

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
TURF GRASSES	<p>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 pre-emergence 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, prodiamine and 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				
prodiamine @ 0.75 lb/A	Annual grasses and some broadleaf weeds.	Barricade 65 WDG 1.15 lb/A.	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 0.65 lb of active ingredient per year for centipedegrass and St. Augustinegrass. Do not make more than two 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 @ 1.5 to 3 lb/A	Same as above.	Pendulum AquaCap 3.8 AS 3.15 to 6.31 pt/A.	Spring. Preemergence to target weeds.	DO NOT use on newly sprigged turfgrasses; 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 Kentucky bluegrass. The high rate may be used on warm-season grasses.
siduron @ 3 lb/A	Crabgrass.	Tupersan 50W 6.0 lb/A.	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.
oryzalin @ 1.5 to 3 lb/A	Same as above.	Surflan 4 AS 1.5 to 3 qt/A.	Spring seeding – as final operation following seeding. Fall seeding – apply following spring.	Apply 2 to 3 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.

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dimethenamid-P @ 1.0 to 1.5 lb/A	Small-seeded broadleaf weeds, doveweed, purslane, spurge, yellow nutsedge and some annual grasses.	Tower 6L 21 to 32 oz/A.	Postemergence.	Safe on most cool- and warm-season turfgrasses. Not for residential use.
dithiopyr @ 0.5 lb/A	Annual grasses and small-seeded broadleaf weeds.	Dimension Ultra 40 WP 1.25 lb/A.	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 @ 7.5 to 12.5 lb/A	Summer annual grasses and selected broadleaf weeds.	Betasan, Presan, Betamec 4 EC 1.9 to 3.2 gal/A.	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 0.66 to 1.33 lb/A.	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 100 to 200 lb/A of 2% G or 4 to 8 lb/A of 50WP or 2.5 to 3.8 qt/A of Ronstar Flo	Mid-March to early April for summer weeds, October for winter annuals.	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.
indaziflam @ 0.014 to 0.04 lb/A	Annual grasses including crabgrass and goosegrass and some broadleaf weeds.	Specticle Flo 3 to 10 fl oz/A.	Preemergence.	Do not use on cool-season grasses. Use only on well-established grasses. Leave a 15-foot buffer between treated areas and cool-season grasses.
oxadiazon + bensulide @ 1.5 + 6 lb/A	Annual grasses including crabgrass and goosegrass and some broadleaf weeds.	Goosegrass/Crabgrass Control 115 lb/A.	Preemergence.	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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Preemergence - Established Grasses [cont.]				
metolachlor @ 1.8 to 3.9 lb/A	Annual grasses and some small-seeded broadleaf weeds, yellow nutsedge suppression.	Pennant Magnum 7.62 1.9 to 4.1 pt/A.	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 4L 1 to 2 qt/A.	Between October and April 15 for control of winter annual weeds.	Apply simazine in October or November for preemergence 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 4L 1 to 2 qt/A.	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.
flazasulfuron @ 0.012 to 0.047 lb/A	Cool season grasses, fescue, annual bluegrass, ryegrass.	Katana 25 DF 0.75 to 3.0 oz/A.	Postemergence.	Use only on bermudagrass or possibly zoysiagrass. Do not apply on or upslope to desirable bentgrass or overseeded turf. Movement is encouraged when saturated soils are treated and/or heavy (>0.25 inch) rainfall occurs within 48 hours of application. Time required for control increases as weeds mature; therefore, apply in late fall for optimum results. Treated plants do not show herbicide symptoms until air temperatures are consistently above 60°F.

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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 0.25 to 1.0 oz/A.	Postemergence.	Safe for use on bermudagrass, centipede-grass, St. Augustinegrass and zoysiagrass. Add 0.25% nonionic surfactant. Do not exceed the 0.25 oz rate on centipede-grass. Do not use beneath desirable trees or ornamentals or on desirable bahiagrass. Treating zoysiagrass during transition may result in injury.
rimsulfuron @ 0.031 to 0.062 lb/A	Annual bluegrass.	TranXit GTA 25 DF 0.5 to 2.0 oz/A.	See label for details.	Labeled for <i>Poa annua</i> control in nonoverseeded bermudagrass, for transition of perennial ryegrass and <i>Poa annua</i> control before overseeding.
metsulfuron + rimsulfuron @ 0.015 + 0.018 lb/A	Most winter turfgrass weeds including broadleaf weeds and grasses.	Negate 37WG 1.5 oz/A.	December-March.	For use on bermudagrass and zoysiagrass only. Do not use beneath desirable trees or ornamentals or on desirable bahiagrass. May injure zoysiagrass during transition. Do not use on residential turf. Leave a buffer around cool-season grasses. Add 0.5% nonionic surfactant.
chlorsulfuron @ 0.046 to 0.25 lb/A	Tall fescue, wild garlic, chickweed.	Corsair 75 DF 1.0 to 5.3 oz/A.	Postemergence.	Safe for use on bermudagrass. Add 0.25% nonionic surfactant. Very slow acting.
foramsulfuron @ 0.02 to 0.03 lb/A	Cool season grasses, goosegrass, centipede-grass.	Revolver 0.19 SC 8.8 to 27 oz/A.	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 0.33 to 0.56 oz/A.	Postemergence.	For use on bermudagrass and zoysiagrass. For spot treatment, add 0.0176 ounce 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 0.75 to 1.25 oz/A.	Postemergence.	Apply to 3- to 6-leaf sedges. Do not exceed 2.66 ounces per acre per year. Apply in boot stage to johnsongrass. Add 0.25% nonionic surfactant.

