

Native Shrubs for Con

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Introduction

The restoration of native habitats and the recent Conservation Reserve Program (CRP) enrollment may include the use of woody plant materials as part of the revegetation or restoration effort. Shrubs are a minor, but still important component of the prairies. Shrubs occur naturally on the borders of wooded areas and may extend far into the grasslands along draws and in landscape depressions. A few of the native shrubs are available from conservation nurseries. The Bismarck Plant Materials Center (PMC) has released one native shrub cultivar. The development of additional native shrub varieties continues at the PMC. Selections of sandbar willow and false indigo are in final evaluation for use in streambank and lakeshore stabilization and wildlife plantings. The direct seeding of shrub seed with a no-till drill is being considered as an option. There is a need to provide conservationists with a greater choice of shrub species for use in prairie restoration projects, as well as other grassland plantings.



Rose (*Rosa arkansana*) occurs on mid to high prairie sites. The rose (60,000 seeds/lb) was planted at 4.5 lbs/acre. Seedlings of rose were only found on the fall-seeded plot. Some plants are 6 inches in height.



Snowberry (*Symphoricarpos occidentalis*) forms dense patches in low places on the prairie and in coulees. The snowberry (65,000 seeds/lb) was planted at 4 lbs/acre. Scattered seedlings of this plant were found on both the fall-seeded and spring-seeded plots, though a greater number of seedlings were found on the spring-seeded sites. Plants are very short yet.



Buffaloberry (*Shepherdia gentea*) occurs most common in western North Dakota along streams, coulees and hillsides, often forming thickets. The Bismarck PMC released 'Sakakawea' silver buffaloberry in 1983. Buffaloberry (40,000 seeds/lb) was planted at 4 lbs/acre each season. Seedlings were found only on the fall-seeded sites. Tallest plants are 1 foot in height.

Direct Seeding Trial 1999-2002

Seed of five native shrubs was drilled with a no-till drill into plots in a grassland site in cen-



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Shepherdia arbutifolia is most commonly in North Dakota along roadsides and hillsides, and in riparian areas. The Bismarck-based researchers are working with researchers at North Dakota State University at Fargo to develop a disease resistant variety. Chokecherry (5,000 seeds/lb) was planted at 26 lbs/acre each season. Seedlings were found only on the spring-seeded plots. Plants are very short.

Chokecherry (*Prunus virginiana*) naturally occurs as an understory species in woodlands and in coulees. The PMC is working with researchers at North Dakota State University at Fargo to develop a disease resistant variety. Chokecherry (5,000 seeds/lb) was planted at 26 lbs/acre each season. Seedlings were found only on the spring-seeded plots. Plants are very short.

Leadplant (*Amorpha canescens*) is a shrubby, perennial legume that may take the appearance of a large forb when mowed annually or grazed heavily. It is commonly associated with little bluestem and big bluestem. The leadplant (200,000 seeds/lb) was planted at 1.3 lbs/acre. Seedlings of this species were found on both the spring-seeded and the fall-seeded plots. The tallest plants are 5 inches high.

Other Promising Shrubs

Hawthorn, *Crataegus*
Dogwood, *Cornus*
Fourwing saltbush, *Atriplex*
Plum, *Prunus*
Western sandcherry, *Prunus*
Currant, *Ribes*
Skunkbush sumac, *Rhus*
Nannyberry, *Viburnum*

Seed of five native shrubs was drilled with a no-till drill into plots in a grassland site in central North Dakota in October 1999 and May 2000. The seeding rate was 3-6 seeds per square foot. These sites had been sprayed with glyphosate in May 1999. Five pounds of grass seed was included with the fall-seeded mix. No grass seed was included in the spring-seeded plantings.



No-till seeding of five native shrubs



Leadplant seedling



Chokecherry seedling



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Nannyberry, *Viburnum*

Future Directions

Much of this region has had above average precipitation since 1993. Tree planters have become more optimistic about survival. In the period of the 1920s and 1930s, John Weaver kept track of the advance and retreat of woody plants in a prairie setting in the central plains. He noticed that woody plants encroached upon grasslands in the wetter years. After a series of dry years, the woody plants disappeared from a lot of grasslands. Weaver states that “it appears fairly certain that there can be no final victory for either; there can be only periods of varying duration in which prairie or forest holds the ground won by the favor of the changing climatic cycle.”



seedling