New Buffalograss Cultivars

by Terry Riordan and Paul Johnson
University of Nebraska

Buffalograss is a warm-season grass native to the central Great Plains. It has received much interest in recent years as an alternative turf species, especially in drier areas of the Great Plains and the southwestern U.S. Buffalograss is a dioecious species with female plants that have a relatively low growth habit and require little mowing. Male plants produce an inflorescence that grows above the canopy and either requires mowing or can be left for its ornamental value.

Buffalograss is very efficient at using water and fertilizer, has few pest problems, and has a relatively low growth habit, requiring less mowing than most other turfgrasses. It is being marketed by seed or by vegetative plugs or sod. Although buffalograss is sometimes considered a no-maintenance grass, the turf often declines in quality if no management is provided, and weeds, cool season grasses, and diseases become a problem.

Twelve years of research on buffalograss have led to the following observations: Buffalograss will require less water, fertilizer, pesticides, and mowing than other conventional turfgrass species. This reduction in management input, depends upon the intended use, and will be 50 to 70 percent of normal recommendations for turfgrass management. These reductions will not always be achieved in every situation. However, buffalograss will usually have a reduction of inputs in at least one management area, such as water use.

An example would be the use of improved turf-type buffalograsses for golf course use. We have been pleasantly surprised to find that some genotypes respond very well to increases in management. In this case, buffalograss mowed at five-eighths inch and fertilized with 3 lbs. N per 1,000 square ft. per growing season still requires minimal supplemental irrigation and provides a turf that is acceptable for fairway use.

Currently, buffalograss will not displace bentgrass and bermudagrass as a major species to use on fairways, but if water is severely restricted, buffalograss may be an acceptable alternative.

Buffalograss is a very interesting species, and although it will not become one of the most widely grown species, it will find its place as a turfgrass on golf courses, home lawns, roadsides, and other sites in many parts of the country. For that reason it will be helpful for all turf managers to know what cultivars are currently available and what the future holds for buffalograss varieties.

New Buffalograss Cultivars

During the last few years, there have been a number of new buffalograsses released for turfgrass use. Continued variety development work will mean additional improved cultivars will be released in the near future. Table 1 provides a list of buffalograss cultivars that are currently available and additional information that will aid in

Table 1. Buffalograss cultivars.

Name	Propagation	Adaptation
315	V	T/N
378	V	T/N
609	V	T/S
Prairie	V	T/S
Stampede	V	T/S
Highlight 15	V	T/S
Highlight 25	V	T/S
Tatanka	S	T/N
Cody	S	T/N/S
Bison	S	T/N/S
Plains	S	T/S
Topgun	S	T/S
Texoka	S	T/N/S
Sharps Improved	S	T/N/S
Highlight Seed	S	T/S

Propagation: V=vegetative(sod or plugs), S=seeded
Adaptation: N=north, T=transition, S=south

selection. 'Cody' and 'Tatanka' buffalograsses were developed through cooperative efforts of the Native Turfgrass Group and the University of Nebraska. They were released in March 1995.

Cody Buffalograss - Evaluations of in Nebraska and Arizona, indicate that Cody has a persistent medium-green to dark green buffalograss color, improved density, and superior summer and winter hardiness when compared to other seeded varieties. Like other seeded buffalograss varieties when left unmowed, Cody produces equal numbers of female and male inflorescences. The female burs are located just above the soil, while male inflorescences are visible above the turf canopy. Male flowers are most prominent in late spring and again in the early fall, when nights are cool and days are warm. Cody is well adapted to northern regions, as indicated by the onset of dormancy due to shortening daylengths and reduced temperatures during October in Nebraska. In southern locations, fall dormancy occurs in mid to late November. The active period of growth may be extended longer into the fall with increased mowing, fertilization and water management.

Cody is a synthetic variety derived from the recombination of five half-sib families. (The plants in a half-sib family have one parent in common, in this case the maternal parent.) Each half-sib family was derived from intercrossing two female and two male plants. The original parental clones used in Cody are geographically diverse; half of the parents are adapted to the southern Great Plains, and the other half are adapted to the northern Great Plains. Because of this diversity, the adaptation of Cody may extend from the west coast of the United States to east of the Great Plains. Cody is also expected to grow well in the southwestern U.S. including the states of Arizona, New Mexico and Texas.

Tatanka Buffalograss - Tatanka, like Cody, has improved turfgrass density and turfgrass quality compared to other buffalograss varieties. One of the more notable characteristics of Tatanka is its low growing habit. The female flowers form close to the ground and are less visible in the turf canopy. Tatanka also exhibits improved leaf spot resistance. Because of its northern adapatation, Tatanka, will go dormant fairly early in fall. However, this early dormancy imparts cold tolerance and strong recovery and early greenup in the spring.

Tatanka buffalograss is derived from back crossing selected male genotypes on315, a vegetative cultivar from the Nebraska program. 315 is a northern adapted genotype and has produced a variety best suited for turfgrass from North Texas, through South Dakota, and from Central Colorado through Maryland. High turfgrass rankings of Tatanka in the National Turfgrass Evaluation Program tests during 1993-95 indicate good performance and stability over years and environments.

New Vegetative Releases

Nebraska is currently submitting patents on three new vegetatively propagated buffalograsses. These turf-type grasses have excellent density and color traits and low growth habits. The vegetative varieities also have excellent uniformity since they are female clones and do not have male flowers extending above the turf canopy. These varieties also exhibit improved sod handling characteristics.

The improvements in Cody and Tatanka buffalograsses, as well as the new vegetative varieties, make it easier to select buffalograss as an alternative to conventional turfgrass species. The adoption and use of buffalograss will take time, but as water supplies further dwindle, and when turfgrass inputs must be decreased, these improved cultivars will be available.

***Dr. Terrence P. Riordan** is a professor of Horticulture at the University of Nebraska. He is a turfgrass plant breeder with a major emphasis on reduced input grasses. **Dr. Paul G. Johnson** is a post-doctoral associate in the Department of Horticulture at the University and is coordinator of the USGA Buffalograss Research Project.*