



Plant Materials Program Offerings for 2019

The Bismarck Plant Materials Center (PMC) will make available to Tribal and Conservation District partners and their cooperators the following plant materials and/or assistance:

Name	Species	Type	Material	Maximum Amount/Site
Cupplant	Silphium perfoliatum	Forb	Seed	½ PLS lb.
*Foxtail dalea	Dalea leporina	Forb	Seed	10 PLS lbs
**Sweetgrass	Hierochloe odorata	Grass	Plants	10
Gray birch	Betula populifolia	Tree	7-in ³ plugs	25
Canaan fir	Abies balsamea var.phanerolepis	Tree	7-in ³ plugs	25

*One-year evaluation required for foxtail dalea

**No evaluation required for sweetgrass

Responsibility: The PMC will provide seed/plants, annual evaluation forms, and technology assistance related to planting and/or establishment. The sponsor and cooperator are responsible to insure these plant materials are planted/seeded, and that evaluations (5 years for trees; 3 years for herbaceous species; see note above for foxtail dalea and sweetgrass) are completed.

Species details are listed on pages that follow. Please refer to these details to determine if the proposed site and expected outcomes are appropriate for the species. It is very important that sponsors and cooperators understand the importance of maintaining the planting during the evaluation period.

Requests: To request plant materials, complete a NRCS-ECS-9 form and send it to your state contact listed below. Requests for sweetgrass should be submitted on the Special Plantings request form. Electronic copies of forms are attached to email. Requests will be reviewed for approval at each states' annual Plant Materials Technical Committee meeting. While the PMC will try to honor all requests, some may be denied due to limited seed and plant quantities. Each office will be notified concerning the status of their request.

Minnesota (before November 16, 2018)	North Dakota (before November 16, 2018)	South Dakota (before December 14, 2018)
Mark Oja USDA, NRCS 375 Jackson street, Suite 600 St. Paul, MN 55101 mark.oja@mn.usda.gov	Wayne Markegard USDA, NRCS, PMC 3308 University Drive Bismarck, ND 58504 wayne.markegard@nd.usda.gov	Tim Nordquist USDA, NRCS Field Support Service Center 414 E. Stumer Rd, Suite 700 Rapid City SD 57701 timothy.nordquist@sd.usda.gov

Cupplant (*Silphium perfoliatum*) 9094396

Description: Cupplant is a native, perennial species of the tall grass prairie region. It grows well in sandy, moist bottomlands, floodplains, near stream beds, and in/or adjacent to open woodlands. It has a central taproot and shallow rhizomes and is able to form dense colonies good for wildlife habitat. Cupplant is 3-8 feet tall. It is attractive to pollinating insects, an excellent food source for livestock and wildlife and popular as a tall landscape plant. In the Dakota's it is found naturally only in the extreme eastern portion of each state. In Minnesota it is found primarily in the southern half of the state. The PMC would like to evaluate cupplant in a diversity of plantings to evaluate its potential uses. The PMC will provide seed and will assist in evaluation.

Suggested plantings (Mixed Seeding): Pollinator plantings, Wildlife habitat, Prairie restoration, Riparian zones

Seeding Season: Late spring, Dormant (follow recommended dates in your state for cool-season grasses)

Seeding Rate:

State	PLS pounds/acre	Seeds/ft ² full rate	Recommended % in Mix
Minnesota	10.0	5	1-5
South Dakota	10.0	5	1-5
North Dakota	10.0	5	1-5

Foxtail Dalea (*Dalea leporina*) 9094445 'Sundance'

Description: Foxtail dalea is an annual legume native to the Western hemisphere from Canada to Argentina. It is found in sandy prairies and disturbed sites throughout the eastern Great Plains. Plants generally grow 1-3 feet tall and are erect in stature. Its forage is high in protein and digestibility but is bitter flavored to livestock early in the growing season. Bitterness declines as plants age. It flowers from July to September. Performance in research trials has been better on sandy, acid or neutral soils than on heavy, more fertile soils. In areas where seed reaches maturity, the species can readily reseed. It There are an estimated 150,000 seeds per pound.

Suggested use: annual legume added to a cover crop mix (more diversity), companion legume in pollinator mixes

Seeding Season: Early spring, dormant (follow recommended dates for forb plantings in your state)

Seeding Rate:

State	PLS pounds/acre	Seeds/ft ² full rate	Recommended % in Mix
Minnesota	10.0	35	*
South Dakota	10.0	35	*
North Dakota	10.0	35	*

*Dependent on other species in the mix

Sweetgrass (*Hierochloe odorata*) 9063128

Purpose: Culturally Significant (CUSI)

Maximum Plants/Site: 10 plants

MLRA preferred: statewide (ND, SD, MN)

