

Weed Identification and Control in Bentgrass and Bermudagrass Putting Greens

Tim R. Murphy
The University of Georgia
November, 1998

Numerous weed species infest golf courses, but the major three species are crabgrass spp., goosegrass and annual bluegrass. While the control of these annual grass weeds is fairly straight forward on fairways, control options are very limited on bentgrass and bermudagrass putting greens.

Bermudagrass putting greens.

Preemergence options for crabgrass and goosegrass control.

1. Bensulide (Bensumec 4LF, Betasan 4E, Pre-San 7G) - Studies have shown that bensulide will provide high levels of crabgrass control. However, in the southern United States, bensulide does not usually provide acceptable levels of goosegrass control. Use rates range from 7.5 to 12.5 lbs. ai/acre. Irrigate with ½ inch of water immediately after application for best results. Safe to apply in spring months to bermudagrass greens overseeded with perennial ryegrass or *Poa trivialis*. Reseeding restriction is 4 months after application.

2. Dithiopyr (Dimension) - Provides good to excellent control of crabgrass and goosegrass. Dimension should be used only on greens with good drainage and where bermudagrass has a good root system. Apply no sooner than 4 weeks or less before spring transition. (Note: Research conducted in Georgia showed that Dimension did not affect the spring transition of a bermudagrass green overseeded with perennial ryegrass). Dimension also will control seedling (before tiller development) crabgrass. Dimension may also be used on greens overseeded with *Poa trivialis*. Reseeding and sprigging restriction is 3 months for a single application and 4 months for a split application.

3. Bensulide + oxadiazon (Scotts Goosegrass/Crabgrass Control) - A good product for both crabgrass and goosegrass control. Apply to dry turf and irrigate-in with ½ inch of water. This product may cause thinning and discoloration of overseeded cool-season grasses such as perennial ryegrass and *Poa trivialis*. Scotts does not recommend the use of this product on *Poa trivialis*. However, research conducted in Georgia showed that *Poa trivialis* would tolerate a single March application of this product (note: *Poa trivialis* was not tolerant to March + May split applications.) Delay reseeding for 5 months after treatment.

Bermudagrass putting greens (continued).**Postemergence options for crabgrass and goosegrass control.**

1. Diclofop (Illoxan) - Provides excellent control of emerged goosegrass on bermudagrass greens. However, Illoxan will not control crabgrass. Avoid mowing for 1 to 2 days after application. Do not tank mix with other pesticides as tank-mixes will reduce the control of goosegrass. Reseeding restriction is 8 weeks.

2. MSMA, DSMA (numerous trade names) - MSMA and DSMA can be used for crabgrass control on bermudagrass IF INJURY CAN BE TOLERATED. Use the recommended amount (no more than 1.0 oz. product per 1,000 sq. ft.) and repeat the application at 5 to 7 day intervals. Do not apply if air temperatures are expected to exceed 90° F., or if bermudagrass is experiencing stress conditions. Damage can be severe with high rate applications or during extremely hot conditions. MSMA/DSMA will not provide acceptable levels of goosegrass control. There is no reseeding restriction. Avoid the use of MSMA/DSMA on bermudagrass greens by using a preemergence herbicide in the spring.

Annual bluegrass control in overseeded bermudagrass greens

1. Pronamide (KERB 50WSP) - Apply to bermudagrass greens no sooner than 90 days before overseeding with a cool-season turfgrass. Apply 1/4 to 1/2 inch irrigation water within 24 hours of application. In the event that Kerb is applied closer than 90 days before overseeding, activated charcoal at a rate of 10 pounds per 1,000 sq. ft. should be applied to treated areas. Reseed no sooner than 7 days after charcoal application.

2. Fenarimol (Rubigan 1AS) - Suppresses annual bluegrass. If *Poa trivialis* or bentgrass is used for overseeding, then the triple application (4.0 fl. oz./1,000 sq. ft.) program should be used, with the last application no sooner than 30 days before overseeding. Where perennial ryegrass is used, use the double application (6.0 fl. oz./1,000 sq. ft.), with the last application 14 days before overseeding. A single application of 2.0 fl. oz./1,000 sq. ft. in January or early February will help to extend the length of annual bluegrass control.

