

Breeding, Evaluation and Culture of Buffalograss for Golf Course Turf

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Goals:

- Develop vegetative and seeded turf-type buffalograsses which conserve energy and water.
- Develop buffalograss establishment protocols and management systems to provide acceptable golf course rough and fairway turf at significantly reduced levels of energy input.
- Determine range of adaptation of turf-type buffalograsses.
- Evaluate potential insect and disease pests of buffalograss.
- Evaluate physiological and biochemical principles of environmental stress and nutrient utilization in buffalograss.

The sales of '609' buffalograss are expected to meet the projections of Crenshaw & Doguet Turfgrass. This has been accomplished by selling almost all of the 104 acres at Bastrop, TX.

Both '315' and '378' cultivars were officially released by UNL, and plant patents are nearly complete. Approximately 15 acres of '315' have been planted at Nickerson, Nebraska, and 20 acres of '378' have been planted at Mead, Nebraska. Sod and plugs will be available in 1994.

Cold, wet weather in 1993 has negatively affected buffalograss seed production and has set back the release of new seeded cultivars. However, both cooperating groups, Native Turfgrass Group (NTG) and Sharps Bros, continue to make progress toward developing seeded turf-type buffalograsses.

During 1992 and 1993, '315', '378', AZ143, NE 84-436, and NTDG-2 were the top performers at the Mead, NE. The National Turfgrass Evaluation Program (NTEP) reported that '609', '315', '378', and BUFFALAWN were the top vegetative selections, and the NTDG (now NTG) series are among the top seeded buffalograsses.

The phytotoxicity of several herbicides, including MON 12051, Barricade®, pendimethalin, and Dimension®, was evaluated to determine their potential for use on buffalograss. No phytotoxicity was observed, indicating that with proper label clearance their use would be acceptable.

Observations of a planting date study initiated in 1992 indicate that cultivars differ in their optimum planting date. For example, '315' plots planted in September survived the winter. A buffalograss traffic tolerance study was initiated with two

mowing heights, three fertility levels, and two traffic levels. Preliminary observations indicate excellent tolerance and recovery from wear.

Table IV. 1993 Mean Turfgrass Quality Ratings of Buffalograss Cultivars For Each Month Grown At Nineteen Locations in the United States.

Name	Turfgrass Quality Ratings ¹											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
609 (NE 84-609)	4.0	4.7	4.7	5.4	5.5	5.7	6.2	6.1	6.4	6.2	5.8	5.0
315 (NE 84-315)	4.0	3.5	4.8	5.9	6.2	6.4	5.9	5.7	6.2	4.8	4.0	4.2
378 (NE 85-378)	4.0	3.5	4.4	5.9	6.0	6.3	5.9	5.9	6.0	4.7	4.6	4.4
BUFFALAWN	4.3	5.0	5.2	6.5	5.3	6.0	6.4	5.7	5.8	6.2	5.1	5.3
NTDG-5	4.0	3.7	4.8	5.8	5.6	6.0	5.8	5.9	6.0	4.9	4.4	4.4
NTDG-4	4.0	4.0	4.7	5.8	5.8	6.1	6.0	5.6	6.0	5.0	4.0	3.8
NE 84-436	4.0	3.8	4.9	5.9	5.8	6.1	5.7	5.9	6.0	4.9	4.8	4.6
NTDG-2	4.0	3.7	4.7	5.5	5.4	5.8	5.8	5.6	6.2	5.0	4.0	4.3
NTDG-1	4.0	3.7	4.6	5.7	5.4	6.1	6.0	5.6	5.9	4.9	4.3	4.3
PRAIRIE	4.0	4.8	4.9	5.5	5.3	5.6	6.2	5.9	6.0	5.8	5.2	4.9
AZ 143	4.0	4.5	4.9	6.1	5.5	5.8	5.7	5.7	6.0	4.8	4.0	4.6
NTDG-3	4.0	3.8	4.2	5.8	5.5	6.1	5.9	5.8	5.8	4.7	4.2	4.3
RUTGERS	4.0	5.0	5.1	6.1	5.0	5.5	6.1	5.4	5.6	5.9	5.1	4.9
TOP GUN (BAM 101)	4.0	3.7	4.4	5.7	5.3	5.8	5.7	5.5	5.6	5.0	4.3	4.3
TEXOKA	4.0	3.2	4.3	5.5	4.9	5.4	5.8	5.5	5.5	5.2	4.4	4.6
HIGHLIGHT 4	4.0	5.0	4.8	5.5	5.1	5.3	6.0	5.7	5.6	5.8	5.3	5.2
HIGHLIGHT 25	4.3	4.8	5.2	6.1	5.4	5.5	5.8	5.3	5.5	5.8	5.2	5.1
SHARPS IMPROVED	4.0	3.7	4.7	5.7	5.4	5.7	5.7	5.4	5.6	4.8	4.2	3.7
HIGHLIGHT 15	4.0	5.0	5.2	5.9	5.1	5.4	5.9	5.4	5.4	5.7	4.8	4.6
PLAINS (BAM 202)	4.0	3.7	4.6	5.3	5.0	5.4	5.5	5.4	5.3	4.9	4.1	4.0
BISON	4.0	3.5	4.7	5.3	4.9	5.3	5.3	5.3	5.4	4.8	3.9	4.0
NE 84-45-3	3.7	3.5	4.4	5.0	5.1	5.5	5.7	5.2	5.1	4.3	3.7	3.6
LSD Vaule ²	0.3	0.5	1.0	0.9	0.8	0.7	0.6	0.6	0.6	0.7	1.5	1.6

¹ Turfgrass Quality, where 1 = poor and 9 = ideal turf.

² To determine statistical differences among entries, subtract one entry's mean from another entry's mean. Statistical differences occur when this value is equal to or larger than the corresponding LSD Value (LSD 0.05).