UNIVERSITY OF GEORGIA

Bermudagrass Breeding - Vegetative

1990 Research Grant: $8,000
(Ongoing support since 1946)

Dr. Glenn W. Burton
Principal Investigator

In recent years, our main objective under this cooperative USDA-ARS project has been to develop new hybrids with greater cold tolerance and quality similar to the Tif-bermudas. These hybrids have involved the winter hardy Berlin bermudagrass and our best *Cynodon transvaalensis* bermudagrass from South Africa.

We learned during the development of the Tif-bermudas that it required at least three years of turf management for lawns, fairways or golf greens in replicated small plots to separate the best one or two from a group of many hybrids. We have just completed a "three-year test" of 64 of the Berlin x *C. transvaalensis* hybrids with the six Tif-bermudas, Midiron and Vamont as checks. The parents used were a Berlin bermuda selection that survived a winter in Pine Valley, New Jersey when others were killed. This test of 72 bermudagrasses planted in replicated 6 x 7 foot plots has received low cost fairway maintenance for three years. Tifway (Tifton 419) and Tifway II topped the entries in this test. None of the 64 new hybrids equalled the Tif-bermudas in overall performance. One, perhaps several more, were good enough to warrant evaluation for cold tolerance. We understand that Dr. Jeffrey Anderson, Horticulture Department, Oklahoma State University, has developed a laboratory test that may be used to determine the cold tolerance of bermudagrasses. We hope to have him rate our best selections for cold tolerance. Plantings of earlier hybrids on golf courses in the North Georgia and North Carolina mountains are waiting for a suitable winter to eliminate all but the best ones.

In my 1989 report, I described our good fortune in getting the very winter hardy bermudagrass clone from the Soil Conservation Service Plant Materials Center, Quicksand, Kentucky. The rhizomes we received were labeled 9034348 and called Quicksand Common. We have found it to be fine-stemmed, highly disease resistant and a rapid spreader. It has the 36 chromosome characteristic of common bermudagrass but failed to shed pollen for us in 1990. If it has equal or better winter hardiness than our Berlin bermudagrass, it could give better hybrids when crossed with our best *Cynodon transvaalensis* clones. We have made the creation and evaluation of these hybrids one of our main activities under this project.

Tifton 10 bermudagrass, officially released in 1988, was registered as a crop cultivar by the Crop Science Society of America in 1990. Tifton 10 has performed well at many locations, receiving higher quality ratings than Midiron wherever compared. Its dark bluish green color sets it apart from other turf bermudagrasses. It establishes rapidly from stolons or rhizomes.

(Please Note: The Turfgrass Research Committee is proud to continue its support of Dr. Burton's prolific breeding program. The Committee's small grant covers but a small fraction of the cost of the program.)