Creeping Bentgrass putting greens.**Preemergence options for crabgrass and goosegrass control.**

1. Bensulide (Bensumec 4LF, Betasan 4E, Pre-San 7G) - Studies have shown that bensulide will provide high levels of crabgrass control. However, in the southern United States, bensulide does not usually provide acceptable levels of goosegrass control. Use rates range from 7.5 to 12.5 lbs. ai/acre. Irrigate with 1/2 inch of water immediately after application for best results. Reseeding restriction is 4 months after application.

2. Dithiopyr (Dimension) - Provides good to excellent control of crabgrass and goosegrass. Dimension should be used only on greens with good drainage and where bentgrass has a good root system. Dimension also will control seedling (before tiller development) crabgrass. Reseeding and sprigging restriction is 3 months for a single application and 4 months for a split application.

3. Bensulide + oxadiazon (Scotts Goosegrass/Crabgrass Control) - A good product for both crabgrass and goosegrass control. Apply to dry turf and irrigate-in with ½ inch of water. This product may cause thinning and discoloration of creeping bentgrass. Delay reseeding for 5 months after treatment.

Postemergence options for crabgrass and goosegrass control.

1. Basically there are none. MSMA/DSMA is extremely risk to use on creeping bentgrass putting greens. Considerable research has been conducted on the use of fenoxaprop (Acclaim Extra) for crabgrass and goosegrass control on creeping bentgrass greens. The bottom line is that this herbicide can severely injure creeping bentgrass at rates needed to control crabgrass and goosegrass. The use of a preemergence herbicide for crabgrass and goosegrass control on bentgrass greens is recommended. Otherwise, “hand-picking” will be necessary.

Annual bluegrass control in creeping bentgrass greens.

The golf course community is still waiting for a “sure-fire” herbicide that will control annual bluegrass on creeping bentgrass putting greens. While progress has been made, annual bluegrass remains a very difficult weed to control. Options include preemergence herbicides such as bensulide and dithiopyr. In Georgia, bensulide has not provided good control of annual bluegrass in research plots. Dithiopyr provides good annual bluegrass control. However, bentgrass greens that have become weakened or stressed during the summer months are not good candidates for the use of Dimension in late August or early September. Probably the best option for managing annual bluegrass on creeping bentgrass putting greens is the use of paclobutrazol (Scotts Turf Enhancer 2SC). The label recommends spring applications after bentgrass has resumed active growth. Use rates range from 6.4 (0.1 lbs. ai/acre) to 16.0 (0.25 lbs. ai/acre) fl. oz. per acre. On bentgrass greens the use of a non-burning nitrogen fertilizer at 0.25 to 0.5 lbs. per 1,000 sq. ft. is recommended as a tank mix. Apply 0.25 inch of irrigation water within 24 hours of application. Growth regulation of annual bluegrass will occur in 1 to 2 weeks and last for approximately 3 to 8 weeks. Research conducted in Georgia showed that repeat applications of paclobutrazol would also gradually reduce perennial *Poa annua* spp. *reptans* infestation in ‘Penncross’ bentgrass. This program consisted of applying paclobutrazol at 0.5 lbs. ai/acre in mid-March and mid-April, followed by 0.25 lbs. ai/acre in mid-May; followed by 0.38 lbs. ai/acre in early October and early November, followed by 0.25 lbs. ai/acre in early December. After 2 consecutive years of use, perennial *Poa* populations were reduced by approximately 60%. Creeping bentgrass can be injured by these high rates of paclobutrazol. The maximum creeping bentgrass injury observed from this program was 28% at 13 days following the October applications. NOTE: PACLOBUTRAZOL IS NOT LABELED FOR USE ON CREEPING BENTGRASS PUTTING GREENS AT RATES ABOVE 0.25 LBS. AI/ACRE. THE DATA SHOWN ABOVE REFLECTS THE RESULTS OBTAINED IN RESEARCH PLOTS, AND DOES NOT CONSTITUTE A RECOMMENDATION OF THIS PRODUCT AT THE RATES DISCUSSED.