

introduction of an improved Poa annua. Research progress is being made which is beyond what could be normally expected under current support conditions. The 1986 results have been very satisfying.

✓ UNIVERSITY OF NEBRASKA - Dr. Terrance P. Riordan
Principal Investigator

Breeding, Evaluation and Culture
of Buffalograss

1986 Grant - \$18,000 [third year
of support]

A. Overall Objective Accomplishments

This project has been active for slightly less than two and one-half years, but significant progress has been made toward the overall objective of the USGA/GCSAA project. At this time, buffalograss clones have been identified which have an improved turf quality suitable for golf course roughs, but still have the lower energy requirement advantages of buffalograss. Although we are still early in our breeding improvement project, progress to-date has been better than any of us expected. Selected clones have better turf quality than anticipated, they are possibly adapted to a larger area of the country than originally thought, and propagation by seed or vegetative means seem very feasible.

B. Plant Collection and Evaluation

One hundred and forty-one turf-type buffalograss clones were collected in Kansas in 1986. These were collected under both dry and wetland conditions. These will be transplanted to the field during 1987. An additional 82 buffalograss clones have been selected for additional evaluation from the 1985 plantings. These clones will be vegetatively increased into larger replicated turf plots. Ten clones have been identified as the best buffalograss plants in our program at this time.

C. Buffalograss Plant Breeding

During 1986, a seed increase planting and synthetic plantings were made. Seed will be harvested from these areas late in 1986 and again in 1987. Individual plant hybridization will be made in the greenhouse during spring 1987.

D. Mill Seeding Rate Study

This study has shown that the multiple noted caryopses can be efficiently removed from the hard to germinate buffalograss burr. In the field these hulled seeds germinate much more rapidly and at a higher rate than the burrs.

E. Buffalograss Seed Storage

Hulled buffalograss seed stored for three months had an overall 94% germination and at nine months, 92%. A germination test will also be made at 15 months.

F. Buffalograss De-hulling

A barley pearler was evaluated as a means of removing the multiple buffalograss caryopses from the burr. An average of 2.3 caryopses were obtained from each burr and germination was much more rapid for the excised caryopses.

G. Vegetative Establishment

Six studies using pre-rooted and non pre-rooted plugs demonstrated that vegetative establishment is improved using pre-rooted plugs. Spacing requirements, herbicide and fertilizer rates, and pre-rooting times were determined from these studies.

H. Buffalograss Rhizotron Study

No significant differences were obtained in root development of pre-rooted and non pre-rooted plugs in the rhizotron. Differences were possibly masked by environmental or soil factors.

I. Project Budget

During 1985-6 and again in 1986-7, we will be spending 10-15% more than the \$18,000 we receive from the USGA. This deficit spending is a problem, but more significant is the problem that all of this amount is going for salary, benefits and overhead. There are currently no funds available for plant collection, student labor or operating expenses. If this funding situation continues, the progress and accomplishments of the project could be negatively affected.

UNIVERSITY OF NEBRASKA - Dr. Robert C. Shearman
Principal Investigator

Turfgrass Cultural Practices and their Interactive Effects on Rooting

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The USGA has set goals of 50% reduction in turfgrass water use and 50% lower maintenance costs. Results from the irrigation frequency x potassium nutrition study conducted during 1986 demonstrated that decreasing irrigation frequency and increasing potassium nutrition levels resulted in equal or better putting green conditions than turfs receiving frequent daily irrigation. Snow mold [Typhula blight] incidence decreased with increasing potassium. A 60% reduction in