

Windbreak Planting, McCone County, Montana

Kevin Hodge, NRCS Soil Conservationist and Diane Black, District Administrator, Circle, MT

June 2019

Objective: Windbreak planting
County: McCone, MT
Average Annual Precipitation: 12 - 15 inches
MLRA: 58A, Northern Rolling Plains, Northern Part
Dominant Soil Type: Cambert loam & Alona silt loam
Elevation: 2493 ft
Planting Date: Spring 2004
Planting Method: Conservation District’s tree planter
Previous Site History: Crested wheatgrass pasture
Irrigation: None
Grazing: Wildlife browse from deer
Monitoring Dates: 2004, Oct 2005, and June 2019



Fig. 1. Caragana (left) and Rocky Mountain juniper (right) 15 years after planting.

Table 1. Windbreak species planted, spring 2004.

Common Name	Scientific Name	Origin	Material	Row Spacing (feet)	Number Planted
Ponderosa Pine	<i>Pinus ponderosa</i>	Native	bareroot	12	160
Rocky Mountain Juniper	<i>Juniperus scopulorum</i>	Native	bareroot	9	120
Green Ash	<i>Fraxinus pennsylvanica</i>	Native	bareroot	10	100
Caragana	<i>Caragana arborescens</i>	Introduced	bareroot	6	150

Introduction:

The objective of this project was to test ponderosa pine, Rocky Mountain juniper, green ash, and caragana for windbreak plantings in eastern Montana (Table 1). These species have the potential to provide protection from wind and soil erosion and are also suited for field borders, living snow fences, wildlife habitat improvements, visual screens, and more.

An important part of establishing a windbreak is protecting the seedlings from existing competitive vegetation. Heavy competition from grass and weed cover will choke out the planting. Sites should be prepared to reduce vegetation competition by either mowing, disking/light tillage, applying a glyphosate treatment, or use these in combination. Use a tree planter in the early spring when bareroot stock is dormant. Following planting, continue to reduce competitive vegetation using between row cultivation or mowing, installing a six-foot-wide weed fabric when planting, or using chemical weed control.

Results:

Fifteen years after planting, Rocky Mountain juniper and caragana were the best performers in this test project. Juniper survival was 79% and caragana survival was 76% (Table 2). Junipers averaged ten feet tall by ten feet wide and had dense branching that provides excellent wind protection. Similarly, caragana was 10 feet wide by 13 feet tall and the six-foot spacing when planting resulted in a dense windrow for wind protection. Rows of juniper and caragana were being used by deer and upland birds.