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TURF GRASSES				
Postemergence - Established Grasses [cont.]				
dicamba + iodosulfuron + thiencazone @ 0.11 to 0.21 lb/A	Broadleaf weeds including medic, clover, geranium, speedwell, dandelion, dollarweed, doveweed, burweed, spurge and others and carpetgrass.	Celsius 68 WDG 2.5 to 4.9 oz/A.	Postemergence.	Do not exceed 7.4 oz/A per year. Not for greens, collars or turf that is not established. Do not use on bahiagrass or cool-season grasses. Do not use within 14 days of seeding ryegrass or sprigging bermudagrass, or 30 days before seeding bermudagrass or zoysiagrass.
thiencazone + foramsulfuron + halosulfuron 0.038 to 0.12 lb/A	Nutsedge, goosegrass, see label for other weeds.	Tribute Total 1.0 to 3.2 oz/A.	Postemergence.	For use on bermudagrass only. Do not exceed 6.4 oz per year.
2,4-D amine @ 1 to 2 lb/A	Annual and perennial broadleaf weeds.	Weedar 64, Dacamine 4D 1 to 2 qt/A.	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 three 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 0.5 to 1.0 pt/A.	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.
sulfentrazone @ 0.125 to 0.375 lb/A	Kyllinga, yellow nutsedge and many broadleaf weeds.	Dismiss 4F 4 to 12 fl oz/A.	Postemergence.	Safe on most warm- and cool-season turfgrasses. Maximum use rate on tall fescue is 4 fl oz/acre. Weed control spectrum increases when tank-mixed with 2,4-D and dicamba. Do not apply to golf course tees or greens. Do not apply directly to landscape ornamentals or ornamental beds.
sulfentrazone + imazethapyr @ 0.29 to 0.45 lb/A	Annual sedge, kyllinga, yellow and purple nutsedge.	Dismiss South 4L 9.5 to 14.5 oz/A.	Postemergence.	Use only on well-established labeled turfgrass species. Do not use within 4 weeks of reseeding, overseeding or sprigging. Do not use on golf course greens or tees or directly to landscape ornamentals or ornamental beds. Suggested split application rate options are 9.5 oz followed by 4.9 oz/acre or 7.2 oz followed by 7.2 oz/acre 35 days after the initial for both. Aryltriazinone + imidazolinone herbicide.

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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. Weedestroy 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 2 to 5 pt/A.	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 2 to 5 pt/A.	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 2 to 6 pt/A.	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.
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 0.25 to 1.33 pt/A.	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. Augustine-grass 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 1 to 2 pt/A.	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.

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Postemergence - Established Grasses [cont.]				
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.	2 to 4 pt/A. Chaser	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.	1 to 2 pt/A. Confront	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.	2 to 4 pt/A. Basagran T/O 4S	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.	1 to 2 pt/A. Buctril 2 EC	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.
sulfentrazone + quinclorac @ 0.75 lb/A	Numerous broadleaf weeds, yellow nutsedge, crabgrass, and foxtail. Refer to label for complete listing.	1 lb/A. Solitare	Postemergence.	Refer to comments for sulfentrazone and quinclorac. Not for use on golf greens, collars or tees. A one-month seeding restriction follows use. Bermudagrass, bluegrass, buffalograss, centipedegrass, perennial ryegrass, seashore paspalum, tall fescue, zoysiagrass.

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sulfentrazone + metsulfuron @0.26 to 0.41 lb/A	Numerous broadleaf weeds, especially dollarweed, ground ivy, doveweed, wilt violet and some sedges (not purple). Refer to label for complete listing.	Blindside 66 WG 6.5 to 10 oz/A.	Postemergence.	Refer to comments for sulfentrazone and met-sulfuron. Not for use on golf greens, collars or tees. A one-month seeding restriction follows use. Bermuda, centipedegrass, Kentucky bluegrass, St. Augustinegrass, tall fescue, zoysiagrass.
carfentrazone + quinclorac @ 0.5 to 0.8 lb/A	Numerous broadleaf weeds, yellow nutsedge, crabgrass and foxtail. Refer to label for complete listing.	Square One 70 WG 12 to 18 oz/A.	Postemergence.	Refer to comments for carfentrazone and quinclorac. Do not use on golf greens. Can be used 1 day before seeding or 7 days after seeding.
flumioxazin @ 0.375 lb/A	Winter annual broadleaf weeds, crabgrass preemergence.	SureGuard 51 WDG 12 oz/A.	Dormant bermudagrass	A contact product for dormant bermudagrass for rapid nonselective winter annual broadleaf control with subsequent preemergence crabgrass control. Best winter annual broadleaf control is with early winter (November and December) applications. Best preemergence crabgrass control is with late winter applications. Allow 8 weeks after application before seeding or sodding. BroadStar 0.25G is a granular formulation. Dicarboximide herbicide.
imazaquin @ 0.5 lb/A	Nutsedge, wild garlic, selected broadleaf weeds.	Image 70 DG 11.4 oz/A.	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 injure fescue(s) and ryegrass(es). DO NOT apply to newly planted or sprigged lawns or golf greens.
halosulfuron @ 0.062 lb/A	Yellow and purple nutsedge green kyllinga (suppression).	Sedgehammer 75 DF 1.33 oz/A.	Postemergence to actively growing nutsedge, early to mid-June.	Apply to 3- to 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 ounce surfactant. Do not mow for 2 days before and 2 days after application.

