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Plant Chat
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A Newsletter Published by the Bismarck Plant Materials Center for NRCS Field Offices in North Dakota, South Dakota and Minnesota

Selecting Big Bluestem Varieties (cultivars)

When designing a grass mixture, there are several factors to consider during the planning process. Selecting the best cultivar (variety) or germplasm release is one that is often overlooked. Among releases, plant characteristics such as seedling vigor, drought resistance, growth habit, flowering and maturity date, productivity, forage quality, salinity tolerance, grazing tolerance, and winter hardiness are quite variable. Some species may have six or more approved releases. Selection of a release should be based on the climate, soils, intended use and planned management.

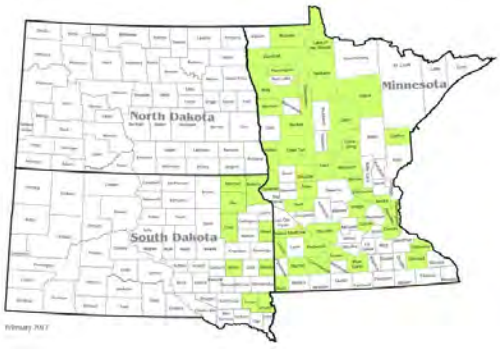
Big bluestem (*Andropogon gerardii* Vitman) is a native, warm-season, long-lived rhizomatous grass that is commonly included in grass mixtures seeded in the Northern Great Plains. It is one of the dominant grass species growing on tallgrass prairie in the Midwest. It provides high quality forage during the summer grazing period when cool-season grasses enter dormancy and production decreases. Its deep root system and short, scaly rhizomes make it a tough, drought tolerant species that competes well with cool-season invasive species that have been set back early in the growing season.

The Bismarck Plant Materials Center (PMC) has three big bluestem releases with varying characteristics for different planting purposes. Below are the attributes and origins of the Bismarck PMC big bluestem releases.

Bounty Germplasm big bluestem

Attributes: Diverse population with broad genetic base and wide range of adaptation for varying climatic conditions across MN and eastern Dakotas. Variable plant heights (5-10'+), favorable for wildlife plantings and seclusion areas. Plant maturity varies up to 3 weeks.

Origin: Composite of 82 vegetative collections from 40 Minnesota and 9 South Dakota counties.



Collections comprising Bounty Germplasm big bluestem are from Minnesota and Eastern South Dakota.

Plant height and maturity are variable in Bounty Germplasm big bluestem.

‘Bison’ big bluestem

Attributes: Uniform plant type with good leafiness and plant vigor. Earliest maturing variety, tending to be shorter in mature height than Bounty Germplasm or ‘Bonilla’. Well adapted to North Dakota and the northern half of South Dakota and Minnesota. Forage production information: Grasses for the Northern Plains Volume 2- Warm-Season

Origin: Vegetative collections from native rangeland in Oliver County, North Dakota.

'Bison' big bluestem has relatively uniform plant height and is early maturing.

‘Bonilla’ big Bluestem

Attributes: Selected for high seed and forage yields. Matures approximately 20 days after ‘Bison’. Well adapted to South Dakota and the southern half of North Dakota and Minnesota. Forage production information: Grasses for the Northern Plains Volume 2- Warm-Season

Origin: Seed collected from native stands at two sites in Beadle County, South Dakota, near the community of Bonilla.

'Bonilla' big bluestem has high forage and seed yields.

Seed Test Reminder:

As spring approaches, remind producers to check germination dates on any seed they may have stored because of missed seeding windows or other factors. It is important that the test date for germination meets specific requirements for NRCS cost share programs in your State. In North Dakota for instance, germination tests must be made within a 12-month period, exclusive of the test month, prior to seeding. This will help assure the proper seeding rate. Even if the test date has not expired, a new seed test may be warranted if seed has been stored improperly. Germination can drop rapidly if seed is stored in a location with high humidity and/or high temperature. Generally, germination tests for grasses and forbs take from 14 to 28 days to complete, depending on species. Seed samples need to be sent to the seed lab well in advance of the planned seeding date to allow adequate time for completion of any tests.

Seed labs follow standardized germination testing rules that are defined by the Association of Official Seed Analysts. Each species has a specific set of standards for germination testing. As an example, switchgrass requires a 28-day germination test compared to a 14 day test for big bluestem. Seed germinating during the standardized time period is listed as germination percent on a seed tag. Dormant or hard seed is seed that is determined to be alive but ungerminated after the standardized testing duration. Hard seed has a seedcoat that delays germination. Dormant seed is seed with delayed germination due to physiological factors within the seed.

Total viability% listed on a seed tag is the sum of germination% + hard/dormant%. Total viability along with purity should be used when calculating pure live seed (PLS) in a seed lot.