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TEXAS A&M AGRILIFE EXTENSION

Dallisgrass in Turfgrass

Control Guidelines for Professionals

Matt Elmore, Assistant Professor and Extension Turfgrass Specialist
Casey Reynolds, Assistant Professor and Extension Turfgrass Specialist
The Texas A&M University System

Dallisgrass *(Paspalum dilatatum* Poir.*)* is a warm-season perennial grass native to South America that was introduced to the United States in the late 1800s. It is one of the most problematic weeds of turfgrass in the southern and southeastern United States—it grows in bunches, has a coarse texture, and produces unsightly seedheads (Figs. 1 and 2). It can adapt to low mowing heights and proliferate in managed turfgrass. Its rhizomes make it difficult to remove using physical methods and even to control with herbicides.

Figure 1. Dallisgrass growth habit in turf.

Figure 2. Characteristic drooping dallisgrass seedhead.

Dallisgrass grows rapidly and produces seedheads from late May through October. Other identifying features include a membranous ligule and prominent midrib (Fig. 3), which help distinguish it from other bunch-type weeds such as crabgrass *(Digitaria* spp.*)*. Unlike most bunch-type grasses, dallisgrass produces short rhizomes that increase the diameter of the plant and store carbohydrates (Fig. 4). These reserve carbohydrates make it difficult to control, even with systemic herbicides. Controlling dallisgrass with herbicides often requires multiple applications over several seasons.

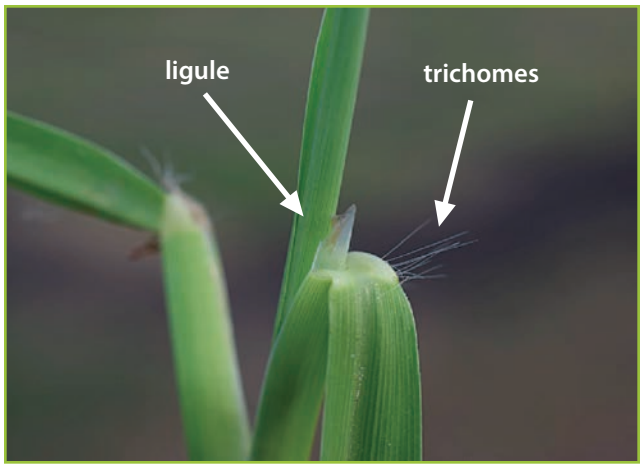

Figure 3. Dallisgrass has a long membranous ligule and long trichomes near the leaf base, which is otherwise lacking hairs (glabrous).

Selective Control in Warm-Season Turfgrass

Regardless of the post-emergent herbicide you select, it is important to apply it at the right time. Research shows that applying herbicides in early to late fall, while dallisgrass is still actively growing, provides better control than applications made during late spring or summer. Complete control generally requires multiple applications—especially for larger plants. Currently, at least three sequential post-emergence herbicide applications are recommended. Pre-emergent herbicides will not control existing perennial plants.

Figure 4. Dallisgrass contains short rhizomes, making control from herbicides and hand removal difficult.

Figure 5. Dallisgrass regrowth in the spring following two applications of a sulfonylurea herbicide the previous fall. This photo shows symptoms of previous applications, but also has sufficient regrowth for a third application. At least three applications are necessary for control of larger plants.

Make your first herbicide application in the fall (not before September) when the average 24-hour air temperature falls below 72°F for at least three consecutive days. In a typical year, this might occur from mid to late September in the Panhandle and North Texas. This average temperature can occur as late as October in Central and South Texas. Make the second application 4 to 6 weeks later when dallisgrass begins to regrow. Making a third application in the spring when dallisgrass begins to regrow (mid to late April) provides better control than two fall applications alone (Fig. 5).

Most herbicides only claim dallisgrass suppression on the label. This means these products have significant activity against dallisgrass, but not enough to provide commercially acceptable control. However, most of these products will provide some control if multiple applications are properly timed.

MSMA

Applying MSMA at 2 pounds of active ingredient per acre (2 lbs ai/A), twice in the fall and once in the spring as described above, generally provides 60 to 80 percent dallisgrass control for up to 9 months after the initial application. Adding metribuzin (Sencor) to MSMA may

improve control, but this combination increases short-term bermudagrass injury. You can also use MSMA to improve control provided by other herbicides (see below).

