



Lady Bird Johnson Wildflower Center

Native Lawns

Educating people about the environmental necessity, economic value, and natural beauty of native plants

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Lawn History

For well over a century, the American lawn has been a prevailing obsession. It is estimated, each week Americans mow 30 million acres of lawn—an area equivalent in size to Pennsylvania. Whether remnants of our rural heritage or former symbols of status passed down through generations, these neatly trimmed patches of grass no longer serve a purpose beyond aesthetics. Through the use of the same handful of nonnative species, front yards across America have become monocultures prone to disease and pests and are aching for personalization. Isn't it ironic that in a country so beautifully diverse and free with choice that collectively we have not yet moved beyond the conformity of our landscapes?

Nonnative lawns require much time in maintenance, and increase the demand for chemicals and watering. In today's busy life, many people no longer want to spend their leisure time maintaining a lawn.

According to one national study, American lawns receive the heaviest pesticide applications of any other land area in the U.S. Lawn chemicals, now being linked to serious health problems including cancer, birth defects, and sterility, should be of great concern to central Texans. Currently non-point pollution, in the form of fertilizers and chemicals, is endangering Austin and other Texas Hill Country cities that depend on aquifers and lakes as water sources.

Frequent drought conditions, a growing population, and a limited aquifer call for the wise use of our resources through native landscaping, water conservation and rainwater harvesting. The two most widely used nonnative turf grasses in Central Texas, Bermuda and St. Augustine, are poor choices—each requiring in excess of 60 inches of water each year to thrive. Since the average rainfall for the Hill Country is around 30 inches, it would be necessary to provide supplemental watering.

The Williamson County Extension Service recently concluded a four-year study on the drought tolerance of eleven species of turfgrass that included Buffalograss, Zoysia,

Bermuda and St. Augustine. After three years of no supplemental watering only three species survived—two of them Buffalograss species, Nebraska 609 and Top Gun. The third species was JaMur, a nonnative Zoysiagrass. It was also determined that over the duration of the study the native Buffalograsses out-performed all others. If you are working with a shady area, consider alternatives to lawns before choosing a nonnative turf.

Where to Begin

Where landscapes are already in existence, it makes sense to first decrease the size of your lawn with native landscaping and then replace nonnative lawns with native grasses and ground covers. Alternatives to the traditional lawn can provide habitat for wildlife, help restore a regional identity, conserve water and time, and create a new style of sustainable beauty. Check with your city to see if there is a rebate program in effect for helping to conserve water through native plant installation.

On new sites where landscapes need to be installed, it is important to first determine the quality of the soil and amend it appropriately. There are many soil-testing agencies. Often, construction sites have had the living, nutrient-rich topsoil scraped off and replaced by sterile sandy-loam fill. In some cases heavy machinery has compacted existing soil beneath the fill, making water absorption difficult if not impossible.

You will want to remove your nonnative lawn, or weeds from a new site, by either hand-pulling, solarization, mechanical or chemical means—or some combination. Starting with a clean bed is much easier than eliminating remnants of the previous lawn or weeds after planting.

Hand pulling can be tedious, especially if the area is sizeable. Solarization is the process where clear plastic is laid down over the existing plants, which spend themselves and die after several months of trying to photosynthesize. You can rent sod cutters, to remove the top layer of sod without disturbing the weed seeds present in the top layer of the soil.

Because tilling often stimulates weed germination, it is advisable to water the bed one to two weeks before planting, if you choose to till. This encourages weed germination. You'll want to go no deeper than one or two inches, or else you'll need to follow up a post-emergent, non-residual herbicide and repeat the process. Herbicides should be your last choice, and must be handled carefully for your own protection as well as the environment.

Your native lawn can harmonize with the natural world surrounding you while providing value that goes beyond aesthetics. Check with your homeowner association and local authorities to find out what weed laws or ordinances may apply. Weed laws attempt to limit the size and type of vegetation that is cultivated on your property within jurisdiction and often are based on misinformation or outdated cultural ideals. The drought conditions being experienced in Central Texas, as well as increased water pollution, has prompted many city officials to take a serious look at native landscaping and native lawns as a potential solution. Their involvement in the native landscaping movement will surely direct the course of new landscaping and guidelines.

Buffalograss

Buffalograss (*Buchloe dactyloides*) is an attractive, fine-textured, low-water-use native grass that grows throughout the Great Plains from Minnesota to Montana and south into Mexico. It is well-adapted to areas receiving 15 to 30 inches annually in thorough, but infrequent rains.

It acquired its name because it once supported the great herds of buffalo across the prairie. This warm-season perennial establishes itself as a short (three to six inches tall) sod grass and spreads by means of runners called stolons. The runners form a turf that is solid, yet can accommodate wildflowers and native bunch grasses. Buffalograss is exceptionally cold- and drought-tolerant, and has no known disease or insect problems.

Although it is adapted to a variety of soils, Buffalograss prefers heavier soils, and does not thrive in sandy soil. It is most productive in rich, well-drained clay and loam soil, but also grows well in rocky limestone soil. Buffalograss is intolerant of shade and intensive use. When actively growing, varieties range from green to blue-green in color. Buffalograss will go dormant during the cold temperatures of winter and low rainfall of summer. When dormant, turns yellow to golden brown in color.

