally required for removal of <i>Poa trivialis</i> .
foramsulfuron @ 0.02 to 0.03 lb/A	Cool season grasses, goosegrass, centipedegrass.	Revolver 0.19 SC 0.2 to 0.4 oz.	Postemergence.	For use on bermudagrass greens to remove overseeding.
trifloxysulfuron@ 0.015 to 0.026 lb/A	Controls nutsedge(s), annual sedges, kyllinga species, and certain broadleaf weeds in established bermudagrass putting greens.	Monument 75DG 0.007 to 0.013 oz.	Applications should be made to actively-growing bermudagrass after 100% spring greenup.	Monument is not recommended for use on creeping bentgrass. Add a nonionic surfactant at 0.25 to 0.5% v/v to the spray mix. Monument at rates of 0.1 to 0.3 ounces/acre may be used as a spring transition aid for the removal of perennial ryegrass and <i>Poa trivialis</i> . Avoid mowing for 1 to 2 days before and after application. For nutsedge, repeat the application at 4 to 6 weeks if regrowth is observed. DO NOT overseed bermudagrass with cool-season turfgrasses for 3 weeks after application.