

NORTH CAROLINA STATE UNIVERSITY - Dr. William B. Gilbert, Project Leader

Funds Granted - \$1,500 — Effect of Management and Fertilization Practices on Bentgrass in the Carolinas.

Various nitrogen and cultivation treatments are being applied to Penncross bentgrass grown under field conditions, mowed at 1/4 inch. Variables include nitrogen sources, nitrogen rates, nitrogen timings, and cultivation. Data is being taken on turf quality, disease development, weed and insect invasion, thatch development, rooting depth, and pH of the soil. Treatments began on a uniform stand of grass on June 1, 1977. To date the data taken has not demonstrated that the treatments have had a significant effect on the grass. Summer nitrogen applications are light, however, and more pronounced treatment effects are anticipated within the year with heavier applications of nitrogen, cultivation, and cool weather.

PENNSYLVANIA STATE UNIVERSITY - Dr. Joseph M. Duich, Project Leader

Funds Granted - \$2,000 — Bentgrass Breeding Project.

This program is pointed toward the development of superior bentgrasses for greens, tees and fairways through selection and breeding. One experimental variety, PBSB, shows great promise as an improvement over Penncross creeping bentgrass. It is presently under test and observation at some 20 golf courses. Included in these tests are the new nine holes at Congressional, 18 fairways at Oakmont were overseeded and one Kentucky bluegrass fairway at Saucon Valley. Formal release of PBCB is anticipated in 1978 through the Penncross Bentgrass Association of Oregon. Over 2,000 pounds have been distributed to over 125 cooperators in the United States, Canada, Mexico and South Africa at no cost. In contrast, Penncross was tested with 8 pounds of seed prior to release.

Fairway bentgrass trials included several new cultivars, many submitted by the Green Section staff. Bentgrasses that exhibit rhizome growth are the prime object of search, selection and breeding. The feasibility of growing compatible bluegrass-rhizome type colonial bents appears to be a very viable objective worthy of considerable effort in the pursuit of better grasses for better golf.

RUTGERS UNIVERSITY - Dr. C. Reed Funk, Project Leader

Funds Granted - \$2,000 — Breeding Grasses for Golf Course Use.

This is a continuing project, one that has produced a number of improved cultivars of Kentucky bluegrass for the turfgrass industry. Over 4,000 new plots of bluegrass, ryegrass and fescues were established at the Adelphi research station during the past season. Five acres of spaced-plant nurseries were also established. Several new bluegrass hybrids were developed which are showing improved performance for fairway type turf with a good ability to compete with Poa annua. Unfortunately, most such hybrids are not adequate seed producers. Additional work is in progress and more crosses are planned for next year.

Turfgrass germplasm collection trips were made to California, Kentucky and Texas to obtain selections with resistance to summer stress conditions and to assess the range of genetic variability present in our important cool-season turf-grass species.

Commercial seed of Yorktown II perennial ryegrass and Sabre roughstalk bluegrass was first harvested in 1977. Sabre is a somewhat darker green, somewhat lower-growing turf type variety of *Poa trivialis* that has shown promise for winter overseeding of southern turf and improved performance in shade. Yorktown II has shown substantial improvements in summer performance compared with the original Yorktown variety.

TEXAS A&M UNIVERSITY - Dr. Kirk W. Brown and Dr. Richard L. Duble, Project Leaders

Funds Granted - \$4,000 — Support of Soil Testing Laboratory for Recommending Soil Mixtures for Putting Greens Built to USGA Green Section Specifications.

One hundred seventy-nine samples were run through this year, some 40 less than last year. This is due mainly to the reduction in new course construction during the last year. The laboratory is now housed in a new building, some new equipment has been obtained, mainly a new waterbath for particle size analysis and a binocular microscope to determine the shape of sand particles. The latter is used mainly to evaluate bunker sands.

<u>Type of Analysis</u>	<u>Number Analyzed</u>
Complete soil analysis including the total USGA testing procedure on one sand, one soil, and one organic matter	36
Mechanical analysis (particle size) of individual sand or soil sample	50
Assay of organic amendment sample, including ashing	10
Chemical analysis, pH, P, K, and total salts	14
Analysis of a mixture for particle size, bulk density, pore distribution, infiltration rate, and 40 cm water retention	66
Special analyses	1
Nematode tests	2
Total	<u>179</u>