



Is anyone else ready for this kind of weather?

TREE PLANTING PLANS AND PRODUCTS

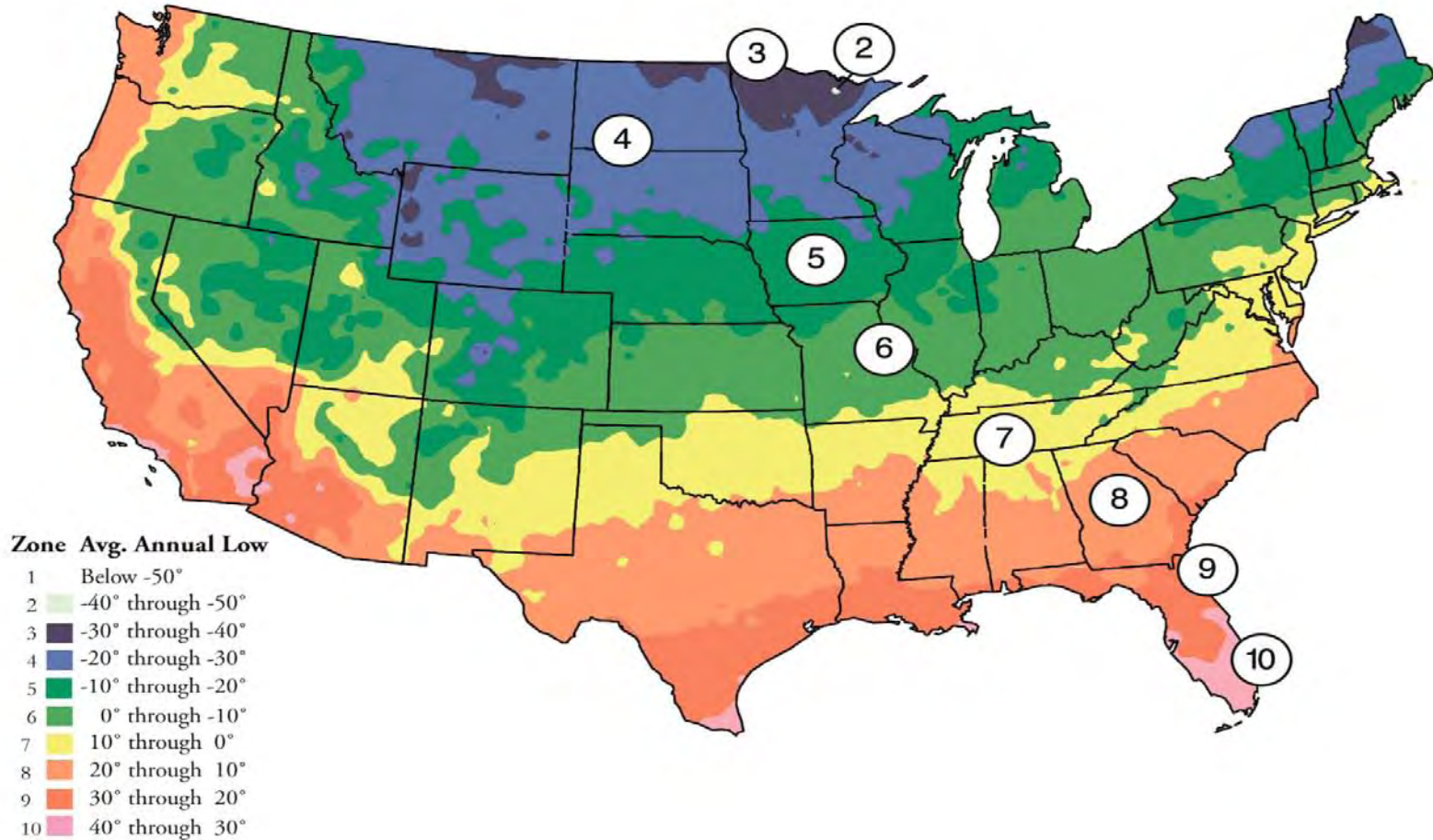
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Freeborn County SWCD

March 24, 2011

Variety Selection. . . .

