

## Evaluation Sites Needed for Virginia Wildrye

**Request:** The Bismarck Plant Materials Center is looking for conservation field trial sites to evaluate Virginia wildrye. The PMC is currently increasing seed of a northern source selection of Virginia wildrye (*Elymus virginicus*) for potential release. There are currently no northern releases available. The field trials in off-center locations will help us further evaluate this PMC selection under different environmental conditions within our service area.



Virginia wildrye

### Site preferences:

- ◆ One or two sites in each state, if possible.
- ◆ Approximately 1 acre of land. It could be a plot on the edge of a planned producer seeding, or an available site on district, tribal, or county property.
- ◆ All soils will be considered. Virginia wildrye is naturally found on moist, highly fertile, and heavier texture soils.
- ◆ Sites with a good history of weed control.

### Seedbed:

- ◆ Clean, weed-free, firm seedbed for conventional/grass drills.
- ◆ Weed-free stubble or chemically killed sod for no-till drills.

### Responsibilities:

- ◆ Conservation District/Tribe will:
  1. Submit the [NRCS-ECS-9](#) (Plan for Field, Special and Increase Plantings) request for a Conservation Field Trial.
  2. Provide oversight and assistance to establish and maintain the monoculture plot.
  3. Assist with annual plot evaluation for 5 years.
- ◆ PMC will provide:
  1. Seed for the plots.
  2. No-till seeding equipment (only if needed and if logistics and timing can be coordinated).
  3. Technical assistance for establishment, maintenance, and evaluation.



Virginia wildrye seed head

**Description:** Virginia wildrye is a native, cool-season, perennial bunchgrass that establishes quickly. It is a vigorous and productive perennial forage plant adapted to the Dakotas and Minnesota. It is commonly found in moist

sites such as wet prairies, margins of wetlands, ditches, and riparian areas. It is shade tolerant and also found scattered on shaded banks, along fencerows and open woodlands.

**Conservation uses** include pasture and hay land plantings, wildlife habitat, riparian plantings, and conservation cover. As a forage crop, it is most palatable and nutritious in spring and also in the fall (while still green), and is readily consumed by all classes of livestock. It can be used as a cool-season grass component in range restorations, as well as pasture grass for shaded, wooded, or riparian areas. Virginia wildrye can produce as much as 3,300 lbs of dry weight forage per dryland acre.

**Establishment:** The full seeding rate for Virginia

wildrye is 13.5-15 PLS lbs/ ac. For critical area, dense coverage, or broadcast seeding, the rate should be adjusted to 1.5-2 times the full rate. When used in seed mixes, it should not make up more than 10% of the mix. Stands are best established and maintained if they are not planted next to areas with a large concentration of aggressive warm-season grasses. It is not recommended as a sole species for a long term stand, as productivity tends to decline over time.



Virginia wildrye seed

If your district or tribal office would like to participate in a conservation field trial planting, please contact Plant Materials Specialist, Wayne Markegard at [wayne.markegard@nd.usda.gov](mailto:wayne.markegard@nd.usda.gov) or your state plant materials coordinator.

Additional species information is available from the Plant Guide at [http://plants.usda.gov/plantguide/pdf/pg\\_elvi3.pdf](http://plants.usda.gov/plantguide/pdf/pg_elvi3.pdf)

Wayne Markegard, Plant Materials Specialist

### Field Planting Material Available

The Bismarck PMC has 500 of each of the following conifers available for field plantings this spring: **Meyer's spruce**, **Mongolian Scotch pine**, and **lodgepole pine**. Information regarding each species can be found on the following page. Interested field office staff should complete the [NRCS-ECS-9](#) (Plan for Field, Special and Increase Plantings) and forward it to their area/state plant materials representative. Plant materials requests will be reviewed at state plant materials meetings; December 4th (ND), December 11th (MN), and date yet to be determined in South Dakota. Twenty-five plants of the desired species can be provided for each interested landowner through the requesting field office. If you have questions about the species, contact Craig Stange at (701) 250-4330 or [craig.stange@nd.usda.gov](mailto:craig.stange@nd.usda.gov).

Craig Stange, Forester

# Plant Materials Available for North Dakota, South Dakota, and Minnesota – 2014

## I. Field Plantings

### Purpose:

- To assess the conservation potential of plant materials and plant technologies under a variety of soil, climatic, and land uses. Field plantings are conducted on a producer's land.
- To provide technical information for use in tech guides, publications, etc.

### Field Office Responsibilities:

- Provide assistance with seed/plants establishment.
- Provide annual evaluation and data collection for 3-5 years (depending on species); evaluation forms will be provided annually.

### Requests for plant materials for Field Plantings:

- Field offices submit a completed [NRCS-ECS-9](#) form "Plan for Field Plantings" to their PM contact person or the PM Specialist.
- Requests will be presented to the State Plant Materials Committee for approval.
- Plants/seed will be distributed to cooperating field offices prior to spring planting

### **Mongolian Scots Pine 9094403**

**Purpose:** Windbreak, Multi-row (WBMR); Wildlife (WLDF)

**Sites Needed:** 5 sites per state (MN, ND, SD)

**Plants/Site:** 25 plants

**MLRA preferred:** statewide (ND, SD, MN)

**Description:** 9094403 (*Pinus sylvestris* var. *mongolica*) is a composite of five accessions. Commonly available Scots pine comes primarily from European and Eurasian seed sources. It has become naturalized throughout much of the upper Midwest. Mongolian Scots pine, tested at Off Center Evaluation Planting sites, has performed well over the past 14 years. Seed for the original trees planted in America came from selected stock that had completed a portion of a tree improvement program in China. Five accessions were planted at multiple locations in Minnesota, South Dakota, and North Dakota. It exhibits higher vigor ratings and shows more disease and insect resistance than commonly available Scots pines. It would be interesting to determine its resistance to the pine wilt that has affected many parts of the Midwest. Mongolian pine grows 30-50% faster than Ponderosa pine. In the juvenile stage, it is subject to winter yellowing similar to the Eurasian sources of Scots pine.

