



**2008 Report**  
**Off-center Evaluation of Woody Plant Materials**  
**Bottineau, North Dakota**

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## **INTRODUCTION**

The Bismarck Plant Materials Center (PMC) was established in 1954 as part of the Soil Conservation Service, now Natural Resources Conservation Service (NRCS). A principal task of the PMC has always been tree improvement. There is a need to evaluate performance of many tree and shrub species in various conservation plantings, under diverse soils and climate conditions. The PMC is currently testing woody plants at six locations in Minnesota, North Dakota and South Dakota. The City of Bottineau is the northernmost site. The PMC first started evaluating trees and shrubs at Bottineau in 1974, in cooperation with the North Dakota State Forest Service. The soils and climate at Bottineau have had a strong effect on survival. The care and attention that the test site has received over the years is the main reason for its continuation and success.

In 1999, a cooperative agreement was signed with the Turtle Mountain Soil Conservation District and the Bottineau City Park Board. All cooperators have contributed to the maintenance of the site. The current Memorandum of Understanding expires on July 19, 2009.

This summary does not contain the complete list of woody plants being evaluated. A separate report containing all data can be found at the NRCS Area Office at Devils Lake, or the Bismarck Plant Materials Center. Contact Mike Knudson at the PMC for additional species information.

## **RECENT ACTIVITIES**

Five plants of pin cherry (accession 9091967) and one replant of American cranberry (accession 9082747) from Sandy Lake were planted on May 13, 2008. At present, there is limited room for new entries. In 2007, an extra row was created, as there was wide spacing between some of the rows in Block III. At that time, a number of entries were removed. These plants were either completely dead or doing very poorly. In 2008, the site was cultivated to control volunteer trees and other weeds in the removed rows. Chokecherry, boxelder, and Amur maple seedlings have invaded a lot of the existing rows. More plants need to be removed. The juneberry accessions in Block III, row 4, and the 'Bighorn' skunkbush sumac and ND-629 Amur maple in row 5 should be removed. The original plants of the sumac and the juneberries are mostly dead.

Some of the tall tree species, especially the green ash have grown well. There are a number of shrub species which show great promise. These shrubs can be colorful,

attractive to wildlife, as well as great snow barriers. The fruit-bearing shrubs, both native and introduced, attract pollinators during flowering. Some accessions that are doing well at this location are:

**9057409 American hazel**, which originates from the Turtle Mountains, has grown well at several evaluation sites in the three-state area. The nuts are great for wildlife.

**ND-170 European cotoneaster** seems more resistant to fire blight than the variety 'Centennial.' It is also somewhat shorter. Under good care, it will form a dense row.

**9047238 seaberry**, also known as sea buckthorn, has bright orange fruit that is very high in vitamin C. It is a suckering shrub and performs best on coarse-textured soils.

'**Meadowlark**' **forsythia** was released by NDSU and named in honor of our state bird, because of its bright yellow flowers, which form early in the spring. It prefers clays to loamy soils.

'**McKenzie**' **black chokeberry** produces a heavy fruit crop useful in making juices and other beverages. The fruit has a deep purple color and is high in antioxidants, which results in a very 'healthy' beverage. Leaves show nice fall color. It does best on sites with more moisture. In the Midwest, the ruffed grouse feed on the berries.

#### **PMC RELEASES**

The PMC has released 15 new selections and cultivars of woody plants since 1973. The performance at Bottineau of the plants listed below was used as support for their formal release. Releases are available from several conservation nurseries.

- 'Midwest' Manchurian crabapple (1973)
- 'Cardan' green ash (1979)
- 'Centennial' European cotoneaster (1987)
- 'McDermid' Ussurian (or Harbin) pear (1990)
- 'Regal' Russian almond (1999)
- Survivor Germplasm false indigo (2005)
- Silver Sands Germplasm sandbar willow (2005)
- 'Prairie Red' plum (2006)
- 'McKenzie' black chokeberry (2008)