- ◎ In selecting tree varieties for a particular site, there are several key factors to consider. These would include the following:
 - Intended purpose of the planting, (windbreak, wildlife habitat, shade etc.)
 - Mature size, shape and growth rate
 - Soil type on site, (texture, drainage & ph)
 - Known disease or pest problems
 - Landowner preferences
 - others

Hardiness Zones . . .



Plan Development. . .

- ◎ As in real estate sales, one of the most important considerations in tree plan development or site layout is “location, location, location”.
- ◎ Whether planning for windbreak benefits, snow management or other energy conservation benefits (shade for example) location and plant spacing are critical. How far away from a building or roadway should we locate a windbreak? How can we arrange or locate the tree and/or shrub rows to manage snow deposition without damaging the other trees in the planting or causing problems for existing buildings or roadways?

Prevention of Breakage by Snow

In areas where deep snow drifts commonly occur in windbreaks, it is generally best to place those tree and shrub species most subject to breakage in the leeward rows. Although this will minimize the breakage hazard, it will not eliminate it. The best way to control snow breakage is to plant a snow trap. A snow trap can be formed by planting one or more rows of trees or shrubs windward of the primary windbreak.^{1/} See figure 15. The planting should be

located a minimum of 50 feet windward of the most windward row of the primary windbreak. If both plantings are established at the same time, the row or rows forming the snow trap could be considered as part of the main planting. Where snow drifts are causing damage to existing plantings, temporary snow traps can be created by installing a snow fence or leaving several rows of standing corn. See figures 16 and 17.

(Snow catch
50 ft.
windward)

Figure 15

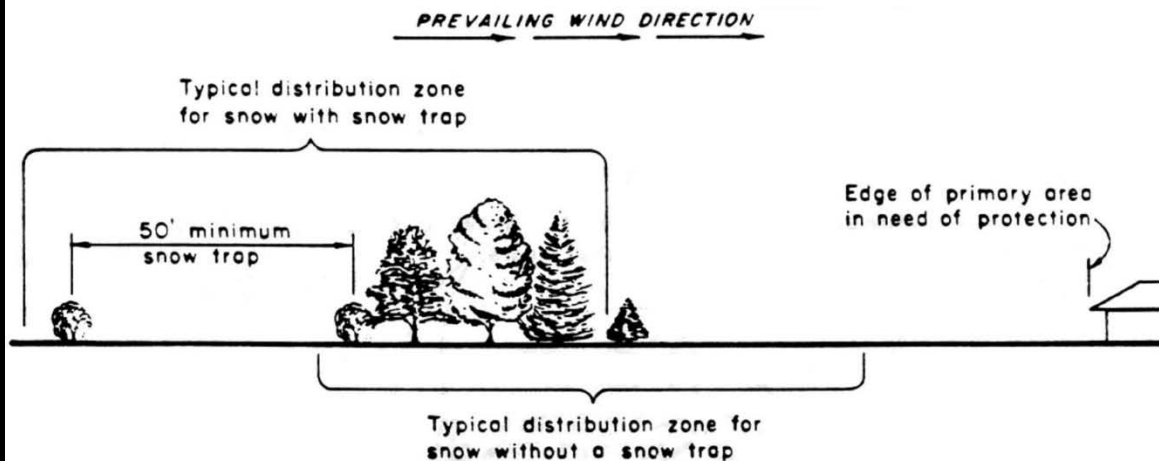


Figure 15. Snow traps significantly change the distribution of snow within and adjacent to windbreak plantings

^{1/} Perennial grass barriers could also be used.