### **Meyer's Spruce 9094356**

**Purpose:** Windbreak, Multi-row (WBMR); Wildlife (WLDF)

**Sites Needed:** 5 sites per state (MN, ND, SD)

**Plants/Site:** 25 plants

**MLRA preferred:** statewide (ND, SD, MN)

**Description:** 9094356 (*Picea meyeri*) is introduced from northern China and Inner Mongolia (a grassland region of P.R. of China). Size and coloration is similar to Colorado Spruce, but is more drought tolerant than Colorado Spruce. This accession appears to have less insect/disease problems than Colorado Spruce. It has slower growth in early years, but once established, growth rate is similar to Colorado Spruce.

### **Lodgepole Pine 9094433**

**Purpose:** Windbreak, Multi-row (WBMR); Wildlife (WLDF)

**Sites Needed:** 5 sites per state (MN, ND, SD)

**Plants/Site:** 25 plants

**MLRA preferred:** statewide (ND, SD, MN)

**Description:** 9094433 (*Pinus contorta* var. *latifolia*) is a tall straight-trunked, narrow-crowned pine, native to the Rocky Mountain and Cascade-Sierra ranges. It prefers reasonably moist, well drained fertile soils, but has proven to be drought tolerant once it is established. It grows well in soil pH 5.0 to 7.5. Windbreak Suitability Group - 1, 3, 4, 5. Whether it is tolerant to higher pH soils (up to pH 8.2) needs to be investigated. Lodgepole pine is used as a food source by a variety of birds, squirrels, and porcupine. This is a composite of five seed sources that scored well in tests at the Agricultural Research Station in Mandan for the past 30 years and at two North Dakota field locations for the past 7 years. In PMC trials, it exhibited darker green foliage than did Ponderosa pine or Scotch pine. Early growth rates and foliage density were similar to Ponderosa pine.

## **II. Special Plantings**

Limited amounts of seeds and/or plants will be made available for special purposes such as demonstration, promotion, and research. Specific information is shown for sweetgrass and 'McKenzie' black chokeberry below. No data collection is required. Requests can be submitted by completing a Tribal or Special Plantings request form available on SharePoint or from the Plant Materials Specialist. Requests will be considered during the State Plant Materials Committee meeting.

### **Sweetgrass 9063128**

**Purpose:** Culturally Significant (CUSI)

**Plants Available:** per Committee recommendation

**Maximum Plants/Site:** 10 plants

**MLRA preferred:** statewide (ND, SD, MN)

**Description:** Sweetgrass (*Hierochloa odorata*) 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 sweetgrass's 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, ND. 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. Cooperators are limited to 10 plants each. Plants will be shipped in small pots approximately 2 ½ inches square and 3 inches deep.

### **Black chokeberry 'McKenzie'**

**Purpose:** Culturally Significant (CUSI)

**Plants Available:** per Committee recommendation

**Maximum Plants/Site:** 10 plants

**MLRA preferred:** statewide (ND, SD, MN)

**Description:** 'McKenzie' black chokeberry (*Photinia melanocarpa*) is also known as *Aronia melanocarpa* and is commonly called Aroniaberry in the nursery trade. The plant material used to develop McKenzie was made available by the USDA-ARS Plant Introduction Station at Ames, IA. It has been planted at various arboretums since 1976, and has performed well in this region. 'McKenzie' is a medium-sized shrub which

typically grows to a height of 5-10 feet. It performs best on well-drained to moderately well-drained sites with combinations of silty or loamy textured soils. The minimum precipitation required is approximately 16 inches. The optimum spacing between plants is 4 to 6 feet. Plants grown for fruit production may benefit from 10-foot spacing which gives more room and light to each plant. Black chokeberry is attractive in landscape plantings, with showy white flowers in the spring, and in the fall leaves turn a reddish-orange and the dark purple fruit hangs in clusters. The berries can be canned whole, or juice extracted for jelly making or healthful fruit drinks. The juice contains high levels of anthocyanins (source of red color) and flavonoids.

### III. Foundation Seed for Certified Seed Production

VARIETY	COMMON NAME
<b>Native - Grasses</b>	
Badlands ecotype	little bluestem
Itasca germplasm	little bluestem
Bad River ecotype	blue grama
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
Lodorm	green needlegrass
<b>Native - Forbs/Legumes</b>	
Bismarck germplasm	purple prairieclover
Bismarck germplasm	stiff sunflower
Medicine Creek germplasm	Maximilian sunflower
Bismarck germplasm	narrow-leaved purple coneflower
<b>Introduced - Grasses</b>	
Mankota	Russian wildrye
Manifest	intermediate wheatgrass
Manska	pubescent/intermediate wheatgrass
Reliant	pubescent/intermediate wheatgrass
Nordan	crested wheatgrass

- All foundation seed is sold through the NDSU Foundation Seedstocks Program and payment must be received before the seed is shipped. Price adjustments are made in January of each year.
- NRCS-ECS-9 forms are not required for foundation seed requests. Seed growers or field office personnel should contact the Plant Materials Specialist directly.