

Buffalograss: Home on the Range, but Also a Turf Grass

Tom Pozarnsky

On the Range

There has been an almost romantic interest in buffalograss, with its inference of "food of the buffalo." As early as 1856 it had been introduced into Virginia "from the West," as reported in a volume on Agriculture by the U.S. Patent Office. Long of interest to rangemen, recent decades have shown increasing interest by turf specialists.

In earlier times, almost every locality where bison had once roamed had at least one grass known locally as buffalograss. It was usually some tall coarse species befitting the image of the big rugged buffalo. Since the 1st edition of Standardized Plant Names in 1923, *Buchloe dactyloides* alone has come to be known as buffalograss; but, it is a short, fine-bladed species.

In times of the great buffalo herds, this grass occurred mostly in the steppe or dry plains region of central North America but also eastward locally in prairie areas. Its natural distribution extended from central Montana to western Minnesota and northwestern Iowa, south to western Louisiana, Texas, Arizona, and northern Mexico. It occurs mostly on soils of high clay content and its tolerant of some salinity. It does not occur on sands, as in sandhill rangelands, and does not succeed on sandy soils.

Buffalograss can be recognized by hairy, curly-leaf blades usually only 4-5 inches tall and by the presence of stolons or runners. It is closely associated with blue grama which does not have stolons. Buffalograss becomes green in late spring and continues growth all summer. In Manhattan, Kans., it has been shown that growth begins about March 20. The male (staminate) and female (pistillate) plants are borne on separate plants. An occasional plant may have both sexes. The stolons are sometimes 2 to 2.5 feet long. These root freely at the nodes, when ground is moist, to produce additional plants. Under favorable conditions stolons elongate 0.5 to 2 inches per day and form a close, even mat. Areas a yard or more across may be entirely male plants showing flag-like flowering culms 2 to 8 inches tall. Areas nearby without these usually prove to be female colonies with burs, containing seed, borne close to the ground. Birds feeding on the burs distribute viable seed.

Roots of buffalograss were excavated in Colorado, Kansas, and South Dakota, and depths varied from 3 to 7 feet. Despite the low stature of the shortgrass, the root system is extremely well developed.

The female plants produce burs that have 2 or more seeds. When moisture is abundant the burs are produced continuously from midsummer until frost. Seed is difficult to harvest with ordinary equipment, but is generally harvested with suction machines, brooms, or beater equipment.

Buffalograss burs are hard and nearly waterproof, and unless the burs are treated the seed does not germinate



Buffalograss areas increasing on left of fence where continuous heavy grazing is reducing competition from taller grasses—a Fair condition range. Excellent range condition is on right where grazing is controlled. If overuse continues (on left) buffalograss will increase until the entire pasture is almost a pure stand.—SCS Photo

readily. The seed can easily be released by breaking down the burs with an ordinary hammer mill. Another treatment recommended is to soak the burs for 48 hours in a 0.5 percent solution of potassium nitrate, store them wet for 6 weeks at a temperature of 32° to 40° F., and then dry them quickly.

Buffalograss produces palatable and highly nutritious forage but it probably never was as common as often supposed because blue grama has been mistaken for it. In semiarid climate the foliage cures on the ground and furnishes nutritious forage during the nongrowing season. Research at Stillwater, Okla., showed this trait was lost in sub-humid climate. Buffalograss cannot endure the competition of taller species and is of little importance in true prairie. When taller species are reduced by heavy range use buffalograss will increase. Its increase is at the expense of much more productive taller grasses. It withstands close grazing and trampling in a remarkable manner. If overuse continues buffalograss will increase until the entire pasture is almost a pure stand. The leaves grow so near the soil that much of the green tissue remains even when closely grazed. This explains in part why this grass can withstand heavy grazing and why it persists where all perennial mid-grasses have disappeared. It spread rapidly by stolons which root readily when they come in contact with moist soil. On almost all kinds of range sites it is an increaser species when judging range condition. Despite its low production it provides other benefits like helping to control erosion when taller species have been depleted, especially on soil that does not contain

too much sand. In the southern plains it is valued for control of wind erosion.