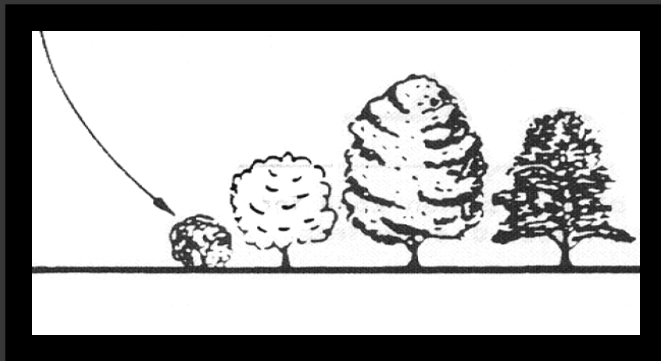
Plan development continued. . .

- ◎ If planting multiple tree rows in a windbreak, it's very important to consider mature height of the tree varieties. We would like to see a "roof effect" created as you view the planting from one end or the other. Plant the tallest trees in the center of the planting. The windbreak will then be more efficient in directing winds up and over the area you're trying to protect. It will also insure that you get optimum growth and longevity from the planting.

(Correct and incorrect row placement)

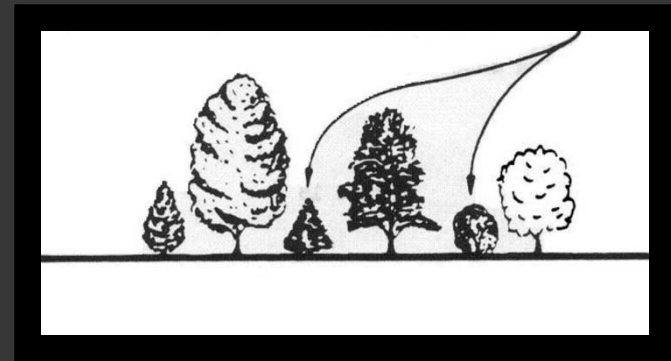
CORRECT

Slower growing and shorter species are planted in the outer rows.



INCORRECT

Slower growing and shorter species are planted between faster growing species.



Site Preparation. . .

- ◎ If you're planting a number of trees or shrubs, think about how you're going to maintain the area afterwards. This will often dictate what you need to do prior to planting. Will you be mowing the area to control weed and grass competition? Will you use a fabric or other type of mulch around the trees? If your site is unusually rough or has scattered debris on it, you may need to do site clearing and leveling prior to planting. It becomes much more difficult after the trees are planted.

Tree Care During Planting. . .

- ◎ If working with bare-root trees and/or shrubs, don't allow their roots to lay around un-protected from the sun and wind. This is especially important with evergreens. In a matter of minutes, they'll dry out to the point where they won't survive. Keep them covered and in the shade if possible.

- ◎ If you can't plant bare-root stock for several days, store them in a cool, moist location. It may help to sprinkle some water on the roots occasionally, but don't soak them in a tub for extended periods of time. You could dig a trench in a garden area or under some shade trees and "heel in" the trees until you can plant them.

This is how
it's done. . . .



Heeling-in: Spread the seedlings in a shallow trench. . .



