

Landscaping with Native Grasses

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Native grasses can be attractive and functional in a naturalized landscape. They often are insect- and disease-resistant. They can be maintained with less water than is necessary for sculptured types, such as bluegrass or Bermudagrass. Further, native grasses can help stabilize disturbed areas. Tall growing grass species often make excellent specimen plants alone or with other native plants. They can even be used to replace some shrubs in the landscape. Individually, massed, or mixed with native shrubs or vines, native grasses add natural beauty to the landscape and help control erosion.

Most of the native species described here are available from commercial nurseries that specialize in native plants. Seed not available commercially must be collected from native sources. Grasses, unless they have underground creeping rootstalks (rhizomes), are difficult to establish from transplants. Direct seeding on a prepared seedbed is the most satisfactory way to obtain grass stands. Seed cool-season species in the early fall. Warm-season species may be seeded any time between March 1 and July 15.

When they are planted to take advantage of seasonal rains, native grasses are relatively simple to establish. After planting, the soil should be kept moist for 7 to 14 days, depending on the temperature. Once native grass is established, it may require supplemental water if the annual rainfall is less than 15 inches. An application every 2 to 4 weeks during the growing season usually is adequate. More frequent applications may produce more growth, but producing a verdant native turf by watering can be more difficult than with traditional species.

Normally, mowing after native grasses are established is not necessary. However, even where mowing is practiced, newly established grasses should be allowed to flower before the first cut to encourage seeding. Even lower-growing native grass should be mowed with a higher mower blade setting than traditional lawn grasses. For them, the power blade should be set to 3 or more inches.

Description of perennial native grass species with potential for landscape use follow. Some are relatively tall; others grow short. Some are alkali tolerant. There are warm- and cool-season types and those which normally do not need mowing. Selecting a specific species or mixtures will depend on the environmental and soil conditions, landscape requirements, and availability of plant materials.

Buffalograss [*Buchloe dactyloides* (Nutt.) Engelm]

Buffalograss is a warm-season bunchgrass that forms sod. It grows 4 to 12 inches tall in moderately heavy sods in eastern New Mexico at elevations of 3,000 to 7,000 feet. It is usually found in mixed stands with blue grama and side-oats grama. Sod houses usually were made with this species. Buffalograss and blue grama (short grasses) adapt to arid conditions principally by drying out under moisture stress and becoming dormant. When water is available again, plants revive quickly. This grass is low-maintenance and tolerant of drought and alkaline soils. But it has poor shade tolerance and turns yellow-brown quickly during dry periods when supplemental water is not provided. Buffalograss forms a dense, tough sod with short foliage of grayish green (sage green) nap that, with occasional water, retains color from late spring to hard frost. The root system is moderately deep. Mowing is not necessary. If the sod is mowed, it should be cut infrequently to a height of 2 to 3 inches.

If the planted area is well-watered, applications of up to 6 ounces of nitrogen per 1,000 square feet per month will encourage a vigorous, attractive turf. Buffalograss is dioecious (sexes on separate plants). The male plants have flowers on tall and showy spikes; the female plants have burlike flowers on very short stalks. Buffalograss does well on heavy soil, but plantings on sandy soils have been successful in New Mexico. No seeds are produced when soil moisture is low. If seeds are collected for planting, they come from a local ecotype within 150 miles of the planting site.

Freshly collected seeds have an initial low germination of 10 percent. Germination increases as seed ages. If treated (mechanical scarification), germination may reach 75 percent. Most commercially available seeds have been treated. About 2 pounds of treated seed per 1,000 square feet is sufficient to produce a dense sod usually within two months. Since plants spread rapidly by surface stolons, plugs also may be used. Each plug should be about 4 inches square, spaced 3 to 4 feet apart. Planted in this arrangement an area will be covered in two growing seasons. Once established, buffalograss turf will withstand moderate to heavy wear.



Blue Grama [*Bouteloua gracilis* (H.B.K.) Lag.]

A fine-textured, warm-season, bunchgrass that forms sod, blue grama grows 6 to 12 inches tall. It is adapted throughout New Mexico and usually occurs on light or shallow soils at elevations of 3,000 to 8,000 feet. Although it greens up slowly in the spring, blue grama has good tolerance to low temperatures, alkaline soils, and drought.

Blue grama is one of the most important native range grasses of the Great Plains. It will grow relatively tall when irrigated and heavily fertilized. The foliage is fine-textured and grayish green, curing to gray or straw yellow. Under moisture stress, the foliage dies out quickly and regrows with added water. It can be left unmowed or it can be mowed to a height of 2 to 3 inches. In the spring after growth begins, nitrogen can be applied at a rate of about 1/3 pound per 1,000 square feet.

