AGR-278

Bermudagrass Control for Kentucky Lawns

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Bermudagrass (*Cynodon dactylon*), a warm-season perennial grass, increasingly has become a problem in Kentucky cool-season turfgrass. Over much of the lower Southeastern United States, bermudagrass is the king of the turfgrasses. Celebrated for its aggressive growth habit, quick recovery, and ability to tolerate low mowing heights, bermudagrass can be found everywhere from high-end golf courses and prestigious sports stadiums to home lawns.

When bermudagrass is introduced into a cool-season lawn, it can be a highly invasive weed. As a warm-season grass with a fast growth rate, bermudagrass is often able to outcompete cool-season grasses during the heat of the summer. Bermudagrass, which spreads aggressively by aboveground and belowground stems, can choke out desirable grasses and spread each season. Another problem with bermudagrass is that as temperatures begin to drop in the fall, it becomes dormant, turning a broom-straw brown color, which stands in stark contrast to the green color of cool-season turfgrass (Figure 1). Finally, bermudagrass frequently spreads into landscape beds, tree mulch rings, and even across concrete, causing more complex weed control scenarios (Figure 2). For more information on the biology of bermudagrass, please see UK Extension publication AGR-216: *Turfgrasses of Kentucky.*

Cultural Control

The first part of controlling bermudagrass in Kentucky's cool-season lawns is using cultural practices. The goal of any cultural control practice is to make the environment less suitable for a particular pest. Due to the aggressive growth and ability to adapt, bermudagrass control will fail without manipulating the environment to favor the desirable cool-season grasses. The use of herbicides alone is not recommended for management of this weed.

The most important step in creating an environment where cool-season grasses are competitive is to raise the mower height to 4 inches or greater. Since bermudagrass thrives in full sun, a tall, dense lawn can capture sunlight and shade out the bermudagrass. Research shows that mowing heights of 4 inches can decrease the spread of bermudagrass in cool-season lawns.

Additionally, fertilizing with nitrogen in the late summer to early fall favors cool-season grasses as the bermudagrass enters dormancy and is not actively growing. Avoid applying fertilizers while the bermudagrass is green and actively growing to reduce competition with the desired cool-season grasses. With high nitrogen availability and temperatures above 80°F, bermudagrass can out-compete cool-season turfgrasses during the heat of Kentucky summers.

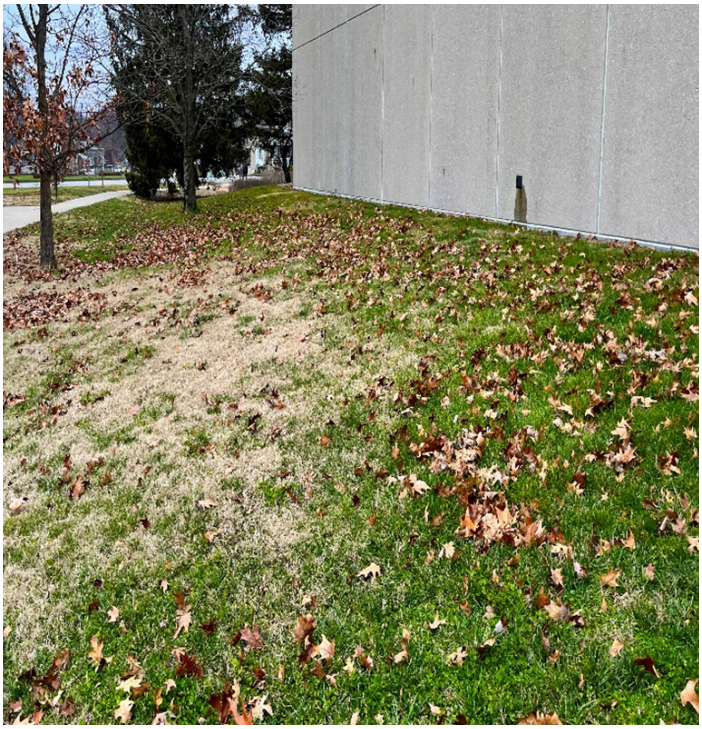

Figure 1. The broom-straw brown color of bermudagrass stands in stark contrast to the cool-season grasses in the winter.

