



TURFAX™

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Updating Winter Overseeding Technologies

Col. Samuel I. Sifers and James B Beard

The introduction of hybrid bermudagrass (*Cynodon dactylon* x *C. transvaalensis*) cultivars that can sustain high shoot densities at cutting heights of 1/8 to 1/10 in. (3.2–2.5 mm) has raised questions concerning potential problems in achieving successful winter overseedings. Basically, it relates to the very high shoot density, which increases the difficulty in placement of seed into the canopy at a depth where successful seed germination and seedling growth can be achieved. Detailed investigations were initiated by the International Sports Turf Institute to address this issue. The investigations were conducted in three distinctly different locations: (a) Indian Ridge Golf and CC in Palm Desert, California—a hot-dry climate, (b) Point Hilton at Tapatio Cliff in Phoenix, Arizona—a hot-humid inland climate, and (c) Bentwater CC in Mont-

gomery, Texas—a warm-humid coastal climate. All three experimental sites consisted of Champion vertical-dwarf hybrid bermudagrass grown on a high-sand root zone. Representative cultural practices for putting greens were followed both pre- and post-winter overseeding, including a 1/8 in. (3.2 mm) height of cut during the winter playing season. The pre- and post-winter overseeding cultural practices utilized assumed that play would continue throughout this phase, except for a two-day period during the actual seeding process.

The species composition and planting rates for the twelve individual treatments included the following:

- 100% Winterplay rough bluegrass (*Poa trivialis*) at seeding rates of 2, 4, 8, and 18 lb/1,000 ft² (1, 2, 4, and 9 kg/100 m²).
- 100% Charger II perennial ryegrass (*Lolium perenne*) at 25 lb/1,000 ft² (12.5 kg/100 m²).
- 100% Penncross creeping bentgrass (*Agrostis stolonifera*) at 1 and 4 lb/1,000 ft² (0.5 and 2 kg/100 m²).
- Four cultivar blends/species mixtures with the following composition:
 - an 80% blend of perennial ryegrass and 20% rough bluegrass mixture seeded at rates of 6 and 12 lb/1,000 ft² (3 and 6 kg/100 m²).
 - an 80% rough bluegrass and 20% creeping bentgrass mixture at 12 lb/1,000 ft² (6 kg/100 m²).
 - a 75% rough bluegrass and 25% creeping bentgrass mixture with an additional increment of rough bluegrass seeded one month later representing 10 plus 2 lb/1,000 ft² (5 + 1 kg/100 m²).

Additional treatments involved comparisons of the timing of seeding methodology. This included a traditional calendar date timing, which was compared to use of a biological prediction model, which is when the soil temperature at a 4-in. (100 mm) depth was between 72 and 78°F (22–26°C).

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