

2006 Report
Off-center Evaluation of Woody Plant Materials
Bottineau, ND

Mike Knudson, Forester, USDA/NRCS
Plant Materials Center, Bismarck, ND

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 how different trees and shrubs will perform in various conservation plantings, under diverse soils and climate conditions. The PMC is currently testing woody plants at eight locations in Minnesota, North Dakota and South Dakota. The City of Bottineau is the northernmost site in our three-state area. 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. All cooperators have contributed to the maintenance of the site. 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

In 2006, signs were made for identifying each of the accessions growing at Bottineau. On October 2, 2006, the trees were measured with the help of Bottineau NRCS Field Office staff. At the present time, most of the land available for planting is being used. In order to continue the testing of new trees and shrubs, it will be necessary to remove some plants. The vigor of some of the older trees has declined considerably and should be removed. In addition to the older plants with declining vigor, there is contamination of some of the rows due to seed from surrounding shelterbelts being spread by birds and the wind. These plants should also be removed. A backhoe and chainsaw may be needed, due to the size of the stumps. Trees that are scheduled for removal include:

Imperial Carolina poplar	Block II, Row 14
370126 crack willow	Block II, Row 15
ND-3899 willow	Block II, Row 15
ND-1843 Russian olive	Block II, Row 9
ND-3890 Russian olive	Block II, Row 18
SD-131 mayday	Block III, Row 21

New accessions

2006- None

2005- **9008183 Common chokecherry** was grown from a selection from Sheridan County. **9091969 Russian peashrub** is another caragana received from Big Sioux Nursery of South Dakota.

2004- **9076686 Round-leaved hawthorn** is from an assembly of native hawthorns planted at Apple Valley, east of Bismarck. **9082885 Quaking aspen** was received from Towner State Nursery.

Some of the tall tree species have grown well. These include primarily green ash and hybrid poplars. However 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. 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, which 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 sea berry, 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.

323957 black chokeberry produces a heavy fruit crop useful in making juices. It is best when blended with other juices such as grape or apple. Leaves show nice fall color. It does best on sites with more moisture.

PMC Releases

Since 1973, the PMC has released 14 new selections and cultivars of woody plants. The performance at Bottineau of the plants listed below was used as support for their formal release. All these releases are available from several conservation nurseries for conservation plantings. The newest variety is the 'Prairie Red' plum, which was released this year. This tasty plum is available in limited quantities from conservation nurseries for the spring of 2007.

'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)