

BERMUDAGRASS CONTROL/SUPPRESSION

In Cool-season Lawns and Landscapes

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Bermudagrass (*Cynodon dactylon*) is a serious weed in cool-season turfgrass because it turns an ugly brown color (dormant) from October through April, and it rapidly creeps into flower beds, neighbor's lawns and onto sidewalks. Bermudagrass, a warm-season grass, commonly invades during the summer when cool-season grasses such as Kentucky bluegrass and fescue are under heat and drought stress. It is a problem only in full sun, i.e. it does not grow well in shade. Bermudagrass spreads by underground lateral stems (rhizomes), above ground lateral stems (stolons) and to a lesser extent, by seed. Although bermuda occurs in patches within cool-season turf, it is very difficult to kill. Consider the following options:

SUPPRESSION WITH MANAGEMENT:

Proper management will not control bermuda, but it will slow down its spread. Consider the following bermuda suppression techniques:

- Apply no nitrogen (N) fertilizer in spring and summer. Bermuda is a 'hog' for N and with sufficient N, it will out-compete all other perennial grasses. It is advantageous to make 2 or 3 N applications (approximately one lb N/1000 ft²) to cool-season grasses during the fall and early winter. This increases the density of the cool-season grasses and increases the surface shading necessary to slow down spring growth and bermudagrass encroachment.
- Overseed the bermuda in the fall and/or early spring with a turf-type perennial ryegrass or tall fescue. This may control little bermuda, but it will tend to mask the ugly brown color of bermuda. Perennial ryegrass is more competitive than tall fescue and it is easier to get established. Perennial ryegrass blends better with Kentucky bluegrass since it has a texture similar to Kentucky bluegrass. If overseeding is attempted, seed perennial ryegrass or tall fescue at about 6 lbs per 1000 sq. ft. You can overseed in the fall and/or in early spring. An aggressive dethatching of the bermudagrass will remove considerable bermuda and allow more soil-seed contact for the ryegrass or fescue seed. To achieve maximum establishment, fertilize new seedlings as described above.
- Remove the bermudagrass with a sod cutter and re-sod with a dense tall fescue sod. If possible, cut (and remove) the bermuda sod at a depth of 1 inch or more, till the soil with a rototiller, hand rake/remove obvious rhizomes, then lay a thick cut sod to match that removed. This procedure should be done in the fall or spring when the cool-season sod is easily established. Some bermuda will recover, but it may take a few years.

CONTROL WITH NON-SELECTIVE HERBICIDES:

- Spray the bermudagrass with **glyphosate** (i.e. Roundup). One application will probably kill about 75%, two applications about 3 or 4 weeks apart should kill more than 90% and, possibly, three applications will get 98%.

*There are many formulated products containing **glyphosate**. Always follow the directions and dilutions as suggested on the product label. The most concentrated formulation of **glyphosate** contains approximately 4 lbs ai/gal. The label rate for bermudagrass kill with this formulation is 3 to 5 quarts/Acre.

*The **glyphosate** herbicide treatments are only effective in the summer months when bermuda is actively growing. The repeat applications will be ineffective unless the surviving bermuda rhizomes have had sufficient time to produce new green and actively growing shoots (new plants).

- Follow the last **glyphosate** application with soil tillage, then seed or sod with tall fescue. Obviously sodding would be preferred because it would provide immediate cover. Big-roll sod would likely be better than traditional sod because there would be fewer gaps or seams between sod pieces.
- The best procedure would be to spray the bermudagrass in mid-summer. After a few days, remove the dying sod with a sod cutter or spade in order to allow the underground soil to heat up as much as possible. Keep the soil surface moist in order to get recovery of rhizomes that were not killed. After about 3 or 4 weeks, spray the bermuda regrowth again with **glyphosate**. If time allows, repeat this procedure again in another 3 weeks. Within a few days after the last spray, prepare a seedbed and re-sod or re-seed the area with tall fescue. If a sod cutter is not available to remove the dying sod, a rototiller can be used in lieu of the sod cutter, but you should attempt to physically remove all of the vegetative material.

SUPPRESSION WITH SELECTIVE HERBICIDES:

Commercial/licensed applicators have three herbicide options that can give suppression of bermudagrass without killing fescue and/or Kentucky bluegrass turf:

- For use in **tall fescue** turf only: spray with **fluazifop** (Fusilade II, 2 EC) at about 0.1 oz per 1000 sq. ft. This should be sprayed in late spring when the bermuda is greening up, and repeated in early fall when bermuda is preparing for dormancy. Avoid hot summer applications and be very careful to not overlap the spray since serious tall fescue injury may occur. Slight discoloration of the tall fescue can be expected. If the surviving tall fescue turf is sparse, inter-seeding can be accomplished 14 days after the **fluazifop** application. **Fluazifop** will kill Kentucky bluegrass and most other turfgrasses.

- For use on all cool-season grass lawns: repeated applications, every 4 weeks, of **fenoxaprop** (Acclaim Extra 0.57 EC) at 0.46 fl. oz. per 1000 sq ft will give good bermuda suppression. Make applications starting in late spring and repeat through summer as needed. There is no time restriction for overseeding tall fescue or perennial ryegrass in killed or dying areas of bermudagrass that has been sprayed with Acclaim.
- **Ethofumesate** (Prograss 1.5 EC) has traditionally been sprayed at approximately 4 fl. oz. per 1000 sq. ft., by **professional applicators**, to suppress bermudagrass in tall fescue and perennial ryegrass turf. It is also labeled for Kentucky bluegrass but, because of potential injury, the use rate is about one third of the above and the effectiveness for bermuda control is minimized. Make Prograss applications beginning in late spring after bermudagrass begins new growth. Make one or two repeat applications at 3 to 4 week intervals as needed. If the remaining turf is sparse, reseeding can be accomplished within 2 to 6 weeks after the last application. Due to the potential for serious turf injury, Prograss should NOT BE USED in zoysiagrass, hard fescue or other fine fescue turfgrasses.

CONTROL WITH FUMIGATION:

- **Methyl bromide** is a very effective fumigant for controlling bermuda, but it is a **restricted use** product and cannot be used in public areas. The US EPA has determined that **methyl bromide** is an ozone-depleting substance and, therefore, intends to ban all uses of **methyl bromide** by 2005. **Methyl bromide** is released onto the soil as a liquid, but it rapidly converts to a gas and permeates soil pores. To be effective the soil must be loosely tilled, moist but not saturated, and the soil temperature must be above 55°F. After the **methyl bromide** is applied, plastic sheeting must be used to cover the soil (hold in the gas) for at least 24 hours. After the plastic is removed, at least 2 days is required for the soil to air-out before seeding or sodding.
- **Dazomet** (Basamide G) is a granular soil fumigant used to suppress (reduce) bermudagrass but, instead of having to cover the surface with plastic, you can seal in the chemical with frequent and light irrigation. Basamide should be used only by commercial/licensed applicators. The soil must be loosely tilled or the surface must be core aerified. Apply Basamide with a drop spreader, then frequently irrigate for five to seven days. Do not waterlog the soil. The soil temperature should be between 55 and 90°F to be effective. Keep the product 3-4 feet from growing plants and away from the drip line of trees and shrubs. Reseeding/renovation can be accomplished 5-7 days after treatment, depending upon the soil temperature, rate of product used and seed bed preparation.

FOR ALL CHEMICAL PRODUCTS, FOLLOW THE LABEL DIRECTIONS CAREFULLY.