TEXAS A&M UNIVERSITY

Breeding and Development of Bentgrass

1991 Research Grant: $64,000
(Seventh year of support)

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In 1990, three bentgrasses identified as Syn1-88, Syn3-88 and Syn4-88 were submitted to the Texas A&M Plant Improvement Review Committee for release. Through due course of review, it was decided additional information was necessary to warrant release, and it was suggested additional locations be included in the evaluation and performance. Sufficient seed of Syn3-88 (approximately 4,000 pounds), and of Syn4-88 (approximately 2,000 pounds) was produced in 1991. Limited quantities of seed were made available for demonstration plantings, additional replicated trials and for nursery plantings on approximately 35 golf courses throughout the central and southern United States. In addition, two new golf courses have selected Syn4-88 (CATO) for use on all new greens. One course is located in Montgomery, Texas just north of Houston, and the second is just south of Dallas. A third course in Jonesboro, GA has selected Syn3-88 for use on nine newly constructed greens.

Syn4-88, once released, will be named "Cato" creeping bentgrass in honor of the late Paul Cato, Colonial Country Club, Fort Worth and founding president of Bentgrass Research, Inc. Both Syn3-88 and Syn4-88 have performed well in trials conducted at several locations throughout the southern United States. Each will be resubmitted for release this fall. Syn1-88 continues to demonstrate considerable strength in root persistence and performance under adverse conditions. If released this fall, seed increase will be initiated in the Spring of 1992. Ample seed stocks exist of all three varieties to support additional field plantings.

Reselection, hybridization, and advanced screening programs resulted in the development of seven new polycross populations in 1991. These, in addition to the 14 populations generated during 1990, are being extensively evaluated for heat resistance, root growth characters, disease resistance and leaf hydration response. The disease resistance studies are continuing in cooperation with Dr. Phil Colbaugh with intentions of examining the heritability mechanisms of disease resistance, as well as intensely reselecting for improved disease resistance. Two additional manuscripts have been prepared for publication. The first is an article on selection techniques concerning leaf water hydration and its relationship to heat tolerance in creeping bentgrass, and the second concerns results from a gross heat tolerance screening of the commercially available creeping bentgrass cultivars. Assessment of germplasm and genotype performance continues in the greenhouse, field and laboratory. Superior plants are being identified and recycled in the breeding program. Invaluable cooperation continues with Dr. Jerry Pepin and Mr. Doug King, of Pickseed West in Tangent, OR, and with Dr. Virginia Lehman of Loft's Great Western in Lebanon, OR.

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