

## BREEDING AND DEVELOPMENT OF BENTGRASS

TEXAS A&M UNIVERSITY  
Dallas, Texas

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1987 Research Grant: \$40,000

(Third year of support; \$20,000 of the 1987 total was  
contributed by Bentgrass Research, Inc. of Fort Worth, Texas)

The Bentgrass Breeding Program at Texas A&M - Dallas was initiated in April 1985 as a joint effort between the United States Golf Association, Bentgrass Research, Inc., and the Texas Agricultural Experiment Station.

The Germplasm Introduction Nursery presently contains over 375 unique vegetative accessions from around the world, an additional 270 advanced generation selections identified for superior heat tolerance and rooting characteristics, and 70 seeded accessions.

Four limited clone Synthetic populations were generated in Oregon during the 1987 pollination season. An additional 77 polycross populations involving the very best of the bent germplasm collection produced sufficient seed for selection within the next generation. Significant differences existed between clones for root extension and root areas, which were used in a specific RHT crossing block in Oregon in 1987, from which seed will be used to conduct parent-progeny regression for root characters. Specific clones have been selected from 'Seaside' bentgrass for improved turf quality, density, and color and have been placed in isolation for development of the first generation of a 'Seaside II' cultivar.

Additional crosses and polycross populations will be created in 1988 based on laboratory, greenhouse, and field data collected in Oregon and at the Texas Agricultural Experiment Station (TAES)-Dallas.

Laboratory and Greenhouse research screening procedures continues at TAES-Dallas with specific emphasis on rooting characteristics and membrane stability (tissue tolerance to high temperatures). New facilities are being constructed in the fall of 1987 to create a Turfgrass Root Investigation Facility (TRIF) for examining root characteristics under field conditions.

Field evaluation trials have been conducted on the putting green and on native soil (simulated Fairway conditions) since 1985. These field trials have provided necessary information concerning thatching tendency, mowing quality, color retention, density of stand etc., to assist in selecting plant materials for the Oregon Crossing Blocks.

The excellent cooperation between the United States Golf Association, and Bentgrass Research, Inc. has been instrumental in implementing the procedures necessary for timely development of a new heat tolerant bentgrass for the golf industry.