



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

Bad River Ecotype Blue Grama *Bouteloua gracilis*

A Conservation Plant Release by USDA NRCS Plant Materials Center, Bismarck, North Dakota



Bad River Ecotype blue grama (*Bouteloua gracilis* [Willd. ex Kunth] Lag. ex Griffiths) is a cooperative release of the USDA Natural Resources Conservation Service, the North Dakota and South Dakota Agricultural Experiment Stations, and the North Dakota Association of Soil Conservation Districts.

Plant Description

- 10 to 25 inches tall
- Seed head resembles human eyebrow
- Native, perennial, warm-season bunchgrass
- Leaves are mostly basal, curling
- Hairy leaf ligule

Conservation Uses

- Range Seeding
- Reduced Maintenance Cover
- Prairie Restoration
- Prairie Landscaping

Origin

Development of Bad River ecotype blue grama began in 1988 with seed harvested from native plants growing on a floodplain of the Bad River in central South Dakota. This loamy terrace range site with its very fine, sandy loam soils is located in Haakon County, near the town of Philip. Blue grama and western wheatgrass were the predominant plants growing on the site in 1988. Climatic conditions are harsh in this area. Annual precipitation is approximately 16 inches. The annual freeze-free period ranges from 130 to 160 days; and the temperatures are extreme, ranging from -35° F to 110° F.

Bad River Ecotype Features

- Originated from South Dakota and adapted to the Northern Great Plains, USDA Plant Hardiness Zone 3
- Warm-season grass establishes readily, and has consistent plant performance compared to native harvests
- Leafier and taller than South Dakota native harvest
- Drought tolerant, sod-former
- Improved emergence, vigor, and root development compared to South Dakota native harvest
- Seed begins to mature late August with little shattering
- Provides excellent quality forage for summer grazing
- Higher percent crude protein and digestibility compared to South Dakota native harvest
- Forms a short grass sod which provides good ground cover
- Prefers medium to fine textured soils
- Larger seed caryopsis compared to common blue grama

Establishment

- Seed from mid-May to mid-June
- Shallow seeding depth of ¼ to ½ inch is critical
- Plant through fluffy seedbox of grass drill unless seed is debarbed
- Plant 25 to 30 pure live seeds (PLS) per ft² (1.3 to 1.6 PLS lb/ac) if seeded alone (number of seeds/lb averages 825,000; debarbed seed will vary from this amount)
- Generally blue grama is one component of a range mix, so rate varies depending on percent desired in stand
- Recommended low maintenance/turf cover seeding rates vary from approximately 0.25 to 0.5 PLS lb/1000 ft²
- Accent plants for landscaping may be spaced at 1-2 feet

Management

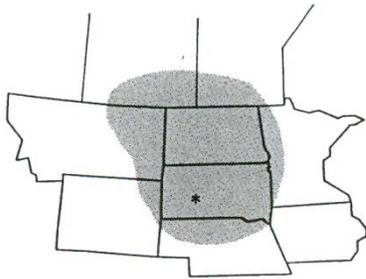
Management of Bad River Ecotype does not differ from other blue grama. It is a warm-season species and common associate of buffalograss, sideoats grama, and western wheatgrass. Blue grama is a palatable, nutritious forage species that can withstand extensive grazing. It becomes dormant during drought conditions and recovers quickly with moisture. The short stature of blue grama makes it less desirable for hay; but because it retains its forage quality into the winter months, it makes an excellent standing feed. Controlled burning when the plants are dormant improves seed and herbage production.

Seed Production

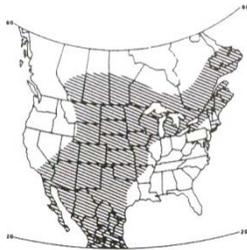
- Harvest seed by combining or stripping
- Seed of blue grama is light, so reduce or close off air when combining
- If seed stripping, wait until late in growing season after most seed is mature
- Shattering is generally not a problem
- Annual seed yields can be extremely variable
- Seed yields at the Bismarck Plant Materials Center range from 50-250 lb/ac in 42-inch spaced rows with irrigation

Area of Adaptation and Use

The shaded area on the map below shows the projected area of adaptation and the origin (*) of Bad River Ecotype blue grama.



The map below shows the natural distribution of blue grama.



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Availability

For conservation use: For more information on availability and use of Bad River Ecotype blue grama, contact your local NRCS field office or Bismarck Plant Materials Center.

For seed or plant increase: Foundation equivalent (Generation 2) seed is maintained by the USDA NRCS Plant Materials Center, Bismarck, North Dakota.

For more information, contact:
USDA-NRCS Plant Materials Center
3308 University Drive
Bismarck, ND 58504
Phone: (701) 250-4330
Fax: (701) 250-4334
<http://Plant-Materials.nrcs.usda.gov>

Citation

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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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