As of November 2015, EPA restrictions forbid application of MSMA on residential, commercial, or athletic field properties. You may use it twice annually on highway rights-of-ways, twice per crop in sod production, and as a spot treatment on golf courses (spots less than 100 ft^2 each, not to exceed 25 percent of the golf course acreage per year). These restrictions are expected to remain until at least 2019. For more information on these EPA restrictions, see http://www2.epa.gov/ingredients-used-pesticide-products/monosodium-methanearsonate-msma-organic-arsenical.

Sulfonylurea Herbicides—Tribute Total, Revolver, Celsius, Monument

- ***Tribute Total 60.5 WG: Active ingredients—thiencarbazone-methyl, foramsulfuron, halosulfuron-methyl***

Unlike other products labeled for dallisgrass suppression, Tribute Total is labeled for dallisgrass control when applied at the times discussed above. For broadcast applications, apply at 3.2 oz/A with methylated seed oil (MSO) and ammonium sulfate. In research trials, three sequential applications of Tribute Total at 3.2 oz/A consistently provided 60 to 80 percent dallisgrass control for 9 months. Do not apply more than 6.4 oz/A per year. You may be able to improve control by applying Tribute Total at 0.073 oz/gallon as a spot treatment. Tribute Total is labeled for use in bermudagrass and zoysiagrass only.

- ***Revolver 0.19 SC: Active ingredient—foramsulfuron***

Revolver is labeled for dallisgrass suppression when applied as a spot treatment at 1.5 to 2.0 fl oz/gal. Apply three sequential applications of Revolver alone or tank mixed with MSMA in early fall as described above. Alternatively, you can pretreat dallisgrass with MSMA 7 to 14 days before a Revolver application to provide more control than the tank mixture. Revolver is registered for use in bermudagrass, buffalograss, and zoysiagrass.

- ***Celsius 68 WG: Active ingredients—thiencarbazone-methyl, iodosulfuron, dicamba***

Celsius is a good option for dallisgrass suppression in buffalograss if you apply it as a spot treatment at 0.085 to 0.113 oz/gal (2.4 to 3.2 grams/gal) in a tank mixture with Revolver at 2 fl oz/gal.

Celsius is the only selective herbicide that will provide dallisgrass suppression in St. Augustine and centipedegrass. To prevent turfgrass injury, do not tank mix Celsius with Revolver when making applications in St. Augustinegrass and centipedegrass; apply Celsius alone as a spot treatment. Celsius is labeled for dallisgrass suppression only when applied with Revolver, so results may vary when Celsius is applied alone. Celsius in combination with Revolver provides more control than Celsius alone because both thiencarbazone-methyl in Celsius and foramsulfuron in Revolver act on dallisgrass. The other active ingredients in Celsius (iodosulfuron and dicamba) do not act against dallisgrass but will provide control of many broadleaf weeds.

- ***Monument 75 WG: Active ingredient—trifloxysulfuron-sodium***

Monument will suppress dallisgrass when applied as a spot treatment. Make multiple applications using the timings described above. Research shows that Monument provides less dallisgrass control than Revolver or Tribute Total. However, Monument will provide excellent yellow and purple nutsedge control and may be economical in areas with both purple nutsedge and dallisgrass infestations. Monument is registered for use in bermudagrass and zoysiagrass.

- ***Special notes regarding Celsius, Revolver, Monument, and Tribute Total***

These herbicides are registered for use in warm-season turfgrass only. They will severely

injure cool-season turfgrasses such as tall fescue *(Festuca arundinacea).* Apply these herbicides with the proper adjuvant(s). Using MSO instead of a nonionic surfactant (NIS) may improve control with some products. Including ammonium sulfate or urea ammonium nitrate with MSO or NIS may also improve control. Refer to the product label for more information on adjuvant selection.

If you apply these products as a spot treatment, it may improve control. Spray solutions for spot treatments usually contain the same herbicide concentration as broadcast applications, but are typically applied at a "spray to wet" volume. Depending on the applicator, this spray to wet volume may be higher than those used in broadcast applications. Thus, the actual amount of herbicide applied as a spot treatment may be higher. Note that spot treatments may increase the risk of injury to desirable turfgrass surrounding the dallisgrass plant.

