NRCS Natural Resources Conservation Service

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Five Reasons to Choose Native Grass Releases

USDA Natural Resources Conservation Service, Plant Materials Center, Bismarck, North Dakota

1. Proven performance and known area of adaptation.

Physical characteristics, establishment traits, and origin of the seed source contribute to the performance of seed used in conservation plantings. Knowing only the seed origin limits the information to consider when selecting seed for a particular objective such as erosion control, biomass yield, stand longevity, or seed production. The Natural Resources Conservation Service (NRCS) recognizes four types of releases. These include cultivar (also referred to as variety), tested, selected, and source identified. Performance documentation of varying degrees and origin are required and available for cultivar, tested, and selected releases. No performance documentation is required or available for source identified releases. The Bismarck Plant Materials Center (PMC) field tests new cultivar, tested, and selected releases for potential use in the climatic zones of North Dakota, South Dakota, and Minnesota. The information is incorporated into each State's NRCS Field Office Technical Guide (FOTG). Contact the NRCS field office in your county for release recommendations.

Using performance tested seed sources will help ensure planting success.

2. Genetically diverse populations.

Genetic variation within a seed source widens the area of adaptation and improves species persistence and long-term performance. Recent little bluestem releases from the Bismarck PMC demonstrate newer procedures used in seed source development. More than 500 plant collections were made in North Dakota, South Dakota, and Minnesota (USDA 1983). The plants were initially screened in nurseries for problems such as disease, lodging, and poor seed production. Plants rated above the nursery average were selected and grouped into climatic zones from which they originated. Badlands and Itasca little bluestem are each composite releases from more than 65 different site locations resulting in a broad genetic diversity.

Initial screening can reduce disease problems.

> *"A key attribute of ecosystems required to ensure resilience and adaptability is that of genetic diversity among and within species."*
> **- Harris et al 2006**

3. Fast establishment to better compete with weeds and invasive species.

Rapid establishment of seeded species is critical for weed control and invasive species management. Seed banks of annual broad-leaved species provide a source for initial weedy cover. Annual grasses are aggressive and may out-compete weak seedlings or slow-to-develop stands. Given the opportunity, invasive perennial species such as Canada thistle, leafy spurge, smooth bromegrass, and various knapweeds can quickly establish and provide long-term ecological and management concerns. An important factor in the success of native seedings is to establish the planted stand as quickly as possible. A recent study by the Bismarck PMC in cooperation with the North Dakota Game and Fish Department showed that by using proper techniques with recommended cultivars of native grasses, successful stands can be established in 90 days from the date of seeding (USDA 2005).

'Lodorm' green needlegrass (left) establishes rapidly compared to a local seed source (right).

4. High seed quality.

All official releases are eligible for seed certification. Field inspection, pedigree documentation, and germination and purity standards by State seed certifying agencies ensure high seed quality. Common lots of native grass seed with no release name indicated are not eligible for certification, and are more likely to be of a poorer quality and inconsistent performance. The buyer needs to be especially aware of noxious and restricted weed species in native seed harvested from known areas of infestation.

A high quality seed lot of 'Tomahawk' Indiangrass.

5. Reduced cost.

Native grass releases are produced by commercial seed growers using modern equipment and efficient field management operations. The seed of more popular species is generally grown and harvested from larger fields resulting in reduced costs to the grower. Native grass releases are used for a multitude of conservation purposes, and there is a relatively consistent demand for many species. This combination of large scale commercial production and a steady demand from the consumer results in a reduced cost to the buyer.

'Butte' sideoats grama

Native grasses are planted for many conservation uses such as erosion control, rangeland improvement, pasture and hayland production, wildlife habitat, landscaping, biofuel production, and prairie restoration. All native species released from the Bismarck Plant Materials Center are derived from natural populations of local seed sources. Plants displaying undesirable traits that could significantly limit performance are often screened out of the populations. Cultivars of native grass have been extensively tested in field trials and characteristics such as ease of establishment, seedling vigor, disease resistance, biomass yield, seed production, and freedom from lodging have been documented. Careful analysis of the planting objectives will help the decision maker choose the appropriate seed source. ***"We need to pay attention to the origin of switchgrass seed populations, but we've learned that seeds can be transferred widely within the hardiness zone in which they originated."*** - Michael Casler (Peabody 2007)

References

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