

USDA/UNIVERSITY OF GEORGIA

Bermudagrass Breeding - Vegetative

1991 Research Grant: \$8,000
(Ongoing support since 1946)

Dr. Glenn W. Burton
Principal Investigator

The main objective under this cooperative USDA-ARS project has been to develop new bermudagrass hybrids with greater cold tolerance and quality similar to the Tif-bermudas (i.e., Tifdwarf, Tifgreen, and Tifway). These hybrids have involved the winter-hardy Berlin bermudagrass and our best *Cynodon transvaalensis* bermudagrass from South Africa.

None of the new hybrids equalled the Tif-bermuda in overall performance. One, perhaps several more, were good enough to warrant evaluation for cold tolerance. These materials were sent to Oklahoma State University to determine their cold tolerance.

Tifton 10 bermudagrass, officially released in 1988, was registered as a crop cultivar by the Crop Science Society of America in 1990. Tifton 10 continues to perform 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.)

OHIO STATE UNIVERSITY

Monoclonal Antibodies for Rapid Diagnosis Necrotic Ring Spot Turfgrasses

1991 Completed

Dr. William W. Shane
Dr. Stephen T. Nameth
Principal Investigators

This project focused on the development and use of immunological techniques for rapid diagnosis of slow growing patch diseases. The project was successful in developing a monoclonal antibody-producing clone that was selective for *Leptosphaeria korrae*, the causal agent of necrotic ring spot. The antibody, a small protein that can bind to the fungus, can now be grown in great quantity in a laboratory flask. The antibody can test for the presence of the pathogen in a plant sample. The antibody was highly reactive against all fungal strains of *Leptosphaeria korrae* isolated from both Kentucky bluegrass (Necrotic Ring Spot) and bermudagrass (Spring Dead Spot). Currently, a company (or university) is being sought to continue with the commercialization and maintenance of the LK₅₀ clone.