Origins
of
Native Grass and Forb Releases

USDA-NRCS
Plant Materials Center,
Bismarck, North Dakota

Performance and adaptation of native plants are greatly influenced by origin (collection location). Experience in the Northern Great Plains and Upper Midwest has shown that generally, warm-season grass and forb species can be moved about 300 miles north or 200 miles south. East and west movement is affected by moisture and elevation. Cool-season species show less response to distance from their origin.

All plant releases are cooperative among the USDA-NRCS Bismarck Plant Materials Center and various partners including the North Dakota, South Dakota, and Minnesota Agricultural Experiment Stations and affiliated universities, the USDA Agricultural Research Service, and others.

"Helping People Help the Land"

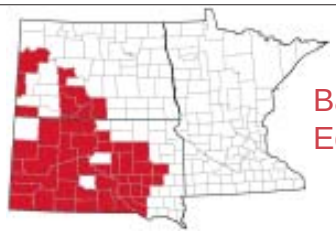
Warm-Season Grasses

Little bluestem

Schizachyrium scoparium

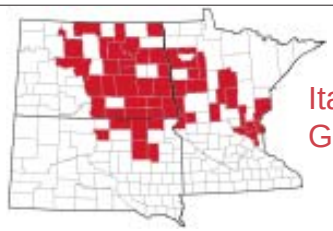
Little bluestem is a drought tolerant, perennial bunchgrass of the mixed-grass prairie. The average height is 1 to 3 feet. It is often found on dry hillsides. It is adapted to limey soils of wet and dry sites and grows on coarse, shallow soils of droughty uplands. Palatability decreases rapidly after heading. Red fall/winter colors make this an interesting choice for landscaping.

Release: Badlands Ecotype
Attributes: Broad genetic base, earlier maturing, good plant vigor, seed production and disease resistance, variation in plant size, leaf width, and color.
Origin: Composite of 68 vegetative collections from various native sites, including the Badlands of North Dakota and South Dakota.



Badlands Ecotype

Release: Itasca Germplasm
Attributes: Diverse population with broad genetic base, good vigor, leafy, disease resistance, and early plant maturity.
Origin: Composite of 72 vegetative collections from native grasslands in eastern North Dakota, north central South Dakota, and central and northeast Minnesota.



Itasca Germplasm

Blue grama

Bouteloua gracilis

Blue grama is a short, drought tolerant, tufted perennial grass of the mixed-grass prairie and shortgrass plains. The average height is from 4 to 18 inches. It inhabits sandy or gravelly soils and also compact loams and heavy clays. It is very palatable and nutritious to all classes of livestock. Consider blue grama for landscaping and low maintenance turf.

Release: Bad River Ecotype
Attributes: Leafy, excellent stand establishment from seed, larger seed, early maturing, produces seed (often the first year) and is winter hardy in the Northern Great Plains.
Origin: Seed harvested from a native stand encompassing several hundred acres on a floodplain of the South Fork of the Bad River in Haakon County, South Dakota.

Bad River Ecotype

Indiangrass

Sorghastrum nutans

Indiangrass is a tall, perennial grass capable of producing a sod from short, scaly rhizomes. The average height is from 2 to 6 feet. Its seed head is a large, fluffy panicle. Seeds are awned. It is found on subirrigated lowlands and overflow swales, or open prairies with abundant moisture. It is very palatable to livestock in its early stages of growth. Indiangrass is a unique landscaping plant.

Release: Tomahawk
Attributes: Earlier maturing, high seed yields.
Origin: Composite of three seed collections from native stands near Ludden, in Dickey County, North Dakota; near Britton, in Marshall County, South Dakota; and near Hecla, in Brown County, South Dakota. Each collection was from several plants in native grasslands.

Tomahawk

Switchgrass

Panicum virgatum

Switchgrass is a tall, perennial grass with stout, scaly rhizomes, often growing in large clumps. The average height is from 15 to 40 inches. It is common in upland and lowland grasslands of the tall grass prairie, roadsides, and open forests that have good moisture. It produces abundant forage. The open panicle seed head has landscaping appeal.

Release: **Dacotah**
Attributes: Early maturing, shorter stature, uniform color and size, leafy, produces seed in the Northern Great Plains, superior winter hardiness.
Origin: Several plants were collected from native grasslands in Morton County, North Dakota, near Breien.

Release: **Forestburg**
Attributes: Early maturing, but three weeks later than Dacotah, persistent, good seed producer, high forage yields, superior winter hardiness.
Origin: Composite of four seed collections, in Sanborn County, South Dakota, near Forestburg. Each seed collection was from several plants in native grasslands.

Big bluestem

Andropogon gerardii

Big bluestem is a tall, loosely tufted, perennial grass often bearing short rhizomes. The average height is from 3 to 7 feet. Its stems are coarse and the leaves are soft-textured and flat. The seed heads resemble a turkey foot. It is very palatable and is an excellent forage grass. It declines rapidly with overgrazing. It prefers light and medium textured soils. The unique seed head and dense leaves create interest in formal landscapes.

