BUFFALOGRASS

For Lawns, Turf and Revegetation

Sharp Bros. Seed Co.

I. History
II. Characteristics and Management
    A. Drought tolerant-Irrigation Optional
    B. Mowing Requirements-Mowing Optional
    C. Fertilizer
    D. Spreading but not invasive
    F. Heat and Cold Tolerance
    G. Soil Requirements
III. Choosing a variety of Buffalograss
IV. Planting and Establishment
    A. Seeding Rate
    B. Seed Placement
    C. Irrigated Seedings
    D. Non-Irrigated Dormant Seeding
    E. Spring or early Summer seedings
V. Early weed control "the first 12 months"

History:

Buffalograss is a soft textured, fine leafed sod forming grass which has endured for thousands of years in the harsh climate of the American Great Plains. A warm season grass, it was a important forage used by the buffalo when giant herds roamed the west.
Modern ranches utilize buffalograss rangeland to efficiently produce beef for todays consumer. Early settlers on the Great Plains were blessed with a buffalograss lawn, just by staking a homestead. The low maintenance requirements of buffalograss were appreciated by pioneers who worked from dawn to dusk scratching out a living in a harsh environment. Low maintenance is equally appreciated by todays busy homeowners or groundskeepers struggling to reduce maintenance costs. In modern times buffalograss lawns are started with quality seed. Once established, buffalograss provides a beautiful turf with a unique combination of low maintenance requirements and tolerance to extremes of heat, cold and drought.

Characteristics and Management:
Drought Tolerance: Irrigation optional

Buffalograss lawn on farmstead in Ford County Kansas. Pictured in a drought with no supplemental irrigation. Buffalograss is partially dormant in response to the drought. Rain will cause this lawn to green up with new growth. Dormancy allows buffalograss to survive prolonged droughts.

Buffalograss in Garden City, Kansas, Pictured in a drought, this homeowner has watered in order to maintain a green lawn. If buffalograss is watered, deep watering once every one or two weeks is recommended. Note that buffalograss is doing well in partial shade created by trees. Six to eight hours of direct sunlight per day is necessary to maintain a vigorous turf.

Mowing Requirements: Mowing optional

Buffalograss is by nature a low growing turf. If left unmowed it will rarely exceed 6" to 8" in height. Another feature unique to buffalograss is that it does not form seed heads above the turf. Small delicate pollen flowers, about the size of the matchhead, extend 1" to 1 1/2" above the turf line if not mowed. Pollen flowers are attractive and do not create a weedy unkempt appearance. In contrast other turf grasses produce unattractive seed heads which require frequent mowing to maintain a neat appearance. As an example, bermudagrass seed heads extend above the turf, resemble crabgrass seed heads and can make a lawn appear weedy even when it is weed free.
A naturally low growing turf and no visible seed heads- -these features make buffalograss the "mowing optional" turf.

Johnson County, Kansas

Buffalograss will tolerate a wide range of mowing heights. In fact, in some instances it may not be mowed at all! However, you can follow these guidelines:

Home Lawns	2-3 inches	Golf Course Fairways	1 inch
Sport Fields	1 1/2—2 inches	Parks & Grounds	3 inches or higher
Natural Areas	Spring cleanup only		

No more than 1/3 of the turf height should be removed with a single mowing. Removal of more than 1/3 of the turf weakens the plant, reduces vigor and makes the buffalograss less competitive against weeds. Because of this, short mowing heights require more frequent mowing.

Fertilizer

Nitrogen: Nitrogen fertilization during the seedling year does little to improve the vigor of buffalograss, though it does make weeds much more competitive. Sites with exposed subsoil or that are highly eroded may benefit from small additions of nitrogen in the seedling year. Additional nutrients are frequently lacking in such a situation.
Once established, modest nitrogen amendments improve the color and density of the turf. As little as 3/4 lb. Nitrogen per 1000 square feet annually will frequently produce the desired improvements. Application rates above 1 lb. Nitrogen per 1000 square feet should be split applied. Annual application should not exceed 2 pounds nitrogen per 1000 sq. ft.

Spreading but not Invasive

View of Sharpshooter Buffalograss in a low maintenance area. This is a large scale planting using a low seeding rate. Planted in the spring, picture is from early September of the same year. The square pictured is one square foot. Note the proliferation of stolons or runners extending from this plant. Each bud on each stolon will put down roots and form a new colony. This characteristic allows buffalograss to spread and form a thorough sod cover as well as repair sod which has been damaged. As compared to bermudagrass, stolon growth of buffalograss is less aggressive and buffalograss can be kept from spreading into flower beds or garden areas with minimal maintenance. Picture taken in Ellis County, Kansas.

