

NEW SPECIES AND CULTIVARS FOR GOLF

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Turfgrass management standards for golf courses are tougher than ever, and turf quality standards are much higher now than a generation ago. Continued improvements in turfgrass breeding have contributed significantly to the much lower cutting heights and higher levels of maintenance that we see in golf courses all over the country. There is every reason to think that improvements in turfgrasses used for golf will continue into the future. There are also new species being evaluated today that may be valuable golf course grasses in the years ahead. Below are listed the major golf course species and some of the objectives that turf breeders are working on to improve the game of golf.

Creeping Bentgrass

A generation ago, Penncross was the creeping bentgrass that about everyone used. Today, Penncross is still popular, but there now exists a whole range of choices. We have the "A" and "G" series creeping bents for super dense upright growth on closely mowed greens. We have improved "traditional" type creeping bentgrass such as Providence L-93, Cato Crenshaw, etc., for greens, tee, and fairway use. We also have varieties such as Penneagle, Putter, Seaside II, Mariner and others that are primarily used for tee and fairway use. Improvements will continue in the creeping bentgrasses. Biotechnology can play an important role in this species if the public accepts this technology.

Velvet Bentgrass

This is a species to watch. It will be used more on the golf courses in the future. New varieties such as SR 7200 and Vesper can tolerate cutting heights as low as a mower can be set, and use only half the nitrogen of a creeping bentgrass. Velvet bentgrass can produce the ultimate in turf quality on putting greens.

Kentucky Bluegrass

There is a great deal of breeding work going into developing new varieties better able to tolerate fairway type cutting heights. The huge number of entries (173) in the 2000 NTEP demonstrates the interest in this species. Needed, are varieties that can tolerate half-inch cutting heights and maintain acceptable turf quality during summer heat and disease pressure. Turfgrass breeders are getting very close to reaching that goal. Kentucky bluegrass is another species where biotechnology can play an important role in its improvement.

Perennial Ryegrass

If Perennial ryegrass was more winter hardy and had greater resistance to the hot weather summer diseases such as Pythium, Brown patch, and Gray leaf spot, we would need to look no further to find the perfect turfgrasses for golf course fairways and tees. Perennial ryegrass is an excellent turfgrass. Unfortunately, the winter and summer problems that characterize this species are most difficult for breeders to address. Dramatic improvements in these areas are not likely. But, Perennial ryegrass still remains as the most important golf grass in the world and new varieties continue to get better and better.

Turf Type Intermediate and Annual Ryegrass

Very interesting things are happening with turf type annual and intermediate ryegrasses. Annual type ryegrasses that produce excellent turf quality for a year or less and then die out like ordinary annual ryegrass are being developed and produced. There is a tremendous interest in these grasses in the south where perennial ryegrass is now used for a winter cover. These annual grasses produce the turf quality of perennial, but are not nearly so persistent. This allows the overseeded warm season grass to come back quickly when warm weather returns in the spring. In northern areas turf type annual ryegrasses have potential as short-lived turfgrasses and as nurse grasses when mixed with Kentucky bluegrass or fine fescues. These new transitional ryegrasses will establish quickly, but die off within a year allowing the desirable perennial grasses to take over as they fade away.

Poa Annua*, *Poa Supina*, *Poa Reptans

Breeding work continues in developing improved *Poa annua* for golf course use, but no varieties are yet commercially available.

Poa supina is being successfully used in a turfgrass, although in a minor capacity. *Poa supinas* do well in cool, northern humid climates like Michigan. Here it is being used for athletic fields and tee boxes. It is particularly well adapted to shady areas.

Poa reptans or creeping bluegrass is one of the newest turfgrasses to become available. This grass is really a perennial type of *Poa annua*. There are seed production problems with creeping bluegrass as it is very difficult to keep wild *Poa annua* out of the production fields.

Tall Fescue

Tall fescue plays a minor role in golf, being used mainly in rough and deep rough areas. This is a very popular turfgrass in areas farther south. It has good heat and drought tolerance and tolerates shade and salinity conditions well. However, in northern areas such as Michigan, it is difficult to see this species ever being a major golf grass.

Fine Fescue

The fine fescues, which include Chewings, Creeping, Hard and Sheep fescue, are widely used golf grasses in Michigan. These species are well known and are excellent for shade tolerance, drought tolerance and for low maintenance turf. There is breeding work going on in these species and endophyte enhanced fine fescues are becoming available. These grasses will continue to play an important role in golf, but no truly “breakthrough” new cultivars appear to be close in development or release.

Turfgrass breeders are working hard to produce new and better cultivars and species for golf course turf. The results over the last 20 years have been excellent resulting in a proliferation of better-adapted turfgrasses for golf use. There is no reason to believe that future progress will be any less than what we have seen in the past.