

PLANTING WINDBREAKS AND SNOW FENCES

Windbreaks and living snow fences are linear plantings of single or multiple rows of trees or shrubs for the purpose of wind reduction. Proper planning of windbreaks and living snow fences is essential for successful results.

If you live and farm in a rural area where the wind regularly whips across your exposed land, planting a windbreak or multiple windbreaks is essential to mitigating the force of the wind. Windbreaks help reduce winter heating costs and potential damage to your home, outbuildings, cropland, and livestock. Well-designed windbreaks also serve to prevent snow from blowing and drifting on your property, thus allowing uniform distribution to effectively insulate winter crops.

Why Plant a Windbreak

Winter wind and blowing snow can cause discomfort, damage, and create additional expenses on the farm. Even in summer, constant drying winds can strip away topsoil and impede or slow plant growth. A windbreak not only provides a buffer from the wind, but it can add shade, esthetic appeal to your property, and serve as a haven for wildlife. Additional benefits include insulation from noise and unpleasant smells emanating from neighboring properties. And, of course, a windbreak also provides privacy.

How Windbreaks Work

Windbreaks are barriers that serve to reduce or redirect wind—in this case, away from your farm. They can be naturally occurring landscape or topographical features, or they can be man-made. The most effective man-made windbreaks consist of trees and shrubs densely planted in multiple, carefully spaced rows.

As the wind blows against a properly designed windbreak, the windbreak forces most of the wind up and over its top, dispersing it away from the leeward side where your home and/or fields are located. The height and the length of the windbreak determines the extent of the total protected area.

The effectiveness of the windbreak is also largely determined by the density of the windbreak. Multiple rows of shrubs and trees planted relatively close together provide a solid barrier to the wind. Windbreaks work best when they are a continuous row with no gaps. Property access points, like lanes or roadways, should be located at the end or away from the windbreak.

What Are Living Snow Fences?

- Living snow fences are designed plantings of trees and/or shrubs and natives grasses located along roads or ditches.
- These plantings create a vegetative barrier that traps and controls blowing and drifting snow.
- Living snow fences can be a low-cost solution to effectively prevent snowdrifts, improve visibility, and reduce slush and ice accumulations.
- These fences can reduce the effort spent on snow management.

NATIVE PLANTS FOR WINDBREAKS & SNOW FENCES

Medium Evergreens

Austrian Pine (*Pinus nigra*)

- Height: 40-60' / Spread: 20-35'

Colorado Spruce (*Picea pungens*)

- Height: 50-60' / Spread: 25'

Rocky Mt. Juniper (*Juniperus scopulorum*)

- Height: 20-30' / Spread: 15'

Scotch Pine (*Pinus sylvestris*)

- Height: 50-60' / Spread: 30-40'

Tall Evergreens

Douglas Fir (*Pseudotsuga menziesii*)

- Height: 60-80' / Spread: 20'+

Grand Fir (*Abies grandis*)

- Height: 100'+ / Spread: 40'+

Ponderosa Pine (*Pinus ponderosa*)

- Height: 80'+ / Spread: 25-30'

Western Red Cedar (*Thuja plicata*)

- Height: 80'+ / Spread: 20-30'

NATIVE PLANTS FOR WINDBREAKS & SNOW FENCES

Tall Deciduous

Black Cottonwood (*Populus trichocarpa*)

- Height: 60-80' / Spread: 20'

Paper Birch (*Betula papyrifera*)

- Height: 60-80' / Spread: 30'

Quaking Aspen (*Populus tremuloides*)

- Height: 40-60' / Spread: 15'

Red Alder (*Alnus rubra*)

- Height: 40-60' / Spread: 30-40'

Rocky Mt. Maple (*Acer glabrum*)

- Height: 30-40' / Spread: 15-20'

Sugar Maple (*Acer saccharum*)

- Height: 60-80' / Spread: 35-40'

Medium Shrubs

Black Hawthorn (*Crataegus douglasii*)

- Height: 12-15' / Spread: 12'

Blue Elderberry (*Sambucus careulea*)

- Height: 15-20' / Spread: 12'

Red Osier Dogwood (*Cornus stolonifera*)

- Height: 20' / Spread: 20'

Serviceberry (*Amelanchier alnifolia*)

- Height: 6-15' / Spread: 12'

Water Birch (*Betula occidentalis*)

- Height: 20' / Spread: 10-15'

Vine Maple (*Acer circinatum*)

- Height: 10-30' / Spread: 15-20'

Dense Shrubs

Golden Currant (*Ribes aureum*)

- Height: 4-6' / Spread: 4-6'

Mock Orange (*Philadelphus lewisii*)

- Height: 6-12' / Spread: 6-8'

Rugosa Rose (*Rosa rugosa*)

- Height: 8' / Spread: 8'

Russet Buffaloberry (*Shepherdia canadensis*)

- Height: 4-6' / Spread: 4-6'

Silver Buffaloberry (*Shepherdia argentea*)

- Height: 3-4' / Spread: 3-4'

Snowberry (*Symphoricarpos albus*)

- Height: 3-8' / Spread: 3-8'

Woods Rose (*Rosa woodsii*)

- Height: 6-8' / Spread: 6-8'



TEN STEPS TO ENSURE SUCCESS

1. Determine planting objectives. The objective may be as simple as the control of blowing and drifting snow or more complex with multiple objectives such as providing livestock protection or wildlife habitat, enhancing the beauty of the landscape or water harvest and storage.
2. Take an inventory of all site factors, including: Annual precipitation and anticipated snow volume to be stored, topography, aspect and distance from area to be protected, soil type - fertility, depth, wetness, texture, salinity and pH, current and potential land uses, land ownership, easements, location of utilities and other restrictions, troublesome wind direction
3. Determine the planting stock needed by species and number.
4. Decide what site preparation work is needed.
5. Determine the fertilizer needs. Most windbreaks and living snow fences do not need to be fertilized unless a nutrient deficiency shows in the growth and foliage of the trees and shrubs.
6. Determine the type of supplemental water needed to ensure plant establishment and survival. An irrigation system or other types of supplemental water should be considered in areas with less than 20 inches of annual precipitation or on sites that may benefit from additional water. In some cases use of fabric weed barriers may provide necessary moisture conservation, precluding the need for supplemental water.
7. Determine the fencing or plant guards needed to protect young plants from grazing livestock or wildlife.
8. Decide what kind of weed control will be used. Annual weeds and grasses compete with newly planted trees. Using cultivation, chemical weed control, fabric weed barriers or mulching significantly increases plant survival and growth rates.
9. Include proper maintenance: frequent inspections of irrigation systems and fences allow speedy repairs when needed, regular inspection of plants to spot weed and pest problems allows quick remedial action, prompt replacement of any dead plants eliminates gaps in the living snow fence, and corrective pruning of storm damage reduces future plant problems.
10. Make a plan that includes a listing of the decisions made, the date actions will need to take place and who will carry out each action.