Heat and Cold Tolerance

Tolerances to extremes of heat and cold can be observed where buffalograss thrives in the harsh temperature microclimate of the median stripe. During the summer months the curb surrounding the median strip collects the suns heat. Many cool season species such as fescue, bluegrass or perennial ryegrass will lose vigor or die back in such a setting, creating openings for weeds.

During winter months the soil next to the curb becomes intensely cold. Warm season turf grasses such as bermudagrass or zoysia are at greater than normal risk of winterkill next to concrete curbs or sidewalks.

Note the uniform growth exhibited by buffalograss across the median strip. The temperature extremes at curbside have no affect on buffalograss vigor.

Picture taken in Johnson County, KS.

Soil Requirements

Buffalograss is adapted to well drained upland sites with soil pH between 6.0 to 8.0. Soils below 6.0 should be limed prior to planting so than the pH is raised to the range of 6.5 to 7.0. Soils with a very high pH may cause iron chlorosis to occur in buffalograss in the spring, the result being a pale green or yellow color and lack of vigor. Usually as soils warm in the late spring or early summer the conditions that caused chlorosis will dissipate and the plants will naturally green up. Severe cholorosis may be alleviated with iron sulfate or elemental sulfur. Refer to a lawn professional for rates, timing and application advice. Buffalograss is only marginally adapted to sandy soils. Soils with textures of "sand" or "loamy sand" should be planted to a mixture of buffalograss and blue grama (Sharp Bros. Native Turf). Buffalograss can produce an attractive, vigorous turf on "sandy loam" textured soils but may need supplemental irrigation in arid western locations. Native Turf blend performs well on heavier textured soils as well as sandy textured soils. Plant native turf at the same seed application rate as recommended for a pure stand of buffalograss under "Planting and Establishment: Seeding Rates."

Blue grama is a warm season, short growing prairie grass and native to the same area as is buffalograss. Leaf structure and texture is similar to buffalograss and produces a turf of similar appearance. Blue grama does not spread by means of stolons. The seed head extends above the turf line by 4 to 6". Seed heads are roughly the size and shape of an eyebrow and are attached to a dainty stem which is about the thickness of the graphite in a pencil. Blue grama rarely exhibits iron cholorosis, being more tolerant of extremely high pH soils than is buffalograss.

Choosing a Variety of Buffalograss

Sharp Bros. Seed Co. markets three varieties of buffalograss. These varieties are all extremely drought tolerant as well as heat and cold tolerant. Primary differences are in visual qualities of turf they produce. Listed below are a comparison of these features

	Sharp's Improved	Sharp's Improved II	Sharpshooter
Adaptation: Warm Season Grass	All Zones	All Zones	All Zones
Color	Light Green	Dark Green	Darkest Green
Leaf Texture	Medium	Medium/Fine	Fine
Turf Quality	Average	High	Very High
Turf Density	Average	Good	High
Spring Green-up	Average	Average	Early
Disease Resistance	Good	Excellent	Excellent
Cold Tolerance	Very Winter Hardy	Very Winter Hardy	Very Winter Hardy

All Buffalograss seed produced and sold by Sharp Bros. Seed Co. has been "primed" to improved the percentage of germination and speed of germination.
This process is essential to break the seed dormancy that naturally occurs in buffalograss. Without "priming" large percentages of seed planted may delay germination until the second year or later even though germination conditions are favorable in the seeding year.

Planting and Establishment: Planting Rate

Following are recommended seeding rates:
2 to 3 lbs. Per 1000 square feet: Lawns, sport fields and other locations requiring complete turf establishment within one season.

3/4 to 1 lbs. Per 1000 square feet: Outlying areas where turf establishment within 2 seasons can be tolerated.

.10 to .33 lbs per 1000 square feet: Pasture, rangeland or other areas where establishment within 3 to 5 years can be tolerated.

Seed cost is the most obvious economic factor in choosing a seeding rate. Do not overlook the expense of weed control which is necessary during the establishment period. Higher seeding rates result in faster turf establishment and will reduce the time and expense required for intensive weed control during establishment. Other factors which greatly influence time required for establishment are: Seed bed quality, rainfall or irrigation (timing, frequency and intensity) and weed control.

Seed placement

Buffalograss should be seeded into a seedbed free of established weeds. Ideally seeds are 1/4" deep, no deeper than 1/2", with soil packed tightly around the seed. Firming the seed bed after planting will improve seed to soil contact. Completed seeding sites should be firm to walk across leaving only shallow shoe imprints. Large scale seedings are best accomplished with professional grade grass drills or slicer seeders. Smaller seedings can be completed with very light tillage or harrowing of the soil in order to create approximately 1/2" of loose soil on the surface. Broadcast buffalograss seed and follow with another light tillage to stir the seed into the soil. Seed bed should be firmed with a roller, foot traffic or vehicle traffic afterward. Regardless of the method used for seeding don't loose sight of the essentials– 1/4" to 1/2" deep in a firm seedbed.

