

Annual Bluegrass Control in Overseeded Bermudagrass

Annual bluegrass is the most troublesome winter annual weed on golf courses. Its low growth habit and ability to thrive in moist conditions and compacted areas make it difficult to control with management practices alone. Annual bluegrass has a lighter green color than most grass species used to overseed golf greens, and it produces numerous seedheads which disrupt the playing surface. Also, due to low heat tolerance, annual bluegrass quickly dies in warm weather, leaving areas bare until the bermudagrass has time to fill-in. Chemical control of annual bluegrass is difficult to achieve due to: (1) inability of the majority of preemergence herbicides to selectively prevent annual bluegrass germination while allowing the desirable overseeded grass to become established, and (2) most postemergence herbicides effective on annual bluegrass also damage the desirable overseeded grass species.

Preemergence annual bluegrass control was first noted in the 1930s when lead arsenate, an insecticide, was discovered as an effective bluegrass control in turf. Since then numerous preemergence herbicides controlling annual bluegrass have been reported.

Preemergence annual bluegrass control is currently achieved with several herbicides. Each has its own precautions before use, and if these are not followed, unsatisfactory results may occur. Pronamide (Kerb) provides preemergence control of annual bluegrass in overseeded bermudagrass. Pronamide must be applied in advance of annual bluegrass germination and planting of overseeding grass. Ninety-days is the minimum recommended period between application and overseeding. It is also recommended that application not be made where drainage flows onto areas planted with cool-season grasses, or onto bermudagrass golf greens. Superintendents who have to apply pronamide closer than ninety days prior to overseeding can offset the problems of ryegrass germination by applying a thin layer of charcoal. The charcoal will bind the pronamide and prevent it from damaging the overseeded ryegrass. However, the mess and dark color associated with charcoal applications and the risk of it not working must be considered before use. An agricultural grade of activated charcoal should be applied at two to four pounds per 1000 sq ft and at least fourteen days should be allowed between herbicide and charcoal applications. Reseeding

should be no sooner than seven days following charcoal application.

Ethofumesate (Prograss) also provides preemergence and early postemergence annual bluegrass control in bermudagrass. However, to prevent undesirable turfgrass injury, the application rate, time, and frequency are important. If applied in fall before bermudagrass dormancy, an immediate cessation of bermudagrass growth occurs. A delay in spring transition from ryegrass to bermudagrass also occurs with early fall application. Spring green-up of bermudagrass is also retarded with February applications. Therefore, ethofumesate use is not recommended in Florida due to the lack of completely dormant bermudagrass in most areas.

Fenarimol (Rubigan), a systemic fungicide used to control several turfgrass diseases, gradually reduces annual bluegrass populations without adverse effects to overseeded grasses or to bermudagrass. Application should occur before overseeding and germination of annual bluegrass. A treatment scheme has been suggested consisting of one, two or three sequential treatments, with the single or final application of the sequential treatment being two weeks prior to overseeding. Unlike pronamide, fenarimol does not appear to affect either overseeded perennial ryegrass or bermudagrass, but the necessity of a properly timed repeat application can be a drawback for certain managers who have limited budgets and labor. Inconsistent annual bluegrass control following fenarimol treatments has been noted.

Bensulide (Betasan, Pre-San) also provides preemergence annual bluegrass control and an acceptable stand of ryegrasses is obtainable when seeding is delayed four months after herbicide application. This could, however, be influenced by environment and management practices. The ryegrass tolerance range is narrow. Current label directions indicate that 100 lbs per acre of the 12.5G formulation should be applied (12.5 lbs ai/A). This four month waiting period allows enough bensulide to be in the soil to give good control of the germinating annual bluegrass but also be low enough to not interfere with germination of the overseeded grass. If the treated area needs to be seeded sooner than four months after application, powdered, activated charcoal can be used to deactivate the bensulide. The activated charcoal should be applied at a rate of seven pounds in 14 gallons of water per 1000 sq ft (300 lbs in 600 gallons of water per acre). The turf should be irrigated immediately after application to wash the