Release: **Bison**
Attributes: Uniform plant type with good leafiness and plant vigor, very early maturing, shorter height, darker green color, and good seed yields in the Northern Great Plains.
Origin: Several mature plants were collected from native rangeland in Oliver County, North Dakota, near Price.

Release: **Bonilla**
Attributes: Early maturity but three weeks later than Bison, good winter hardiness in the northern latitudes, good seed yield potential, excellent persistence and forage production.
Origin: Seed collected from native stands at two sites in Beadle County, South Dakota, near Bonilla.

Release: **Sunnyview***
*South Dakota State University (primary releaser)
Attributes: Higher potential seed yields due to its percent of fertile pedicillate spikelets, very high forage producer, persistent.
Origin: Plants were collected from native prairies in southeastern South Dakota, Union County.

Prairie cordgrass

Spartina pectinata

Prairie cordgrass is one of the tallest grasses native to North America, growing from 4 to 10 feet tall. It has long, coarse leaves with sharp serrated edges, thick stems, and strong, scaly rhizomes. It occupies wet soils throughout the prairie region of North America. The tall, coarse stature of the plant may fit some landscape designs, but beware of the rhizomatous spreading habit.

Release: **Red River Germplasm**
Attributes: Produces seed, adapted to the Northern Great Plains, relatively broad genetic base, good rhizome production, a mix of fine and coarse plants.
Origin: Plants were collected from several wetlands in four counties; Cass and Grand Forks Counties, North Dakota; Grant County, Minnesota; and Day County, South Dakota.

Red River Germplasm

Sideoats grama

Bouteloua curtipendula

Sideoats grama is a drought-tolerant perennial grass found primarily on poorly developed shallow soils, steep slope, and ridgetops as well as overflow sites. It is a short to mid-sized grass with short scaly rhizomes. The average height is 8 to 24 inches. The leaves are mostly basal. It is a good quality winter and summer forage and is highly palatable. The interesting seed head has landscaping appeal.

Release: **Pierre**
Attributes: Outstanding in vigor, leafiness, freedom from disease, seedling vigor, and persistence in a semi-arid environment.
Origin: Collection of seed (from several plants) from natural grasslands on a shale range site in Stanley County, South Dakota, west of Pierre.

Pierre

Release: **Killdeer***
*Not a formal release; no certified seed production.
Attributes: Vigorous, leafy, fair seed production, freedom from disease, and persistence in cold, semi-arid environments.
Origin: Composite of seed collected from native stands in Bowman County, North Dakota, near Bowman; and Dunn County, North Dakota, near Killdeer.

Killdeer

Cool-Season Grasses

Green needlegrass

Nassella viridula

Green needlegrass is a tufted perennial (bunchgrass) growing from 1½ to 3 feet tall. It is very common in mixed grass prairies, open forest, meadows, and roadsides, mainly on fine to medium-textured soils. It is a nutritional and palatable forage. The needle-like seeds are not injurious and can add interest to a landscape design.

Release: **Lodorm**
Attributes: Low seed dormancy, adapted to Northern Great Plains, good seed production.
Origin: Bulk seed collections from native stand in Burleigh County, North Dakota, north of Bismarck.

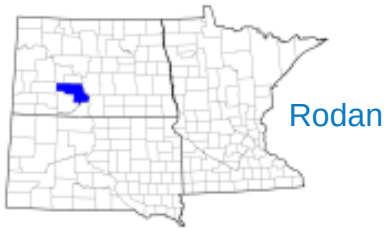
Lodorm

Western wheatgrass

Pascopyrum smithii

Western wheatgrass is a strongly rhizomatous, perennial grass which can form a dense sod. It is distinguished by its pronounced blue-green color. Leaf blades are stiff with prominent ribs on the upper surface. The average height is 12 to 30 inches. It is common on moist to dry soils on upland prairie and on well-drained bottomland. It has a high level of tolerance to saline-alkali soils. It is an excellent forage plant and makes high quality hay. The aggressive rhizomes can be invasive, especially on clay soils.

Release: Rodan
Attributes: Vigorous, leafy, rust resistance, drought tolerance.
Origin: Seed from a 70-acre field of western wheatgrass (of unknown origin, possibly planted) growing in the Missouri River bottoms in Morton County, North Dakota, near Mandan.

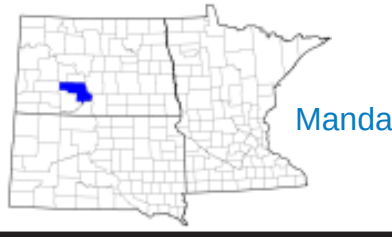


Canada wildrye

Elymus canadensis

Canada wildrye is a short-lived perennial bunchgrass with large coarse leaves, excellent seedling vigor and fair palatability if grazed or hayed before heading. The average height is 2 to 5 feet. It is common in a variety of dry to moist open habitats, especially where sandy gravelly, or rocky. It has potential in mixtures for early establishment of cover until other species are established. The awned seedheads are showy.

