



*A temporary turfgrass can be practical in many sports turf situations.*

By Bruce Shank

**T**he clear favorite among turfgrasses of the National Football League's Turf Squad is ryegrass overseeded on a base of dormant hybrid Bermudagrass. Dr. Jim Watson and George Toma liked it so much this month that they shipped truckloads of overseeded Bermuda sod 2,500 miles from West Coast Turf in California to Joe Robbie Stadium in Miami two weeks before to the Super Bowl. Toma also persuaded the powers at Arrowhead Stadium in Kansas City to install a base of hybrid Bermudagrass when the stadium's artificial turf was replaced with natural grass for the first time last summer. The Chiefs played their home games on ryegrass overseeded into Bermudagrass.

That's a strong vote of confidence for a turfgrass that had very limited use 30 years ago. During the first few Super Bowls, Watson and Toma chose to paint the Bermuda with green paint instead of overseeding it with ryegrass. But, it wasn't long before they overseeded the Orange Bowl, the Los Angeles Coliseum and the Rose Bowl. The veteran pair of experts has demonstrated the useful contributions of improved perennial ryegrasses to professional sports entertainment. Much of what the NFL does for the playoffs, championships and Super Bowl is copied by football groundskeepers across the country.

**Tapping Ryegrass' Potential**

Perennial ryegrass started out as a nursery grass for Kentucky bluegrass

# Ryegrass Remains A Game Saver



**Ryegrass overseeded on a base of hybrid Bermudagrass at San Diego Jack Murphy Stadium. Photo courtesy: Steve Wightman.**

seed mixes because it germinated rapidly and surrendered to the more elite bluegrass as the turf matured. Now, as Stephen Cockerham at the University of California, Riverside, will tell you, there are a few perennial ryegrasses available today that can take more heat stress and traffic than bluegrasses. In fact, they are so tough they can give Bermudagrass trouble in the spring as it is trying to come out of dormancy. And, they still germinate in less than a week and become established faster than bluegrasses and fescues. They are the fastest of the turfgrasses established by seed.

Finding perennial ryegrasses that know when to fight and know when to fold is the trick. Toma and Watson scurried around the country before the Super Bowl checking sod farms for the right combination of Bermudagrass and ryegrass. Part of the difficulty they faced was the number of perennial ryegrasses on the market today. The other difficulty was finding sod producers experienced in growing overseeded Bermuda.

Unlike Kentucky bluegrasses, which are apomictic, perennial ryegrasses can be hybridized fairly quickly. In the breeding business, that generally means in fewer than 10 years. However, early perennial ryegrasses also experienced problems in the production fields.

When breeders, such as Drs. Bill Meyer at Pure Seed Testing and Gerry

Pepin at Pickseed West in Oregon, solved rust and other disease problems experienced by growers during seed production, the number of growers and production acres rose rapidly. Growers, who are independent farmers for the most part, need to be persuaded that turfgrasses can generate the sufficient yield at a sensible cost per acre.

Once light-green, stringy-when-cut, wide-bladed ryegrasses were transformed into bluegrass look-alikes with the exception of the fact that they don't spread, demand started to increase. Quite a range of ryegrasses is now available with medium- to dark-green color, fine- to medium-blade widths, better cutting quality and improved heat and traffic resistance.

Meanwhile, breeders in the East and Midwest, such as Drs. Reed Funk at Rutgers University, Eugene Mayer with Scotts and Howard Kaerwer with Northrup King, refined the uses of perennial ryegrass. They applied the new characteristics of the turfgrass with the need for fast establishment. Golf course superintendents adopted them to overseed Bermudagrass greens. The number of pounds of perennial ryegrass sold started to represent a significant opportunity for seed marketing companies.

Research conducted at Mississippi State University during the past 15 years

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## Ryegrass

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has shown that golf course greens might require rates in the area of 30 pounds per 1,000 square feet. Even though there is variance in the size and weight of seed between ryegrass cultivars, this amounts to more than 40 seeds per square inch.

Compare this to 5 to 10 pounds per 1,000 square feet for tall fescue, 3 to 5 pounds for Kentucky bluegrass or one-half pound for creeping bentgrass.

Add the fact that ryegrass is reseeded into fields over and over again, and you can begin to appreciate the difference between establishing a field for the first time and overseeding it with perennial ryegrass. Overseeding consumes a lot of seed.

Furthermore, when ryegrass seed is pregerminated, it is often mixed with a carrier, such as sand or calcined clay, before it is spread on the field. A heavy layer of seed and carrier is needed to approach the 30-pound rate used on golf greens. The carrier becomes as much a concern as the amount of seed. This is one reason for core aeration as part of the overseeding process.

Groundskeepers have learned when and how to establish a stand of ryegrass as Bermudagrass begins to go dormant in the fall. They have also learned to follow

that up with extra seed to be worked into the turf by players' cleats during events. It's much like a divot mix now common on golf carts on overseeded golf courses. Replenishing the seed is important to uniform coverage.

If you have ever tried to get rid of Bermudagrass in a plant bed or mulched area, you know how resilient it is. Since we are talking about taller Bermudagrass, cut at 3/4-inch instead of 3/16-inch like golf greens, the impact on the health of the Bermuda is probably less of a concern for sports turf managers than golf course superintendents. The mat established by Bermudagrass, whether active or dormant, is significant and provides both cushion and superior footing.

If the season for your field ends in December or January, you can use glyphosate to eliminate the ryegrass before the Bermudagrass transition begins.

### Northern Applications

Nature has drawn the line for Bermudagrass across the middle of the nation. It's called the transition zone by agronomists. Kansas City is one of the northernmost cities in the transition zone. North of the transition zone, Bermudagrass has a good chance of winterkill. In the summer, it starts to excel when daytime temperatures are in the mid-

80s. Perennial ryegrass remains active in the upper 40s. Many cool-season grasses have considerable drought stress and disease problems in the middle of summer.

A mixture of Kentucky bluegrass and perennial ryegrass can be a good surface north of the transition zone. Unfortunately, breeders have yet to find a perennial ryegrass that spreads vigorously to form a mat. However, with frequent reapplication of seed, perennial ryegrass can come very close to a durable northern turf surface. Keep an eye out for *Pythium* and keep potassium and iron levels up.

A temporary turfgrass can be practical in many sports turf situations. No groundcover is perfect for all regions of the country. Ryegrass is one of the most flexible and, definitely, the fastest to germinate in case of emergencies. Sports turf managers should learn about cultivars that are adapted to their region and put them to use.

Do not, however, be tempted to substitute perennial ryegrass with annual ryegrass. The difference is sizable. At the very least, you will have to mow annual ryegrass twice as often as perennial. That time would be spent better aerifying, overseeding and fertilizing. □



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