

A Conservation Plant Released by The Natural Resources Conservation Service Los Lunas Plant Materials Center, Los Lunas, New Mexico

'Alma'

blue grama

Bouteloua gracilis (Willd. ex Kunth) Lag. ex Griffiths

'Alma' blue grama was released in 1992 by New Mexico State University's Los Lunas Agricultural Science Center, Colorado State University, and the USDA Natural Resources Conservation Service (NRCS) Los Lunas Plant Materials Center.

Description

Notable characteristics of Alma blue grama are robust upright growth and good seedling vigor. As a warm season grass, it becomes dormant in fall and greens up in mid- spring. It tolerates fire only in its dormant state.

Source

Alma blue grama is a composite of 'Lovington,' 'Hachita' and PM-K-1483 releases. Lovington blue grama seed was collected 10 miles east of Lovington, NM, and Hachita blue grama seed was collected 32 miles southwest of Hachita, NM. PM-K- 1483 is a composite of accessions from Kansas and Texas. Alma blue grama was selected for heavier seed weight, seedling emergence from a deeper planting depth, seedling vigor and both seed and forage production.

Alma blue grama was developed from three cycles of recurrent selection. Individuals within each generation were selected for vigor and for the longest subcoleoptile internode. Three cycles of recurrent selection led to a 35% increase in seed weight.

With more seed reserves and larger seedling organs, the larger seeds showed improved seedling emergence at a deeper planting depth and more capacity for rapid root development growth rates to aid establishment after rainfall events.

Conservation Uses

Alma blue grama grows readily in most soil types and is a principal component in warm season mixes for rangeland improvement where adapted. It is suitable for use in mixtures designed for erosion control and surface mined revegetation. It is recognized as an important low maintenance turf (requires less water than bluegrass) and properly managed, it is suitable for low-maintenance recreation areas. Alma blue grama's high palatability to livestock makes it a choice forage species. Because it cures well on the ground by retaining as much as 50% of its nutritive value, it makes good fall and winter forage. It also withstands grazing with proper management.

Area of Adaptation and Use

Alma blue grama is most adapted to Great Plains areas with 12 to 16 inches precipitation primarily falling in late spring and summer. It tolerates moderate salinity and alkalinity. It will not tolerate dense shade, flooding, high water tables or acid soils. It occurs in association with buffalograss (*Bouteloua dactyloides*), western wheatgrass (*Pascopyrum smithii*), needlegrass (*Achnatherum* spp.) and Sandberg bluegrass (*Poa secunda*).



Figure 1: 'Alma' blue grama grass. Los Lunas Plant Materials Center.



Figure 2: 'Alma' blue grama flower and young seed heads, Los Lunas Plant Materials Center.

Establishment and Management for Conservation Plantings

To establish Alma blue grama as a pasture or range grass, the seeding rate should be 1½ to 2½ pounds per acre of pure live seed planted between January and May. Climates with warmer winters may prefer seeding January-March, while cooler winter climates might prefer the March-May. For a lawn, broadcast 1 pound per 1,000 square feet and mulch with straw.

Ecological Considerations

No severe insect or disease problems have been observed. Alma does not differ significantly in rate of spread, seed production, or vigor from naturally occurring blue grama.

Seed and Plant Production

For seed production it is recommended that supplementary water be given only after July 1, so that the principal flush of flowering does not coincide with the hottest part of the summer. A comparison of Alma and Hachita (a very vigorous southwest New Mexico cultivar of blue grama) showed that Alma blue grama usually had better emergence in Colorado dryland trials *and* was not significantly different in forage productivity when grown in 30 cm rows, either alone or alternated with legume rows. Alternating Alma and Hachita with legume rows produced no difference in crude protein percentage of either.

Availability

For conservation use: If you are interested in using Alma blue grama in a lawn, pasture, or range planting, contact your local County Extension Service or your local USDA–NRCS Office for information on where to buy seeds and how to use and plant them.

For seed or plant increase: Breeder seed is produced by the USDA-NRCS Los Lunas Plant Materials Center. Seed growers who are interested in seed increases may contact the Los Lunas Plant Materials Center for the availability of Alma blue grama foundation seed.

For More Information

For more information on ‘Alma’ blue grama, please contact Los Lunas Plant Materials Center 1036 Miller Road, Los Lunas, NM 87031, Tele: 505-865-7340, FAX: 505-865-5163. <https://www.nrcs.usda.gov/plant-materials/nmpmc>

Citation

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For additional information, 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 Website. <https://www.nrcs.usda.gov/plant-materials>



Figure 3: An ‘Alma’ blue grama seed production field at the Los Lunas Plant Materials Center.

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