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Postemergence - Established Grasses [cont.]				
metribuzin @ 0.25 to 0.5 lb	Goosegrass, chickweed, henbit, parsley-piert, spurweed.	Metribuzin 75 DF 0.33 to 0.66 lb/A.	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. Metribuzin 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				
MSMA @ 2 to 3 lb/A	Crabgrass and dallisgrass, sandbur and nutsedge suppression.	See label. MSMA	Multiple applications spaced 7 to 10 days apart are needed for acceptable control. Three to five 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 three 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 + metribuzin 75 DF See label.	Postemergence salvage application, usually done in July or August.	This tank mix provides better control of goosegrass 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.
diclofop @ 0.75 to 1.5 lb/A	Goosegrass, ryegrass.	Illoxan 3 EC 32 to 43 oz/A.	Early postemergence to actively growing goosegrass.	For use only on bermudagrass on golf courses. Do not use on other turfgrass areas. Use the high rate on goosegrass with one 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 overseed treated areas for at least 3 months after the last application.

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glyphosate @ 0.28 lb/A	Annual bluegrass.	Glyphosate (4 lb/gal formulations) 1 pt/A.	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 13 to 39 oz/A.	Apply to actively growing crabgrass between the 3-leaf and 4-tiller stage.	Use only on established Kentucky bluegrass, tall fescue, per. ryegrass, red fescue and zoysiagrass.
sethoxydim @ 0.19 to 0.28 lb/A	Large crabgrass, goosegrass.	Segment 1 EC 1.5 to 2.25 pt/A.	Apply to actively growing large crabgrass before it is well tillered.	Add 2 pt oil concentrate per acre or ¼ fl oz/1,000 sq ft. Centipedegrass only.
amicarbazone @ 0.0044 to 0.0175	Annual bluegrass, some broad-leaf weeds (see label).	Xonerate 70WDG 1 to 4 oz.	Postemergence.	For selective <i>Poa annua</i> control in creeping bentgrass, up to 4 applications spaced 7 days apart at 1 oz/acre each are used starting in late winter, 2 to 4 following active <i>Poa</i> growth. On overseeded ryegrass, apply once regrowth resumes in late winter at 2 to 4 oz/acre. Repeat in 2 to 3 weeks. Repeat applications should be perpendicular to the initial, minimizing overlaps in at least 20 GPA. Adding a NIS is optional. Bentgrass areas can be reseeded 7 days following the last application. Treat only when temperatures are between 50 and 80°F. Three to 5 oz/acre may be used in St. Augustinegrass for blanket crabgrass control. Maximum use rate per season is 10 total oz/acre.
asulam @ 2 lb/A	Crabgrass, sandbur, goosegrass,	Asulox 3.34 L 5 pt/A.	Postemergence.	Bermudagrass and St. Augustinegrass sod production. Do not apply to freshly mowed turf or turf under stress. On Bermudagrass, use on 'Tifway' only. Do not use a surfactant. Asulox is for professional applicators only and only for sod production when used on St. Augustinegrass.
mesotrione @ 0.125 to 0.25 lb/A	Tufted lovegrass, preplant crabgrass, chickweed, speedwells and others.	Tenacity 4L 4 to 8 fl oz/A.	Pre and postemergence.	Use on tall fescue, centipedegrass, St. Augustinegrass (grown for sod). A postemergence (primary) herbicide with some preemergence activity. Apply at grass seeding in at least 30 GPA (280 L/ha). Activate with 0.15-inch (3.8 mm) irrigation. Do not use on bentgrass, <i>Poa annua</i> , zoysiagrass, seashore paspalum and bermudagrass.
topramezone @ 0.021 to 0.031 lb/A	Crabgrass, goosegrass and other annual grasses.	Pylex 1.0 to 1.5 fl oz/A.	Postemergence to weeds.	See label for detailed instructions. May be used on centipedegrass and Kentucky bluegrass and tall fescue. Do not apply to bermudagrass, St. Augustinegrass or zoysiagrass.