Stems bear two flaglike spikes that flower from June to August. Floral spikes curl as seed matures (August to October). Propagation is primarily by seed. Good seed viability is retained in storage for about four years. The seed germination is rapid, and seedlings are vigorous. In a landscape, blue grama is attractive mixed with buffalograss and wheatgrasses.



Western Wheatgrass [*Agropyron smithii* Rydb.]

A cool-season, sod-forming grass that grows 12 to 30 inches tall, Western wheatgrass has broad adaptation in New Mexico at elevations of 3,000 to 10,000 feet. It has a vigorous, strong creeping rhizome system that forms a tight, heavy sod. The root system is shallow and extends laterally for 8 feet or more. Western wheatgrass is moderately tolerant of alkali and has good drought resistance and low-temperature hardiness. Because of these features, it protects the soil well from wind and water erosion.

The foliage is nearly flat and stiff, blue-green, erect, and rough on the upper surface. It remains succulent until killing frost. Unless watered, it will become dormant in midsummer. Regrowth begins early in the spring.

Propagation is normally by seed. Flowers appear from July to August, and seeds mature by September. Seeds germinate slowly, and the grass difficult to establish. For a pure stand, the seeding rate is 1/2 pound per 1,000 square feet. Western wheatgrass seed often is used in grass mixtures to provide cover for lawn or pasture. The *Agropyron smithii* var. *molle* is similar to other types, but has better germination. Other names of Western wheatgrass include bluestem wheatgrass, Smith's blue joint, and Colorado bluestem.



Plains Lovegrass [*Eragrostis intermedia* Hitchc.]

A warm-season bunchgrass, plains lovegrass grows 24 to 36 inches tall. It is adapted to southern New Mexico at elevations between 4,000 and 8,500 feet. There are 33 species of lovegrasses throughout the United States. The lovegrasses are drought-enduring and alkali-tolerant. Plants will not form a dense sod, but individual plants form interesting focal points in association with other grasses and native plants.

Growth begins early in the spring. Foliage color is light green on acid soils or brown to red on alkaline soils, curing to a light yellow. The flowers appear from April to September, usually in response to adequate moisture. The seed heads are open, spreading, lacy, and broadly pyramid-shaped. The seed is dormant for 6 months or more after harvest. After one year in storage, germination of 70 percent is common. Lehmann lovegrass, (*Eragrostis lehmanniana*) also should be considered in some areas of New Mexico.



Indian Ricegrass [*Oryzopsis hymenoides*
(Roem & Schult.) Ricker]

A warm-season bunchgrass, Indian ricegrass grows 12 to 24 inches tall. It normally grows on light or rocky soils at elevations of 4,000 to 9,000 feet and occurs in the north and eastern areas of New Mexico. Its foliage is firm, slender, and dark green, curing to a light straw color.

Plants flower from May through September. The seed heads are widely spreading with a single seed at the ends of the branches. Many seeds are produced on each plant, but only a small portion can be harvested because of severe seed shattering. Seed are sought as food by birds and rodents. There is delayed germination with at least two forms of dormancy. Treatment with sulfuric acid or mechanical scarification helps break one form, and seed aging overcomes the other. Seeds should be stored at least one year before planting.

The seeding rate is 1 pound per 1,000 square feet. Indian ricegrass seedlings are vigorous and can grow rapidly. Despite the problems of seed dormancy, the species makes a valuable addition to the landscape when mixed with other plants. It may be used to accent other native plants.



Black Grama [*Bouteloua eriopoda* Torr.]

A warm-season bunchgrass that forms sod, black grama grows 12 to 24 inches tall with widely spreading runners that root at the joints and form plants. Black grama occurs in most regions of New Mexico, usually on sandy, well-drained soils of dry hills and mesas up to 7,500 feet. Often, it occurs naturally mixed with blue grama. The foliage is short, narrow, and grayish green.

Growth occurs primarily after spring and fall rains, but foliage can be maintained with an occasional supplemental irrigation. Stems carry 4 to 5 flaglike, narrow, persistent spikes that flower from early October to frost. Seeds ripen 3 to 4 weeks after flowering. The seed yield is low even under cultivation. Seed germination of about 20 percent has been reported after 3 to 4 years of storage.



Curly Mesquite [*Hilaria belangeri* (Steud.) Nash.]

A warm-season grass that forms clumps or loose sod, curly mesquite grows 6 to 12 inches tall. It has strong creeping runners that send up numerous shoots.

Restricted to dry areas and lower elevations, stands occur naturally in southern New Mexico. Curly mesquite should make a good winter grass in warm areas of the states. The foliage is short, narrow, and bluish green, curing to almost white. The seed heads are spikelike on short stems. Propagation is by seed or division of clumps. Curly mesquite competes poorly with weeds.



