'Critana'
thickspike wheatgrass

_Elymus lanceolatus_ (Scribn. & J.G. Sm.)
Gould spp. _lanceolatus_

‘Critana’ thickspike wheatgrass is a cultivar released by the Bridger Plant Materials Center in cooperation with the Montana Agricultural Experiment Station, Bozeman, Montana in 1971.

**Description**

‘Critana’ thickspike wheatgrass is a long-lived, native, perennial cool season grass that is drought tolerant and grows on a wide range of soil types in mixed and sparse stands of western wheatgrass and needlegrass. It is mildly rhizomatous, with creeping underground rootstocks in a dense, shallow, fibrous root system (4 to 12 inches deep) with a few roots penetrating below 2 feet. Although thickspike wheatgrass is rhizomatous, dense clumps of plants do develop and are 18 to 30 inches tall. It produces an abundance of finely textured leaves that are light green to bluish in color, less than 0.2-inch wide, with pointed, semi-clasping auricles. The narrow seed spike is 3 to 5 inches long, has four to eight flowers, and has overlapping spikelets with pubescent lemmas. The species is synonymous with streambank wheatgrass.

**Source**

‘Critana’ originated from several collections made in 1960 from multiple roadcuts near Havre, Montana. Seed was collected from plants growing on the B and C soil horizons. ‘Critana’ is open-pollinated and seed bulked from these collections were increased for testing.

**Conservation Uses**

‘Critana’ was tested and developed primarily for stabilization of disturbed areas, mined lands, roadsides, airports, recreation areas, and construction sites receiving little or no maintenance. ‘Critana’ provides good grazing forage for domestic livestock and wildlife in the spring through fall, and palatable and nutritious hay when properly managed. ‘Critana’ was selected among 60 accessions of thickspike wheatgrass in Montana and Wyoming because it establishes faster than most native species. It has proven its ability to stabilize, revegetate, and reduce erosion quickly on disturbed sites. It is an excellent component in seed mixtures for reseeding range sites that are severely eroded or have low fertility. ‘Critana’ is well suited as turf in low-maintenance landscapes and naturalized areas. However, the leaf blades are tough and do not cut clean when mowed, resulting in a frayed, ragged edge.

**Area of Adaptation and Use**

‘Critana’ is adapted to a wide variety of sites but prefers medium- to coarse-textured soils and granular shaley clays. It is moderately tolerant to acidic and alkaline soils. ‘Critana’ grows well in dry, well-drained areas but responds to additional moisture and can withstand periodic, brief flooding. It grows well in 10- to 20-inch annual precipitation zones in the northern Rocky Mountains and adjacent Great Plains regions and is adapted to elevations ranging from 2,000 to 7,000 feet in these areas. It grows well in Montana and Wyoming in areas characterized by the aforementioned conditions.

**Establishment and Management for Conservation Plantings**

‘Critana’ establishes easily with dormant fall or early-spring seeding, and no fertilizer is necessary to establish the stand. Good seedbed preparation on critical areas is required including harrowing, packing, drilling the seed, and mulching.
Recommended seeding rate for conservation plantings is 7 pounds pure live seed (PLS) per acre on good sites with a 12-inch row spacing. Broadcast seeding is only recommended on freshly disturbed sites such as wildfires and reconstructed road slopes. Plant 14 pounds PLS per acre when broadcasting or when drill seeding on critical areas. Grazing should be prohibited for several years following establishment on critical areas to assure maximum vegetative cover and soil stabilization. Critana is intended to provide understory ground cover when planted in mixtures of compatible species. Little or no damage will be incurred on Critana under proper grazing pressures. Contact your local NRCS office for assistance with a prescribed grazing plan.

**Ecological Considerations**

Critana thickspike wheatgrass has not undergone any purposeful genetic manipulation. Critana does not differ in appearance, performance, or biology from naturally occurring thickspike wheatgrass observed in native populations.

**Seed and Plant Production**

Critana produces excellent seed crops for several years with proper management. Seed production fields are moderately easy to establish using a conventional double-disk drill with a planting depth of ¼ to ½ inch. With 145,000 seeds per pound, the recommended seed production rate under irrigation is 4 pounds PLS per acre at 24-inch between-row spacing. Critana thickspike wheatgrass can be planted in early spring, late summer (by August) with supplemental irrigation, or as a dormant fall seeding. Seed matures in mid-July. It is harvested at the hard-dough stage by swathing, followed with combining of the cured windrows. Seed yields at the Bridger Plant Materials Center average 400 pounds per acre under irrigated conditions and 36-inch row spacing. Interspecific hybrids occur between this species and slender wheatgrass (*Elymus trachcaulus*); Critana may exhibit up to 2% seed or spike characteristics of slender wheatgrass. Seedheads with divergent awns, Montana wheatgrass types [*Elymus albicans* (Scribn. & J.G. Sm.) A. Löve], can be found in seed production fields, but the seeds often lose their identity when awns are removed by threshing and conditioning.

**Availability**

*For seed or plant increase:* Seed increase of Critana is limited to one generation beyond foundation to the certified class. Foundation seed is available from the USDA Natural Resources Conservation Service (NRCS) Bridger Plant Materials Center, the Montana Foundation Seed Program at Montana State University-Bozeman; or the University of Wyoming Seed Certification and Foundation Seed Service in Powell, Wyoming.

*For conservation use:* Certified seed of Critana thickspike wheatgrass is available through the commercial seed industry for conservation applications. A list of regional commercial seed producers can be obtained by contacting the Montana Seed Growers Association, Montana State University or the Wyoming Seed Certification Service and is available in USDA-NRCS Plant Materials Technical Note PM-33 *Plant and Seed Vendors for Idaho, Montana, Nevada, Eastern Oregon, Utah, Eastern Washington, and Wyoming*. Available at: [http://www.plant-materials.nrcs.usda.gov](http://www.plant-materials.nrcs.usda.gov)

**Citation**


For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District [<http://www.nrcs.usda.gov>], and visit the PLANTS Web site [<http://plants.usda.gov>] or the Plant Materials Program Web site [<http://www.plant-materials.nrcs.usda.gov>]

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