



UI Extension Forestry Information Series II

Alternative Forest Enterprises No. 7

Living Snow Fences

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Ahhhh, winter. Sleigh bells and sledding, hot chocolate to warm chilly fingers and toes. Crisp days, cold nights and...snow. Snow, and especially drifting snow, causes a multitude of problems, one of the most frustrating and dangerous being blocked driveways and closed roads. The proper installation of a snow fence, whether it is a living snow fence or a structural barrier, can provide protection from drifting and blowing snow and leave your roads and driveways clear.

There are many types of snow fences to consider and each has its advantages. Structural snow fences are usually made from wood or plastic and are often used in situations where a temporary fence is needed or where soils are too shallow to support plant growth and survival. The main benefits of structural wind barriers are that they provide immediate protection, require little space, and can be temporary. A fence of boards, steel slats, or even baled straw can provide some snowbreak benefits (Figure 1).



Figure 1. Structured barrier used to trap snow.

Living snow fences are dense plantings of shrubs and trees designed to confine snow to limited areas. Living snow fences planted along roads and driveways provide economic advantages over slat-fence barriers and provide additional benefits to landowners. These natural fences have a greater snow storage capacity than structural fencing, and once established, last longer, are easier to maintain, and provide protection for livestock and crops, provide erosion control, wildlife habitat, and are aesthetically pleasing.

Design and placement.

Protection on the leeward side of your windbreaks, whether they are structural or living, is three to ten times the height of the barrier, so the shorter the barrier, the more narrow the protection zone. Time should be taken to choose the right design for your particular situation. Table 1 on page 2 provides information on the most common living snow fence designs.

Once you choose the design, **placing the structure properly is the most important aspect of a successful snow fence.** The use of a temporary structure to determine if your planned living snow fence is in the right location is one I think is worth pursuing. There are too many stories about folks spending a lot of time and money on windbreak or living snow fence establishment only to find that they put the planting in the wrong place and made their situation worse instead of better.

Table 1. Design Planting Guide for Living Snow Fences.

Design	Recommended combinations. Each combination starts with the windward side of the planting.			
	Highest protection		TO	Lowest protection
Twin row*	Medium evergreen Tall evergreen	Dense shrub Tall evergreen	Dense shrub Tall deciduous	Dense shrub Medium deciduous
Single row	Tall evergreen	Medium evergreen	Tall deciduous	Medium deciduous

*The twin-row design is recommended over a single row design if you have the space.

Plenty of room should be allowed for snow to be stored. Snow barriers should be placed at least 100' away from driveways and roads and 100' beyond the length of the driveway or road you want to protect. In the recommended twin-row design, trees and shrubs should be planted four to eight feet apart within the row with two rows staggered and planted six to eight feet apart. If using medium evergreen trees, plant them six feet apart; tall evergreen trees should be planted eight feet apart.

Snow fences should be located perpendicular to prevailing winter winds and be placed so that the area to be protected is located on the leeward side of the barrier. For example, if the prevailing winter winds come from the northwest, north, or northeast, barriers should be placed on the north side of east-west roads/driveways and on the west side of north-south roads/driveways.

Local ordinances may include restrictions for snow fence and windbreak placement, so check with your county planning and zoning department before you proceed with your project. Also call your utility providers to come out and locate electric, phone, cable, gas and sewer lines before you dig.

Establishment and Maintenance.

If you have chosen to establish a living snow fence or windbreak to provide protection from blowing snow, the selection of suitable plant materials is critical. Table 2 (on page 3) provides recommendations for plants suitable to Idaho.

Order your plant materials the fall before you want to establish your planting. Disking or harrowing, followed by rolling, the fall before establishment will provide a clean, firm planting site. Weeds should be controlled with recommended



Figure 2. Twin-row vs. single-row designs.

herbicides. Check for hardpan layers – if they are within 18” of the surface you should rip the site to at least a 24” depth in order to allow roots to penetrate.

Fabric weed barrier applied to the entire length of the planting is highly recommended. This will conserve soil moisture and help with vegetation control. Fabric should be installed right before you plant and seedlings planted through holes you cut into the fabric.

Once you receive your seedlings, keep them moist and cool. Dig a hole deep enough for all of the roots to fit in without being bent. Take care to plant the tree at the same height as it was in the nursery. As you fill the hole, press the soil firmly around the roots, leaving no air spaces. Do not stomp on the planting spot with your boot (known as the “death stomp”), as this compacts the soil. Yearly maintenance activities include controlling weeds and checking for insect and disease problems.

By planning now, you could be enjoying the many benefits of a living snow fence in as little as three to five years after planting and for many more years to come.

Resources.

For more detailed information, please contact the UI Extension Office at (208) 885-7718 for a copy of “Trees Against the Wind. Technical assistance is also available from your local NRCS office.

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Table 2. Suggested Plant Materials for Idaho (in priority order).

Dense shrubs	Medium deciduous	Tall deciduous	Tall evergreen	Medium evergreen
Siberian peashrub skunkbush sumac common lilac honeysuckle1 wild rose red-osier dogwood Nanking cherry serviceberry2	chokecherry American plum crabapple3 hackberry Arctic blue wil- low2,4 sandbar willow silver buffaloberry	green ash honey locust4 golden willow2 hybrid poplar2,5 Russian olive6 bur oak	Colorado blue spruce Austrian pine Norway spruce ponderosa pine Scots pine Douglas-fir7	Rocky Mountain juniper northern white cedar eastern redcedar

Notes: 1 Suggested varieties Amur or Freedom.; 2 Not recommended on soils with pH greater than 7.5 because of iron deficiency; 3 Suggested varieties Flowering, Manchurian, Siberian; 4 Use on leeward side only; 5 Suggested varieties Siouxland, Robusta, ID hybrid, Carolina; 6 Do not use in riparian areas and along irrigation ditches; 7 Supplemental irrigation required for best growth.