Release: Mandan
Attributes: Leafy, finer leaves and stems, shorter stature, ease of establishment, excellent seed production.
Origin: Seed was bulked from various plants at a native upland site in Morton County, North Dakota, near Mandan.



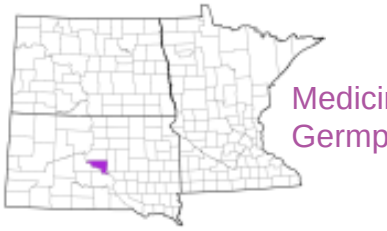
Forbs

Maximilian sunflower

Helianthus maximiliani

Maximilian sunflower is a rhizomatous, late season perennial with fibrous roots. Its leaves are rough, narrow with pointed tip, and numerous. Heads are usually many. The average height is 3 to 8 feet. It is most common on grassland drainages and stream margins where moisture is ample. It grows on a variety of soil types from sands to clays; intolerant of saline conditions, moderately tolerant of acidic and alkaline soils. Seed dormancy is usually high. It is rated high for wildlife cover and as a food source. It can be invasive in small areas.

Release: Medicine Creek Germplasm
Attributes: Adapted to climatic conditions of the Northern Great Plains, good flower/seed production.
Origin: Vegetative samples collected from a silty overflow range site in central South Dakota, Hughes County.



Stiff sunflower

Helianthus pauciflorus

Stiff sunflower is a strongly rhizomatous forb which often forms dense colonies in good stands of grass. Plant height varies from 1 to 3 feet, with blossoming in late summer. The stiff, leathery leaves occur mostly at the base of the plant. Stems are stiff, often reddish, and rough. It grows in grasslands and meadows and is adapted to a wide variety of sites, ranging from wet to dry. It can be invasive in small areas.

Release: Bismarck Germplasm
Attributes: Adapted to climatic conditions of the Northern Great Plains, good flower/seed production.
Origin: Bismarck Germplasm stiff sunflower is a composite of seed collected from nine native grassland locations in western and central North Dakota. Seed was collected from the following North Dakota counties: Burleigh, Grant, Slope, Mercer, Dunn, and Oliver.

Bismarck Germplasm

Purple prairieclover

Dalea purpurea

Purple prairieclover is a perennial legume that grows 1 to 3 feet tall. It has alternate, pinnately compound leaves and multiple, upright stems that arise from a woody crown. Flowers are purple and born on terminal spikes. It has an extensive taproot. It requires good drainage. It is palatable and nutritious to livestock and wildlife. It provides a food source for native pollinators and has landscape appeal.

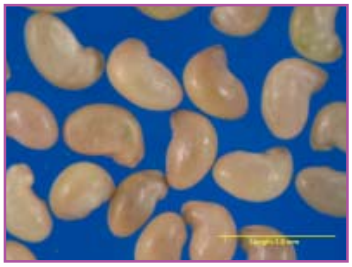
Release: Bismarck Germplasm
Attributes: Adapted to climatic conditions of the Northern Great Plains, good flower/seed production.
Origin: Seed collected from many plants in natural grasslands of south central South Dakota, near Presho, in Lyman County.

Bismarck Germplasm

Slender white prairieclover

Dalea candida

Slender white prairieclover is a long-lived perennial legume with slender, leafy stems 1 to 2½ feet tall. The multiple stems rise from a woody base with a strong, deep, poorly-branched taproot. The leaflets of white prairieclover are larger than those of purple prairieclover. The species is found on dry to mesic sites, usually on gravelly, rocky, shallow soils. It is palatable and nutritious to livestock and wildlife. It provides a food source for native pollinators and has landscaping appeal.



Release: Antelope Germplasm*
*Released by the Montana Plant Materials Center (primary) and the North Dakota Plant Materials Center (secondary).
Attributes: Adapted to climatic conditions of the Northern Great Plains.
Origin: Seed was collected from a native grassland west of Dickinson, in Stark County, North Dakota.

Antelope Germplasm

Narrow-leaved purple coneflower

Echinacea angustifolia

Narrow-leaved coneflower is a perennial forb with an average height of ½ to 2 feet. Its root is a heavy taproot. Leaves are basal and heads are mostly solitary on the stem. Flower petals are pinkish purple and drooping. The center of the head is dark to yellowish brown and prickly. It is common in mixed prairies of the Great Plains. It prefers rocky hillsides and weakly developed soils. The species is also known as black samson and echinacea. Compounds from the species have been used for medicinal purposes. Attractive to native pollinators, especially butterflies, and very popular for landscaping and flower beds.

Bismarck Germplasm

Release: **Bismarck Germplasm**
Attributes: It is adapted to climatic conditions of the Northern Great Plains, good flower/seed production.
Origin: Composite of seed collected from 11 North Dakota native grassland locations. Collections at each location were from many plants. Collections were from the following North Dakota counties: McKenzie, Sioux, Slope, Billings, Dunn, Burleigh, Sheridan, Morton, McHenry.

Photo credit: Photos of seed by E. Brent Turnipseed, PhD, Professor/Director, Seed Testing Laboratory, South Dakota State University, Brookings, South Dakota.

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