

Plant Materials Program Offerings for 2020

Various plant materials are available in 2020 (table below) from the Bismarck Plant Materials Center (PMC) for off center field testing. These plants are available to any NRCS, Conservation District or Tribal cooperators or partners. The purpose of field plantings is to assess the conservation potential of plant species or new plant technology under actual field conditions. Information from field plantings is used to support plant releases, provide guidance for Field Office Technical Guides, and for educational demonstrations.

Name	Species	Type	Material	Maximum Amount/Site
Gray birch	Betula populifolia	Tree	bareroot	25
Canaan fir	Abies balsamea var.phanerolepis	Tree	7-in ³ plugs	25
Northern white cedar (arborvitae)	Thuja occidentalis	Trees	container plugs	25
Cupplant	Silphium perfoliatum	Forb	Seed	½ PLS lb
Sweetgrass	Hierochloe odorata	Grass	Plants	10
White sage	Artemesia ludoviciana	Forb	Plants	10

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 cupplant) are completed. (No evaluation required for sweetgrass or white sage)

Species details are listed on pages that follow. 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 an NRCS-ECS-9 form and send it to your state contact listed below. Sweetgrass and white sage requests should be submitted on the Special Plantings request form. Electronic copies of forms are attached to this email. Requests will be reviewed 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 December 20, 2019)	North Dakota (before November 22, 2019)	South Dakota (before December 20, 2019)
Carissa Spencer USDA, NRCS 375 Jackson Street, Suite 600 St. Paul, MN 55101 carissa.spencer@usda.gov	Wayne Markegard USDA, NRCS, PMC 3308 University Drive Bismarck, ND 58504 wayne.markegard@usda.gov	Emily Helms USDA, NRCS 200 Fourth Street SW Huron, SD 57350-2431 emily.helms@usda.gov

Gray birch (*Betula populifolia*) 9082667

Description: Gray birch is a moderate sized tree that can grow up to 30 feet tall, forming either single or multiple trunks (usually the latter) that are up to 1 foot across. It is a relatively fast-growing (2-5 feet 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 the northeastern United States 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*) 9094456

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 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

Northern white cedar (*Thuja occidentalis*) 9094452

Description: Northern white cedar (arborvitae) is a small to medium upright coniferous evergreen with roots growing from the base of the stout trunk for support. It initially has a narrow, columnar crown and becomes more broadly pyramidal in branch habit as it matures. Northern white cedar has gray-colored shredding bark and fine textured, scale like needles. In this region it grows 15 to 40 feet tall with a crown spread of 10 to 20 feet. Northern white cedar has been known to exhibit winterburn in the Northern Great Plains. Winterburn will be an important consideration when evaluating this selection.

Suggested Sites: Northern white cedar is native to Minnesota. It is hardy to zone 3. It prefers deep, moist loam in well-drained soils but will tolerate sandy soils with high water table. It prefers soil pH of 6.0 to 8.0 but will not tolerate saline soils. Northern white cedar should do well in Windbreak Suitability Groups 1, 1K, 3, 4, and 4C. It is commonly used in farmstead windbreaks and rural and urban landscapes. It provides good cover, nesting and food for wildlife. It can also be harvested for wood products including fence posts and furniture. In urban and recreational settings, there are cultivated varieties of northern white cedar available in assorted shapes and sizes.



Northern white cedar 9094452 growing near Bismarck, North Dakota exhibits no winterburn.

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. The plant is short and does not flower the year of seeding. 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. The PMC will provide seed and will assist in evaluation.

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

Seeding Season: Late Spring or 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

Sweetgrass (*Hierochloa 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 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.

White Sage (*Artemisia ludoviciana*) 9094455

Purpose: Culturally Significant (CUSI)

Maximum Plants/Site: 10 plants

MLRA preferred: statewide (ND, SD, MN)

Description: White sage is an herbaceous, silver-white, fuzzy, rhizomatous forb with 10 to 30 inch leafy stems branching upward. Numerous tiny, gray flower heads are produced in August to September. Growth form is quite variable depending on site and climatic conditions. It is drought tolerant and likes sandy soil but persists on a variety of sites. "Man sage" as it is called by the Cheyenne, is an important ceremonial plant and was used medicinally for various ailments by Native Americans. It has a strong sage aroma.

Planting Method: Plants should be spaced 1 to 3 feet apart on a prepared garden-like site, and hand watered until established. White sage spreads aggressively from rhizomes beginning the second year if weeds are controlled. 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.

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, preferably Certified seed. Please contact the Bismarck Plant Materials Center for details.

For more information on special plantings, foundation seed, or any questions about field plantings, contact Wayne Markegard, Plant Materials Specialist wayne.markegard@usda.gov phone: 701-989-6122 or the Plant Materials Center at 701-250-4330.