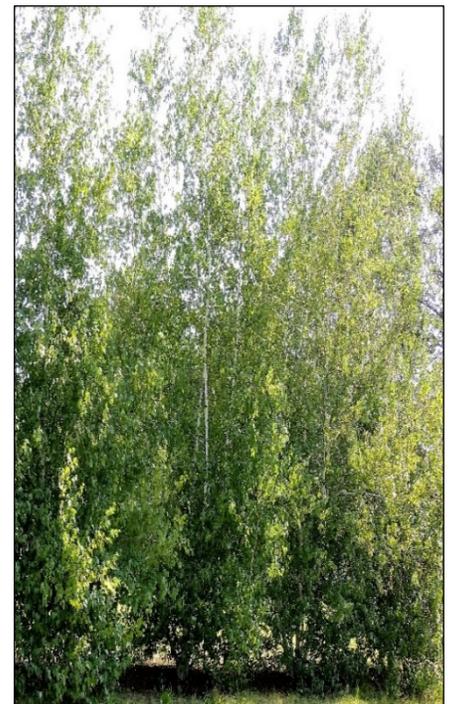
Description: Sweetgrass is an early cool-season grass that is characteristic of wet, sandy soil near riverbanks and lakeshores. Uses of sweetgrass are numerous. The source of the sweetgrass aroma, which smells like vanilla, is called coumarin. This plant compound has been used for hundreds of years as a plant extract for both fragrance and medicinal use. Native American cultures burn braided sweetgrass twists in traditional ceremonies, using the sweet-scented smoke as purifying incense. This accession of sweetgrass was originally collected along the Missouri River near Bismarck, North Dakota.

Planting Method: Plants should be spaced 1 to 3 feet apart on a prepared garden-like site, and hand watered until established. Sweetgrass spreads rapidly by underground rhizomes. After establishment, plants increase rapidly if weeds are controlled. It is not unusual for 10 plants to increase to hundreds of plants the second year, and thousands of plants the third year. Successful plantings may be used as propagation beds after establishment. Plants will be shipped in small pots approximately 2 ½ inches square and 3 inches deep.

Gray birch – (*Betula populifolia*) 9082667

Description: Gray birch is a moderate sized tree that can grow up to 30' tall, forming either single or multiple trunks (usually the latter) up to 1' across. It is a relatively fast-growing (2-5' per year) tree on preferred sites. Gray birch has white bark that is less bright or papery than paper birch. It is a pioneer species, native to NE US and Canadian Maritime provinces. It can be utilized in buffer installations to add visual interest and diversity, or as a food source and protective cover for wildlife. It is more resistant than paper birch to the bronze birch borer. Vertebrate animals use birch trees as a source of food and protective cover. Birds, especially goldfinches and other small-seed eaters, feed heavily on ripe gray birch seed. Beavers feed on the bark and wood, while white-tailed deer use the twigs as a source of winter browse.

Suggested Sites: Gray birch prefers moist to dry-mesic conditions, sandy soils and full sunlight. It will not tolerate flooding of significant duration. Like all seedlings, gray birch requires protection from competing vegetation and weeds to achieve acceptable growth rates



Gray birch trees in the PMC off-center tree evaluation planting at Becker, MN

Canaan fir, *Abies balsamea* var. *phanerolepis*,

Description: Canaan fir is an attractive, medium-growing (1-2 ft per year) and medium-sized tree potentially reaching 40-55 feet in height and 20-25 feet in width. It has lustrous dark green to bluish green foliage color with silvery stomatic bands on the underside of 1-inch long needles. Needles are flat with soft rounded ends. It does not shed its needles but holds them for 10 years or longer. It exhibits a relatively dense, pyramidal crown with a slender spire-like tip. Its growth and appearance are similar to that of Fraser and balsam fir. Currently it is a favored Christmas tree species.

Suggested Sites: Canaan fir is native to a few isolated mountain areas of West Virginia and Virginia. Though it was once thought to be a balsam fir, it is now designated as a naturally occurring variety of balsam fir. It is now being grown in areas not well suited to other native firs, outside of its normal range where balsam and Fraser fir will not survive. It will grow on heavier, wetter, and higher pH soils than Fraser fir, and is more resistant to spring frost injury than either Fraser or balsam fir. While Canaan fir will tolerate soils with less than perfect drainage, it performs best in deep, well-drained loam with ample moisture. Its use as a windbreak tree is still being evaluated. In western Iowa, 10-year-old trees continue to perform well after periods of drought, flooding, cold winter winds, and temperatures down to -38°F



Twenty-year old Canaan fir in the PMC off-center tree evaluation planting at Becker, MN

Special Plantings

Limited amounts of other seed or plants may be available for demonstrations, education and research. PMC staff may also consider assistance with planting or inter-seeding small plots with the no-till plot drill shown below. The special planting requests will be considered on an individual basis and will be dependent on availability and timing. Please forward requests to the state PM contact.



Foundation Seed

Foundation seed is available to anyone interested in producing conservation grass and forb seed.

Currently Available Foundation Seed for Certified Seed Production

VARIETY	COMON NAME
Native - Grasses	
Badlands ecotype	little bluestem
Bison	big bluestem
Bonilla	big bluestem
Bounty germplasm	big bluestem
Dacotah	Switchgrass
Forestburg	Switchgrass
Mandan	Canada wildrye
Pierre	sideoats grama
Red River germplasm	prairie cordgrass
Rodan	western wheatgrass
Tomahawk	Indiangrass
Introduced - Grasses	
Mankota	Russian wildrye
Manifest	intermediate wheatgrass
Manska	pubescent/intermediate wheatgrass

For more information on special plantings, foundation seed, or any questions about field plantings, contact Wayne Markegard, Plant Materials Specialist at: wayne.markegard@usda.nrcs.gov or the Plant Materials Center at 701-989-6122.