



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

High Plains Germplasm Sandberg bluegrass

Poa secunda J. Presl

A Conservation Plant Release by USDA-NRCS Bridger Plant Materials Center, Bridger, Montana



Sandberg bluegrass

High Plains is a Selected class pre-varietal germplasm of Sandberg bluegrass *Poa secunda* J. Presl (accession 9078408) released in 2000, by the USDA-NRCS Plant Materials Center (PMC), Bridger, Montana, in cooperation with the Montana and Wyoming Agricultural Experiment Stations.

Description

High Plains Germplasm Sandberg bluegrass is a native cool-season, perennial bunchgrass with an extensive, deep, fibrous root system that makes it quite drought tolerant and resistant to grazing and trampling. It is one of the first grasses to green up in the spring and it sets seed and cures by early summer. Plants are seldom more than 24 inches tall, growing as small tufts, with soft basal leaves and few- to many-flowering stalks that are naked except for two small leaves. The leaves have the typical bluegrass characteristics of a prow-shaped tip and double veins down the center of the leaf surface. Sandberg bluegrass has a prominent, membranous, acute ligule. The seedheads are in narrow panicles, which droop slightly at maturity. The seeds are glaucous except for short crisp hairs on the lower portion of the lemmas.

Origin

High Plains is a composite of three accessions collected in the early 1980's from native stands in Wyoming's Campbell County (elevation 4,690 feet), Natrona County

(elevation 5,216 feet), and Uinta County (elevation 6,300 feet). A total of 35 accessions of Sandberg bluegrass were evaluated at arid mine sites in Wyoming and at agronomic facilities in Montana. The three accessions were selected for high seedling vigor, excellent survival on harsh sites, and similar flowering dates.

Conservation Uses

Sandberg bluegrass is palatable to livestock early in the growing season, becoming less preferred in the summer when cured. It may produce enough re-growth for fall grazing if adequate moisture is available. Large ungulates utilize Sandberg bluegrass as forage, and birds and small mammals eat the seeds. Because of its small stature and early maturity, this grass does not provide much usable forage. Although it is usually a minor component of most plant communities, it is considered one of the six most important range grasses of the Intermountain and Pacific Northwest regions. High Plains Germplasm Sandberg bluegrass is useful for filling the early season niche in native mixtures for conservation programs, reclamation of drastically disturbed lands, wildlife habitat plantings, and native plant community restoration.

Area of Adaptation

High Plains is expected to perform well in Montana, Wyoming, the Dakotas, and southern Idaho. It should be adapted for use in the Palouse country of Washington, southward into Colorado and Utah, and northward into the prairie provinces of Canada. Sandberg bluegrass grows well on medium texture soils, but is most common on badlands, ridge-tops, and dry, stony or sandy soil. It is a pioneer species and is one of the first grasses to colonize disturbed sites.



Area of adaptation for High Plains Germplasm Sandberg bluegrass.

Establishment and Management for Conservation Plantings

High Plains readily establishes by direct seeding. There are 900,000 seeds per pound. For best results, seed should be planted into a firm, weed-free seedbed. The full seeding rate is 2 Pure-Live-Seed (PLS) pounds per acre, but it would seldom be seeded in a pure stand. It is recommended High Plains be included in native seed mixtures at a rate of ¼ to ½ PLS pound per acre. Seed should be drill-planted to ensure uniform seed placement to a depth of ¼ to ½ inch. Broadcast seeding is favorable for the small seed when harrowed and packed to assure seed-to-soil contact; however in dryland situations, adequate precipitation at the time of germination is critical for survival. Seeding of this species in early spring is favored over a dormant fall seeding. High Plains produced a 3-year average of 1,300 pounds of biomass per acre on an irrigated site near Powell, Wyoming; compared to an average of 67 pounds of biomass per acre on a semi-arid, high elevation site near Pinedale, Wyoming.



High Plains Sandberg bluegrass seed field at the Bridger PMC.

Ecological Considerations

Sandberg bluegrass is considered an “increaser” under heavy grazing conditions. Seed does not disperse far from the parent plant. Sandberg bluegrass, as a component of native plant communities, deters invasive species encroachment by occupying the early season niche and through resources competition by its extensive root system.

Seed Production

Seed of High Plains Germplasm Sandberg bluegrass is moderately easy to produce under cultivated conditions, however, seed production is not recommended in areas

receiving less than 16 inches of annual precipitation. Seed fields should be established at 25 to 30 PLS seeds per linear foot. When planted in rows 2 feet apart, the recommended seeding rate is 0.6 to 0.7 PLS pounds per acre. When planted in rows 3 feet apart, the recommended seeding rate is 0.5 to 0.6 PLS pounds per acre. Control broadleaf weeds using herbicides only in early spring before boot and in late summer after harvest. Expect seed production to begin after the first growing season and to decline after three years. Seed harvest can be as early as the last week in June through mid-July. High Plains can be direct harvested or swathed and combined out of the cured windrows. Irrigated seed yield exceeded 200 PLS pounds per acre at the Bridger PMC. The average harvest date at the Bridger PMC is June 24. Sandberg bluegrass is strongly self-pollinated.

Availability

High Plains Germplasm Sandberg bluegrass is available on the commercial seed market. G₁ (equivalent to Foundation seed) is maintained by the USDA-NRCS Bridger PMC. It is available to commercial growers through the Montana Foundation Seed Program at Montana State University-Bozeman and the University of Wyoming Foundation Seed Service in Powell, Wyoming. Two generations (G₂ equivalent to registered and G₃ equivalent to certified) beyond Foundation (G₁) are recognized.

For more information, contact:
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<http://plant-materials.nrcs.usda.gov/mtpmc>
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Citation

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