Figure 2. The aggressive growth of bermudagrass is demonstrated in a flower bed overtaken by the grass and 4-foot-long stolons growing over the landscape wall.

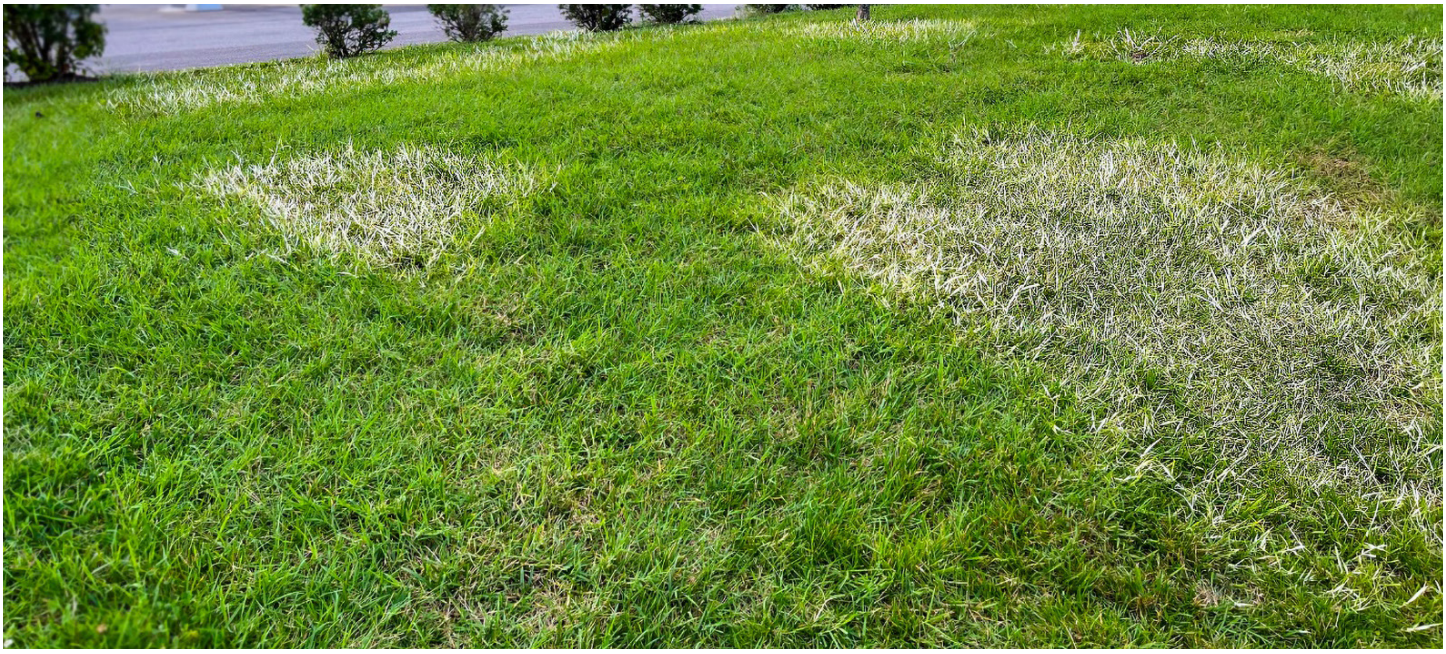

Figure 3. Typical bleaching of bermudagrass after an application of topramezone or mesotrione. Tank mixing triclopyr may reduce the bleaching and increase control of bermudagrass.

Chemical Control

There are a limited number of chemical control options available for the removal of bermudagrass from cool-season lawns. Complete control of bermudagrass even with the most effective herbicides may take several applications over multiple growing seasons. When applying herbicides, it is important to read the label closely on all products before use to ensure turfgrass safety, for example, fluazifop (Fusilade II) is labeled for applications to tall fescue (*Festuca arundinacea)* but not Kentucky bluegrass (*Poa pratensis*). You must use the product according to the label, it is the law. Table 1 includes a list of possible chemical controls for use in cool-season lawns. It should be noted that both mesotrione and topramezone are herbicides that cause bleaching symptoms (Figure 3). While this bleaching does not reduce the efficacy of the herbicide, in the short term it is unattractive. This bleaching may be reduced by mixing triclopyr with either mesotrione or topramezone.

