

VIRGINIA POLYTECHNIC INSTITUTE - Dr. Richard E. Schmidt, Project Leader

Funds Granted - \$1,500 — Factors Influencing Winter Survival of Bermudagrass Cultivars Grown in the Transition Region.

Various known bermudagrasses, and one unnamed experimental, were subjected to extreme heat and cold treatments to determine their ability to survive, to recover and to resist wear. This study showed that Midiron and the unnamed experimental bermudagrass selection withstood the low temperatures better than Tifdwarf, Tifgreen, Tifway and Tufcote. Studies at VPI indicated that Tifgreen was more winter hardy than Tufcote. Beltsville tests rated Tufcote above Tifgreen. The unnamed experimental bermudagrass gives promise of doing well on tees and fairways in areas where bermudagrass is adapted.

WASHINGTON STATE UNIVERSITY - Dr. Roy L. Goss, Project Leader

Funds Granted - \$1,500 — The Effect of Variable Rates of Sulfur on Bluegrass, Fescues and Ryegrasses

Plots 10' x 10' of Highlight chewings fescue, Bonnieblue Kentucky bluegrass and Manhattan perennial ryegrass were established in August, 1977 to determine the effects of 0, 75 and 150 lb of sulfur per acre per year on their growth and development. Sulfur has produced significant results in previous bentgrass studies with regard to control of *Ophiobolus* patch disease, reduction in *Fusarium* patch disease, reduction in *Poa annua* invasion, and we need to know this information in regard to bluegrasses, ryegrasses and fescues. Plots will be treated with different rates of sulfur and nitrogen. *Poa annua* encroachment also will be part of the study.

UNIVERSITY OF ILLINOIS - Dr. L. Arthur Spomer, Project Leader

Funds Granted - \$1,000 — Water Stress and Strain Resistance of Selected Turfgrass Species.

Work on this project has been primarily concerned with developing standard techniques for screening turfgrass plants for water stress and strain resistance relative to expansion growth and dry matter growth. Since the apparatus and techniques required for this work are not commercially available, most of the project effort has been directed toward developing these necessary tools.

Progress to date includes the following:

1. Methods and apparatus for characterizing plant water status have been developed (not previously available for turfgrass work).
2. Methods for characterizing turfgrass permanent wilting point.
3. Methods and apparatus for measuring turfgrass whole plant, shoot, and root photosynthesis and respiration rates.