Irrigated Seedings

Where irrigation is available a wide window of seeding dates can be used, roughly June through August. After seeding , use irrigation to keep the seed placement zone moist. The surface may be allowed to dry between waterings without any consequences. Buffalograss seed frequently exhibits uneven germination characteristics with seedlings emerging over a period of 2 to 3 weeks after the first sprouts have appeared. Presoaking the seeds prior to an irrigated seeding will speed germination and cause much more uniform emergence with most sprouts appearing within 5 to 6 days after the first sprout has appeared. Following are guidelines and cautions for people using this method.

Pre Soak Techniques:

1. Soak the seed for up to 3 days but no longer that 3 days. Seed soaked for longer may germinate in the soaker and make seed unuseable.
2. Prepare the seedbed at the same time as starting the seed soak and keep your eye on the weather forecast. If inclement weather is likely at the time you intend to plant, the soak should be cut short and the seed planted before the arrival of inclement weather.
3. Place the seed in a porous bag and submerge in a container of water. The woven polypropylene bag Sharp Bros. frequently packages seed in works very well for this purpose.
4. Change soak water every 24 hours or more frequently. Chemical buildup in unchanged water can affect germination.
5. Allow seed to dry temporarily (2 to 4 hours) for ease of handling before seeding by placing seed on a concrete driveway or sidewalk. Soaked buffalograss seed , if allowed a short period of drying, will efficiently flow through most grass drills or broadcasters.
6. When seed is presoaked the process of germination is well underway and there is no turning back. Start irrigation immediately after seeding so that seed is not allowed to dry. It is the seed placement zone which needs to be kept moist, not necessarily the soil surface.

Additional Pointers

Planting should be completed by 6 weeks before the average first frost date for your area. This allows adequate time for development of strong winter hardy seedlings prior to the onset of cold weather. Later plantings have a greater risk of winter kill.
Late season plantings usually have the advantage of less weed competition. Some of Sharp Bros. customers have purposely delayed planting in order to reduce weed competition. If you chose to plant late be aware of winter kill risks. Pick a date that is late enough to reduce weed competition but early enough to allow for development of strong winter hardy seedlings.

Non Irrigated Seedings-Dormant Period

Seeding preformed between December 15 to the first of April would classify as dormant seedings in most locations. Seeds are planted into cold soils and sprout in spring or early summer. This method has advantages and disadvantages.

A. Freezing and thawing, the weight of snow and beating action of rain can all serve to improve seed to soil contact.

B. The imbibition period (seed soaking up moisture prior to the actual process of germination) can be completed during the cool period, allowing for rapid germination as soon as soil temperatures warm adequately.

C. Some seed may be lost to insects, birds, rodents or fungus while laying dormant.

D. Early weed competition may be fierce, weeds are likely to emerge before buffalograss emergence. It may be possible to control an early flush of weeds with herbicide before buffalograss seedlings emerge. Growers must be able to accurately recognize buffalograss seedlings and choose herbicides carefully if this method is to be used.

E. Another caution is the seed on the surface. Buffalograss which have not yet sprouted and are on the soil surface can be killed or injured by glyphosate herbicide.

F. Premature germination may occur during an uncommonly warm period in winter. Seedlings that emerge under these conditions may be winter killed with the return of freezing weather. Premature germination is less likely when planting into a standing nurse crop residue or by covering the planting with a thin, light organic mulch. Residue or cover shades the soil and helps prevent fast soil warming during winter warm spells, lowering the likelihood of premature germination.

Spring or Early Summer Seeding

Seeds planted during this period must imbibe moisture and germinate while the seed placement zone remains moist. Attention to detail will help assure success. Seed placement into a firm seed bed with good seed to soil contact is essential. Application of a thin, light organic mulch after planting may be beneficial as it will help to preserve surface soil moisture.

Early Weed Control– the first 12 months

Buffalograss is sensitive to some herbicides. New seedings may suffer injury or death if chemicals are misapplied. Growers using herbicides in the spring and summer of the seeding year should thoroughly research the subject and apply herbicides only with well calibrated spray equipment. Margins for error are very tight. Short mowing, performed frequently, is a less risky means of weed control in the seeding year.
After the first season is completed application of premergent herbicides such as Pendulum 3.3 EC, a trademarked product of BASF, may be made prior to weed emergence.
Read and follow all label instructions even the very small print. Pendulum is a registered trademark of BASF corporation.

For high quality vigorous buffalograss seed contact Sharp Bros. Seed Co. to locate a dealer near you.

Sharp Bros. Seed Co.
Po Box 140
Healy, Ks 67850

Phone: 620-398-2231 **Toll Free: 800-462-8483**