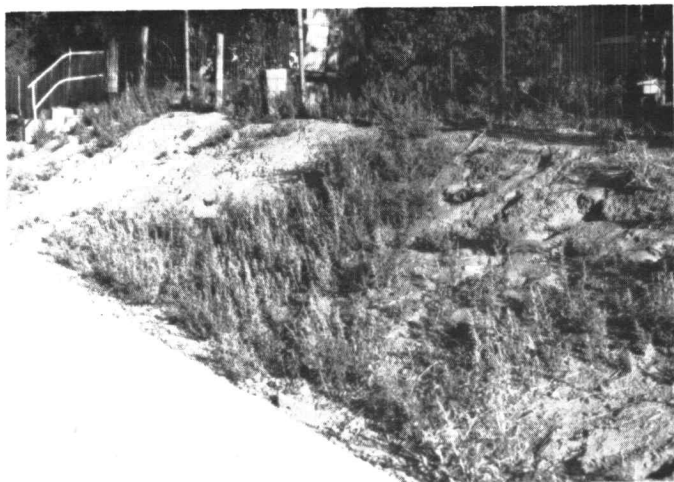


Tom Pozarnsky and Maurice Davis, range conservationist, Soil Conservation Service, check density of buffalograss lawn established almost exclusively by the use of plant plugs. It was established in one growing season.

Buffalograss as a Turf Grass

Buffalograss use in lawns has been on the increase because it conserves energy, withstands heavy traffic, tolerates heat, survives with minimum of moisture, controls weeds, resists diseases and insects, does not require commercial fertilizers, and reduces the need for frequent mowing as in conventional lawns, thus reducing injuries. Being a warm-season grass it does not green up as early in the spring as do cool-season grass lawns. Buffalograss has been tried with zoysia grass in central South Dakota and it was shown that buffalograss was more competitive.

Buffalograss lawns can be established by sodding, seed, plugs, or stolons. However, use of seed or sod pieces is the most practical. It is less effective when stolons alone are used. Sod pieces or plugs about 3 or 4 inches in diameter placed one foot apart usually results in a complete sod cover by the end of the growing season. Plugs or seed should be placed in a prepared seedbed for best results. Some watering during a dry period and controlling weeds is highly desirable in the semiarid region to establish a continuous sod in one season. Where it is planned to establish a stand by use of seed it should be seeded in late spring. Also use locally adapted seed for best results. Seed is available from some commercial sources.



BEFORE Photograph of steep area with weeds and erosion possibilities—to be established to buffalograss using plugs. This is on a corner lot.



“BEFORE” PHOTO of buffalograss plugs installed in the spring about one foot apart. Watering and weed control is needed to attain complete ground cover in one season.



AFTER Photograph shows buffalograss established and occupying the area, offering protected cover. In photo A1 and Harriet Skram, Pierre, S. Dak.



“AFTER” PHOTO of buffalograss, a native shortgrass, completely covering the ground by the end of the growing season. Plants spread rapidly by surface runners. This lawn in Pierre, S. Dak.

Buffalograss has also been used with success on highway shoulders, airport runways, boulevards, picnic areas, roadsides, and golf courses. D.E. Hutchinson of Lincoln, Nebraska reported seedings of buffalograss in a mixture in median and shoulders of Interstate #80 from Gretna Exchange-Nebraska to Colorado and Wyoming borders, and is doing well.

One other feature of a buffalograss lawn is that it will grow well with some short native flowering plants. A part of the lawn can be used to grow such species as scarlet globemallow, spiderwort, short vetches.... You need only to delay time of first mowing to get the maximum blossoming benefits from the plants.

Mowing the lawn, about once a month, is needed primarily to control taller competing species. Grass catchers normally are not needed. If fertilizers result in excessive accumulation of mulch it can be reduced by occasional early spring burning without detrimental effect on that year's buffalograss turf.

Professor of Biology Theo. Van Bruggen of Vermillion, S. Dak., reported use of Tordon 212 and Weed-B-Gon at rates that completely killed leafy spurge in prairie without having any visible effect on buffalograss.

E.J. Dyksterhuis reported that a heavy application of nitrogen fertilizer that "burned" a bermuda grass lawn in Fort Worth, Texas resulted in great increase of buffalograss already present.

Supplementary References

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