Overseeding with Cool-Season Grasses

The herbicides listed above will kill cool-season grasses. They also have significant residual activity in the soil—you should allow the appropriate interval to pass before overseeding with perennial or annual ryegrass *(Lolium* spp.*)*. You can apply Revolver 1 week before overseeding, while Monument and Tribute Total can be applied 3 and 8 weeks, respectively, before overseeding. When applied as a spot treatment, Celsius should be applied at least 4 weeks before overseeding, but can be applied as few as 2 weeks before when applied as a broadcast treatment.

Control with Glyphosate

Dallisgrass typically goes dormant later than bermudagrass in the Panhandle and sometimes in North Texas. This creates a window of opportunity for you to make a single glyphosate application. Be sure that the bermudagrass is completely dormant before doing this. Check the turfgrass canopy thoroughly to confirm bermudagrass dormancy. The application rate of different glyphosate products will vary, so refer to the label for application rates to dormant bermudagrass. A follow-up application in the spring with the selective herbicides described above will improve control.

When turfgrass is actively growing, glyphosate can still be applied as a spot treatment. However, glyphosate will kill any desirable turfgrass that it contacts. Even when applied carefully, spot treatments typically cause severe injury to turfgrass around the application site. Using a nozzle that produces coarse spray droplets can reduce drift onto desirable turfgrass. Refer to the product label for more information on the application rate.

Control in Tall Fescue or Zoysiagrass with Fusilade II or Ornamec (fluazifop)

To control dallisgrass in tall fescue, make a single application of fluazifop (Fusilade II at 6 fl oz/A or Ornamec at 20 fl oz/A) in late summer to early fall at the timings discussed above. Research indicates that a single application of fluazifop in the fall provides greater than 80 percent dallisgrass control for 12 months. Make a second application in early to mid-April as a spot treatment only if you see dallisgrass regrowth. Applications in the spring are more likely to cause injury than fall applications. Apply fluazifop as a spot treatment to reduce injury risk—avoid summer applications. Adding triclopyr ester (Turflon Ester Ultra) is often recommended for bermudagrass control, but will reduce dallisgrass control. Overseeding with tall fescue at least 2 weeks after applying fluazifop in the fall will improve dallisgrass control.

You can also apply fluazifop to zoysiagrass, but tolerance varies by cultivar. *Zoysia japonica* cultivars such as 'Meyer' and 'Palisades' are generally more tolerant than *Z. matrella* cultivars such as 'Diamond'. When applying fluazifop to zoysiagrass for the first time, especially *Z. matrella* cultivars, make a test application to a small

area and reduce the rate if injury is excessive. Fluazifop will cause more injury to zoysiagrass during the early spring and fall when temperatures are below optimal for zoysiagrass growth. Zoysiagrass injury appears as short-term chlorosis of the leaves and reduction in turfgrass vigor. Refer to the label for more information on application rates and timings.

Only registered applicators may use Fusilade II in residential areas. Fusilade II can be used in ornamental beds of residential areas, but not in home lawns. Ornamec may be applied to home lawns.

Apply Fusilade II or Ornamec to tall fescue or zoysiagrass *(Zoysia* spp.*)* only. These two herbicides will severely injure other turfgrasses.

Non-Chemical Control

In areas where it is feasible, you can remove dallisgrass by hand. However, be sure to remove the entire clump and the underground rhizomes, or it will regrow. When you are removing dallisgrass by hand, use a shovel to completely remove large plants and backfill the hole with topsoil. Seeding or plugging desirable turfgrass into the void will discourage unwanted weeds.

Conclusions

Acceptable dallisgrass control requires multiple applications of post-emergence herbicides. Applying these herbicides at the proper time will reduce the number of applications you need for control. Cultural practices that increase the vigor and density of desirable turfgrass will increase the control you can achieve with herbicides. For all products, refer to the label for more information on application rates, timings, and adjuvants.

Disclaimer: Mention of herbicide trade names is only for the purpose of providing information and does not imply recommendation or endorsement. It is always the applicator's responsibility, by law, to read and follow all current label directions for the specific herbicide being used. The label always takes precedence over the recommendations found in this publication.

The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by the Texas A&M AgriLife Extension Service personnel is implied.

Acknowledgment

Photos by Matt Elmore and Casey Reynolds, Assistant Professors and Extension Turfgrass Specialists

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