

## BREEDING, EVALUATION AND CULTURE OF BUFFALOGRASS

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Lincoln, Nebraska

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### 1. Commercialization of New Turf Type Buffalograsses

At the present time, there is interest in a vegetative release of buffalograss by 5 companies and interest from 7 companies for a release of a seeded variety. Our group feels it is important to make our initial release of a vegetative cultivar during 1989.

### 2. Buffalograss Evaluations

Oklahoma State University, Stillwater, OK: Dr. Joel Barber established improved buffalograss cultivars in 1987. The buffalograss did not exhibit any insect infestation or disease; however, competition with bermudagrass was a problem. Cultivars which rated high for color, quality and percent cover were: 84-409, 84-415, 85-364, 85-129, 84-5-2, 85-152-1 and 85-478-2.

Nuckolls County Extension Service, Nelson, NE: Mr. Chet Hawley established several improved buffalograss cultivars in 1987. Cultural practices were kept to a minimum with infrequent mowing and little or no irrigation or fertilizer. Cultivars which produced favorable turf-type qualities were 84-609, 84-104 and 84-514. The Ne 84-315 selection exhibited symptoms similar to those found at the Mead facility.

Texas A&M University, Dallas, TX: Dr. M. Engelke has evaluated several improved buffalograss selections and initially found several to have good performance.

### 3. Cultivar Development - Seed

Farmers Marketing Corporation: Is interested in continuing their efforts with buffalograss. They have had discussions with Arrow Seed (Nebraska) and Johnson Seed (Oklahoma) about the possibility of cooperatively producing seed of a proprietary cultivar at several locations.

Lofts Pedigreed Seed - Madris, Oregon: A small planting of experimental clones and Texoka were made in Madris during 1987. Observations this year suggest that buffalograss can grow and possibly produce very good seed (burrs) in these dry land production areas.

4. Synthetic Planting/Harvest plans for 1989

Female plants in this synthetic study were harvested during late September and early October. This seed will be processed over the winter for 1989 research and used for further seed development projects.

5. Plants for F1 Seeded Variety

Following discussions with Dr. Robert Ahring, retired Oklahoma State University professor in buffalograss seed production, the following plan for development of a seeded variety was made: Select several combinations of both male and female materials to produce either an F1 or a synthetic variety.

6. Evaluation of Time and Storage on Buffalograss

High germination of the caryopses stored at room temperature will encourage further study into removal of the caryopses from the burr.

7. Image Analysis

The method of image analysis reduces the time spent on collecting and analyzing rooting data and increases the accuracy of root information obtained. This method will be useful to researchers when studying rooting characteristics of cultural and breeding practices.

8. Problems/NE 84-315

During the summer of 1988, the buffalograsses performed quite well through the middle of July, even though we were under a severe drought and no irrigation had been applied to any of the advanced buffalograss plots. However, in the middle of July several of the clones of buffalograss including NE 84-315 had a severe drop-off in turf quality. After extensive work by Dr. Baxendale, it was concluded that the mealybug was causing the damage in the turf. The mealybug is a microscopic insect that seems to live in the sheath of the plant and suck juices from the individual stems. Hopefully, this was a one-year problem that may not occur again, but it is helpful to have this knowledge as we go forward on this project.