Nonselective Control

The herbicides presented in Table 1 outline the chemical management options for bermudagrass. The simplest method would be the use of a non-selective herbicide such as glyphosate. Applications must be made when bermudagrass is actively growing, approximately May-September in Kentucky. If adequate rainfall promoting growth has not occurred around the time of the herbicide application, supplementary irrigation should be applied. You may irrigate before the herbicide is sprayed but must wait approximately 24 hours after the herbicide application before applying additional irrigation. A second application of glyphosate should be applied three to four weeks later once the grass starts to green up and grow again. Glyphosate will kill all grass types that have been sprayed, therefore areas that have been treated must be reestablished with sod or seed to prevent new weeds from taking over the bare ground.

Table 1. Always make applications in accordance with the labels—it is the law.

Product	Rate	Timing	Comments
Glyphosate (Ranger Pro)	5 qts/A	May-September	Requires a minimum of 2 treatments. This is a nonselective herbicide and will kill all grasses on which it is sprayed.
Topramezone (Pylex) + Triclopyr (Turflon Ester Ultra)	1 oz/A + 32 oz/A	August-September	3 treatments, may cause bleaching
Mesotrione (Tenacity) + Triclopyr	4 oz/A + 32 oz/A	May-June	3-4 treatments, may cause bleaching
Fenoxaprop (Acclaim Extra) + Triclopyr	28 oz/A + 32 oz/A	May-June or August-September	3 treatments
Fluazifop (Fusilade II) + Triclopyr	5-6 oz/A + 32 oz/A	50% green up and late August-October	Label states: "Do not apply to tall fescue during the summer"

When using selective herbicides, ensure that the herbicide, rates, and timing you apply are safe on the grass species and growth stage of your desired species. Do not exceed maximum yearly applications of any one product. The use of specific names of commercial products does not constitute an endorsement of those products or approval of those to the exclusion of other suitable products.

Selective Control

When nonselective herbicide control from glyphosate is not an option, certain selective herbicides are available to remove bermudagrass without killing the desired species. These selective options work best when used at specific times. The following describes the selective herbicides included in Table 1, giving specific recommendations.

Topramezone + triclopyr is more effective when sprayed in the fall as opposed to spring and summer applications. This combination should be applied three times in the fall leading up to a first frost with 3-4 weeks in between each application.

Mesotrione + triclopyr requires three applications three weeks apart with the initial application taking place in the late spring to early summer. This combination can be used in conjunction with the above described topramezone + triclopyr applications to help stop the spread of the bermudagrass in the summer. Mesotrione + triclopyr provides additional control since the maximum use rates of topramezone can be met with fall applications alone.

For suppression of bermudagrass with fenoxaprop, applications with triclopyr should be made every 4-5 weeks. Applications should be initiated when the bermudagrass begins to actively grow, typically early May in Kentucky. Do not make more than five applications per season.

Lastly, fluazifop + triclopyr may be used for control of bermudagrass. This combination is acceptable for use in tall fescue lawns but not Kentucky bluegrass lawns. Applications should be made in the spring at approximately 50% green up and then applied again in the fall while the bermudagrass is still green. Additional applications may be made at 28-day intervals.

Conclusion

While certain cultivars of bermudagrass may be grown successfully as a desired species throughout the South, the aggressive growth of bermudagrass makes it a difficult weed to manage when it invades stands of cool-season turfgrass. Mowing height is the first line of defense. Bermudagrass is not tolerant of shade, therefore a tall (> 4 inches) and thick lawn can shade the bermudagrass leaf blades in spring and early summer, shifting the environment favorably to the desirable grasses. Proper timing of fertilization can also shift conditions to favor our cool-season turfgrass. Proper cultural controls are critical to controlling bermudagrass in cool-season lawns.

Bermudagrass control is difficult and requires an investment of time and money and a willingness to change management practices. While the methods discussed here will have limited success when used in isolation, a combination of control methods is the best path forward in winning the war against bermudagrass.

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