Vine Mesquite Grass [*Panicum obtusum* H. B. K.]

A perennial, warm-season grass that forms loose sod, vine mesquite grows 12 to 14 inches in height. The top forms small crowns; the stolons often grow 8 to 10 inches in length. The species is best-adapted to heavy soils and sites receiving added water. It is used for erosion control and to revegetate disturbed soils where water may collect. While it grows naturally in most areas of New Mexico, it usually is found in small patches of 1 to 2 acres in the vegas of east-central New Mexico.

The foliage is flat, with a light, bluish green color that cures to a reddish straw. Flowering occurs from May to October. The seed heads are narrow and open with large seed, which are easily stripped by hand. Germination is about 40 percent. Seeds must be dried well before storing. Stored seed maintains viability for up to 5 years. New seed does not germinate as well as seed stored for several months.



**Side-Oats Grama [*Bouteloua curtipendula*
(Michx.) Torr.]**

A warm-season bunchgrass, side-oats grama seldom forms a sod naturally. It grows 12 to 40 inches tall, the tallest of the grama group, and occurs throughout New Mexico on well-drained sandy plains, rocky slopes, and mountain plateaus. The root system is moderately deep and fibrous. The plant is drought-enduring and winter-hardy but less tolerant of alkaline soils and drought conditions than blue grama.

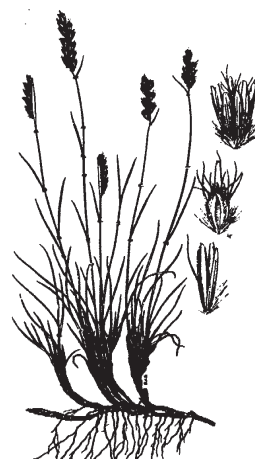
Side-oats grama often is found mixed naturally with blue grama, buffalograss, and winter wheatgrass. This mixture could be used well in many New Mexico landscapes. Growth begins in midspring and continues through the summer. The natural growth is attractive, but a stand can be mowed to 2 1/2 inches to form a weak sod.

Side-oats grama seedlings are vigorous, which aids in establishment. The species is relatively easy to establish on severely eroded soils. The foliage is fine-textured with a bluish green color that dries to a straw yellow. Stems bear 10 to 30 small pendent spikes along one side with tiny red flowers. Seeds are produced July 1 to October 1, depending on the area. Within 2 weeks after ripening, the seeds disperse and are seldom found on the plant. Dividing of clumps is the usual method of reproduction, although seed may be used. If seed is available, a rate of 1 pound per 1,000 square foot sown in the fall will make a fair stand.



Galleta [*Hilaria jamesii* (Jorr.) Benth.]

A perennial warm-season bunchgrass that forms a loose to dense sod, galleta grows 12 to 14 inches tall. It occurs on moist soils in the northern two-thirds of New Mexico. It has many of the same characteristics as curly mesquite. The foliage is coarse, stiff, and a dull blue-green, with the edges often rolled inward. Tough woody rootstalks can be as deep as 6 feet. Flowers occur from May to September. The seed heads are spikelike on short, stiff stems. Galleta also is known as James galleta grass.



Salt Grass [*Distichlis spicata* (L) Green var. *stricta* (Torr.) Beetle]

A warm-season grass that forms sod, salt grass grows 6 to 12 inches tall. It is excellent for low, salty lands subject to occasional irrigation. It is found on medium (below 6,500 feet) to low elevations throughout New Mexico. It probably is the most drought-enduring and salt-tolerant of all the native grasses.

The foliage is low, coarse and stiff and normally green-yellow. With added water, the color is gray-green. Plants that are plugged or sprigged grow together to form a sod. Salt grass sod is a dense cover that is tolerant of heavy traffic. The flowers appear from May to October. The few seed heads are borne on short stems and turn yellow at maturity.

Reproduction can be achieved by seed but is more commonly done by division. Other names include spiked saltgrass and alkaligrass.



Mixes for Lower Elevations

Low-Growing to 12 inches	Tall-Growing	Variable Heights
Blue Grama	Side-Oats Grama	Side-Oats Grama
Buffalograss	Black Grama	Buffalograss
Curly Mesquite Galleta	Plains Lovegrass	Plains Lovegrass

Mixes for Higher Elevations

Low-growing to 12 inches	Tall-Growing	Variable Heights
Side-Oats Grama	Western Wheatgrass	Western Wheatgrass
Blue Grama	Indian Rice Grass	Indian Ricegrass
Buffalograss	Plains Lovegrass	Blue Grama Buffalograss

