

Removal of Perennial Ryegrass and Rough Bluegrass from Tifway Bermudagrass with Herbicides

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It is common practice to overseed bermudagrass sports turfs with either perennial ryegrass (*Lolium perenne* L.) or a mixture of perennial ryegrass and rough bluegrass (*Poa trivialis* L.). These cool season species add color, reduce winter weed infestations, and protect the dormant bermudagrass against excessive wear. However, both can easily persist into June and thereby compete against the bermudagrass during transition. Removing overseeded species with mechanical methods such as vertical mowing, core aerification, and/or reduced irrigation is inadequate with the more persistent cultivars that are now available for these species. Therefore, objectives of this research were: 1) evaluate herbicides and rates for removal of perennial ryegrass and rough bluegrass when overseeded into 'Tifway' bermudagrass; 2) evaluate effects of these herbicides on Tifway bermudagrass during transition and during full green-up.

Study 1

Established Tifway bermudagrass managed as a fairway was overseeded with either 'Medalist III' perennial ryegrass at 15 lb/M² or 'Sabre' rough bluegrass at 8 lb/M² on October 15, 1998. Each overseeded species occupied half of a 10,000 square foot tier at the Auburn Turfgrass Research Unit. Treatments were arranged in a RCB design within each grass block with three replications. Herbicide treatments were applied to both studies on April 19, 1999 in a volume of 30 gallons/acre (GPA) and surfactant was included at 0.25% v/v. Herbicides and rates (lb ai/A) evaluated were: Sencor 0.5, 0.75; Aatrex 1.0, 1.5; Princep 1.0, 1.5; Illoxan 1.0, 1.5; Kerb 1.0, 1.5; Escort, Beacon and Transit 0.032, 0.064. Visual ratings were taken 30 days after treatment (DAT) for control of the overseeded species and 30 and 40 DAT for bermudagrass injury. Good to excellent control of perennial ryegrass was obtained with Aatrex (81%), Illoxan (83%), Escort (89%), Beacon (90%) and Transit (96%) with the lower rates, while marginal to poor control was recorded for Kerb (73%), Sencor (64%), and Princep (56%). At higher rates, all herbicides except Kerb (77%) provided 82 to 97% control of perennial ryegrass. Only Beacon (88%) and Transit (91%) provided good to excellent control of rough bluegrass at the lower rates, while control with Kerb and Aatrex averaged 77%. The higher rate of Kerb resulted in 93% control of rough bluegrass while control was good (85 to 88%) with Aatrex, Princep, Beacon, and Transit but poor with Illoxan (24%), Escort (44%) and Sencor (64%). Bermudagrass injury was

acceptable (20% or less) with all herbicides and lower rates. However, the higher rates of Sencor, Aatrex and Princep produced 32 to 35% bermudagrass injury 30 DAT. Bermudagrass injury declined to 22% or less 40 DAT for all treatments.

Study 2

In a separate area, Tifway bermudagrass sod was treated July 20, 1999 with the same herbicides and rates used in Study 1. Aatrex and Princep were not included since it is well documented that actively-growing hybrid bermudagrass is not tolerant of these herbicides. Treatments were arranged in a RCB design and there were four replications. Spray volume was 30 GPA and non-ionic surfactant was included at 0.25% v/v. Visual injury ratings were taken at 10 and 30 DAT and clipping weights determined at the same time. At 10 DAT, bermudagrass dry weights were reduced by all herbicides and this reduction was generally rate dependent. However at 30 DAT, bermudagrass dry weights for all herbicide-based treatments were equal to or higher (Illoxan 1.0, Beacon 0.064) than the nontreated. Bermudagrass injury ratings were unacceptable only for Sencor. Transitory dry weight reductions with Beacon, Escort, Illoxan and Transit were not objectionable since turf quality was maintained due to the observed growth-regulator effects produced by these four herbicides.



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