Buffalograss is dioecious, which means that male and female reproductive parts are found on separate plants. The female plant blooms low to the ground, probably as an adaptation to protect seeds from being grazed. Flowers on

the male plant, often called flags, reach a height of five to six inches and protrude slightly above the foliage.

How to Plant Buffalograss Seed

Compared to other turf grass seeds, Buffalograss seeds are large. Their large size makes even distribution of seeds relatively easy. Buffalograss seeds are contained within a hard protective coat called a bur. Usually two to three seeds are found within each bur. When purchasing seeds, you should buy double-treated seeds for an increased germination rate during the first year. In double-treatment, seeds are soaked for 24 hours in a 0.5 percent solution of potassium nitrate (saltpeter), then stored in a moist environment at 41 degrees Fahrenheit for four to six weeks. The seeds then are dried rapidly at temperatures not exceeding 110 degrees Fahrenheit. While the germination rate of non-treated seeds can be as low as 10 percent, treated seeds often have a germination rate above 70 percent. Double-treated seeds are stained with a dye (commonly purple, green, or blue) that makes them visible on top of the soil.

Because Buffalograss is a warm-season grass, it will not germinate until warm spring days arrive. Sow the seeds after the danger of frost has passed and the soil temperature is 70 to 80 degrees Fahrenheit, usually in April and May. A seeding rate of two to four pounds per 1,000 square feet, or 40-60 lbs. per acre is recommended. Buffalograss produces runners about four weeks after germination. If cost is not a problem, seed at a higher rate for a thicker lawn more immediately.

Planting can be done by hand broadcasting or with a garden planter. If you hand-broadcast seeds, be sure to distribute them evenly, then cover the seeds with one-half inch or less of soil or a light layer of compost. This can be accomplished by raking in two different directions in loose topsoil.

The germination and establishment rates of Buffalograss are good to fair. However, proper watering can maximize its performance. Water new plantings regularly to assure germination and root establishment. Optimum growing temperatures are 80 to 95 degrees Fahrenheit during the day, and around 68 degrees Fahrenheit at night.

How to Install Buffalograss Sod

Buffalograss sod cultivars give homeowners and landscape professionals another option besides seeding. These sods are produced vegetatively from female plants, and you will not see male flags nor will they produce seeds. Unlike seed, sod may be planted any time of year. The drawback is increased cost. Sod is generally sold by the pallet, which will cover 450 square feet. Some garden centers will sell sod by the piece.

To reduce costs for larger areas, sod can be separated into smaller "plugs." The runners will fill in open spaces. Keep in

mind, though, that the ground should still be cleared of weeds to reduce their invasions into these open areas. Plugging in combination with seeding is a good way to have a thicker lawn sooner.

In addition, sod must be installed immediately after purchase and needs establishment watering. If possible, roll the sod with a heavy roller for optimum root to soil contact. Initially, water thoroughly once or twice a day depending on temperature and wind. After a week or two, water at least every other day to maintain root zone moisture until the Buffalograss has established a sufficient root structure (usually three to four weeks).

Inevitably, Buffalograss sod will turn brown and appear dormant right after installation. This temporary condition will pass as the sod becomes established; just be persistent about watering and have a little patience. One month after installing the sod, mow to a height of two inches to encourage runner density and more roots. After the Buffalograss is established, water as needed to maintain color.

After You Plant

Weeds invariably appear after seeding or plugging, and controlling them is one of the most difficult problems in establishing Buffalograss. Because weeds grow faster than grass seedlings, you must control them or they will the grass.

One way to control weeds is to water and mow correctly. While established Buffalograss will survive summer droughts without supplemental water, it will go dormant. To keep your Buffalograss green during the summer, it must receive 1 to 1.5 inches of water per week. Watered lawns often require

more frequent mowing to prevent undesirable weeds and grasses from establishing. Overwatering and watering too early or too late in the season encourages weeds to grow. Many weeds will establish while the grass is dormant if you water too much in the winter.

Established Buffalograss lawns should be mowed occasionally, but never shorter than three inches. Mowing at least once a year will ensure a healthier lawn, the best time being late winter before new growth begins. If not mowed periodically, an established lawn will become choked and decline after several years. If you like a clean, uniform look, you may want to mow more often.

Once established, Buffalograss is extremely hardy, and can tolerate moderate foot traffic. Neither fertilization nor irrigation is necessary, but minimal application of either at the right time of year can make the grass more lush. A spring application of a slow-release, organic fertilizer with a nitrogen-phosphorus-potassium (NPK) ratio of 3-1-2 produces a thicker turf. Use any fertilizer cautiously, however, because heavy fertilization encourages competitive weeds and Bermuda grass to grow. In addition, over-fertilizing combined with over-watering is a common source of non-point pollution in creeks, streams, and lakes.

Lawn Alternatives

A good alternative for a sunny yard would be planting a wild-flower meadow. In areas of shade but low traffic, sedges-plants that resemble grasses-can be used with great success. For areas of deep shade and no traffic, plants such as Cedar sage and Golden groundsel make a good choice and add color when blooming. See our list of favorite shade plants for other landscaping ideas.