Breeders make progress with annual bluegrass

By MIKE KENNA

For many years now, thousands of golf courses have managed perennial types of annual bluegrass on their putting greens. Many turfgrass scientists agree that these fine-textured bluegrasses belong to the species *poa annua* var *reptans*. To avoid using the oxymoron "perennial annual bluegrass," the common name of creeping bluegrass may be a more appropriate term.

Since 1983, the U.S. Golf Associatioin has supported research to develop a seeded-type *poa annua* var *reptans,* or creeping bluegrass variety for the golf industry. The University of Minnesota project, conducted by Dr. Don White, took the approach that some of the perennial types of *poa annua* commonly found growing on older greens could be developed into a seeded variety. White felt what many superintendents consider an unwanted weed could be improved for widespread use in areas of the country where the species is very difficult to control.

The creeping bluegrasses were selected for their persistence under heat and cold stress, deeper rooting, darker color, fine texture and reduced flowering. Extensive laboratory and greenhouse trials were conducted during the 1980s to select the best parental lines. Limited testing at other university and golf course sites was difficult because of the small amount of seed available.

In 1994, three experimental varieties (MN#42, MN#184, and MN#208) were approved for release by the Minnesota Agricultural Experiment Station. An exclusive agreement with Peterson Seed Co. of Savage, Minn., was executed by the University of Minnesota Office of Research and Technology Transfer.

One-acre seed production fields were established in Oregon in fall of 1993. MN#42 has produced the most seed with the least amount of shattering. Seed yields for MN#42 have been around 300 pounds per acre. On the basis of seed yield and other factors, Peterson will concentrate on MN#42 as the first introduction from White's breeding program.

In addition to creeping bluegrass evaluation trials conducted at University of Minnesota, tests were established at Washington State University Experiment Station in Pyalup, Wash., and at University of Nebraska's John Seaton Turfgrass Research Center in Mead, Neb. Thusfar, the creeping bluegrasses have done very well in Dr. Stan Braun's test in Washington. The climate at the test location south of Seattle is very favorable to creeping bluegrass. However, the Nebraska summer has been rough on the three varieties tested by Dr. Bob Shearman and his colleagues. Last July, the creeping bluegrass plots were not performing as well as the bentgrass putting green plots.

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Where, when and if these creeping bluegrasses are used will depend on successful experiments under golf course conditions. The coastal climates of California, Oregon and Washington may be able to grow these creeping bluegrasses successfully. Northern locations with mild summer temperatures may also have success with these grasses, but their tolerance to periods of extensive ice coverage is unknown.

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Over the years, there has been discussion about overseeding creeping bluegrasses onto hybrid Bermudagrass greens. The transition period during the spring would be similar to *poa trivialis* in Southern climates, where golf courses overseed putting greens. This method will need to be researched extensively before any recommendations can be made.

One of the biggest hurdles to overcome is, where will creeping bluegrass seed be produced? Commercial seed companies and producers are very concerned about growing creeping bluegrass near bentgrass, ryegrass, Kentucky bluegrass, or tall fescue production fields. Superintendents purchasing seed for these and other cool-season species will not tolerate contamination with creeping bluegrass seed.

A great deal of research must be completed before creeping bluegrass becomes a viable turfgrass for golf courses. We know that in some areas of the country it is very difficult to control *poa annua*. How would you prevent annual bluegrass from invading the desired perennial variety? At least now there are a few experimental varieties on which to conduct tests. With the help of golf course superintendents and university faculty, we will be able to conclude whether creeping bluegrasses have a future in golf.