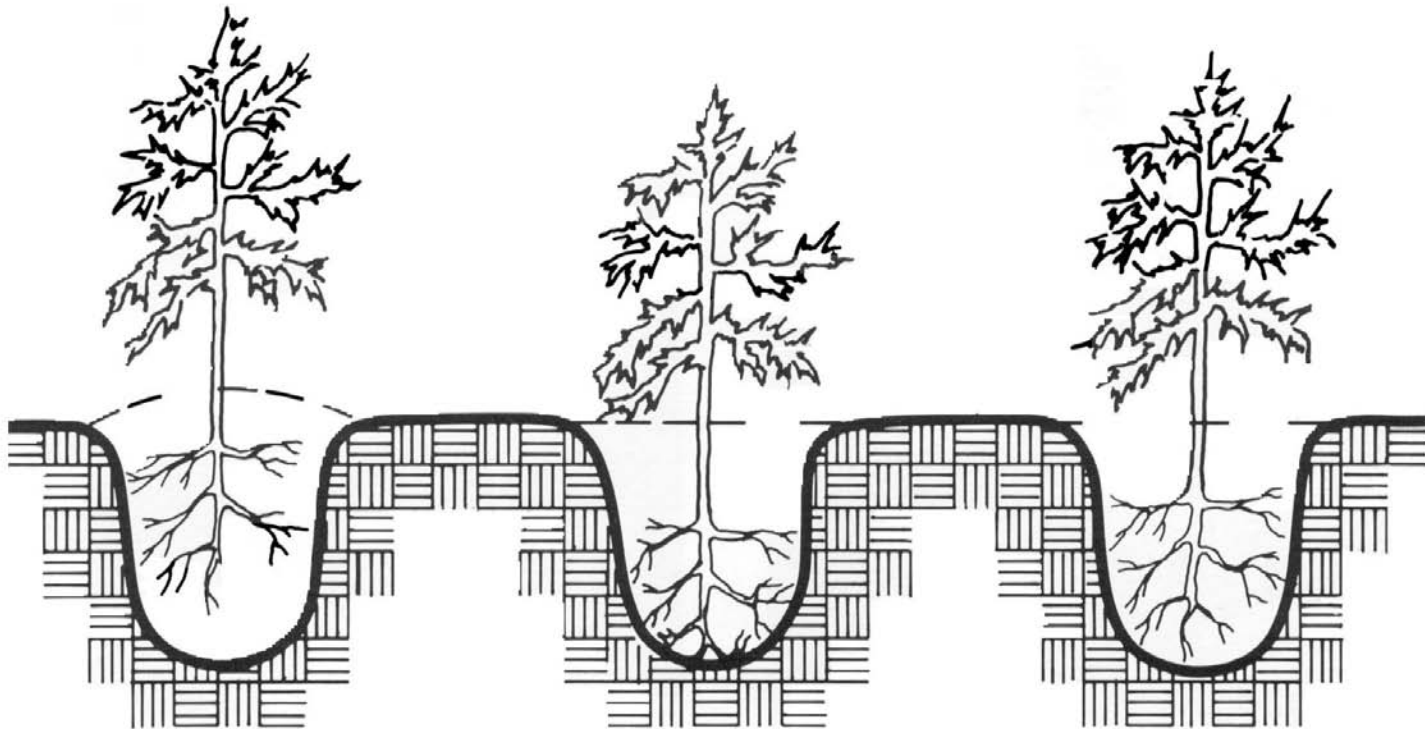
. . . and cover them with soil.

Planting Tips. . .

- ① Whether planting by hand or by machine, planting depth is very important to tree survival. You need to get it planted pretty much the same depth as it was in the nursery bed. I like to leave a shallow depression or basin effect around the tree after planting. This helps facilitate watering after planting.
- ① If planting bare-root plants, it's also important to spread out the roots in the planting hole. Don't allow them to be bunched-up or knotted-up as you start to backfill the soil. Once you have the soil in place, firmly pack it around the roots and straighten up the tree, making it as vertical as possible.

(Proper planting depth)

Proper Planting Depth



Too Shallow

Too Deep

Correct Depth

- ◎ If planting potted plants, sometimes you pull off the pot and notice the roots are wound tightly around the outside diameter of the ball of soil. I like to take my knife and make several shallow vertical slits around the ball of soil to release the root wad and force new root growth to start from these slits.

(Fabric mulch applied to a planting site)



Using plastic to hold moisture. Holes are cut for the seedlings, and sand or dirt is spread on top of plastic.

(Wood Chip Mulch applied to shrub row)



Tree Products. . .

- Fabric Mulch & Staples
3 X 3 squares or continuous roll
- Tree Shelters with Stakes
- Fertilizer Packets

COMMONLY USED TREE & SHRUB VARIETIES

Black Hills Spruce



- ◎ **BLACK HILLS SPRUCE:** Pyramidal tree that grows to 40', 20' in 20 years. Short bluish-green needles forming a very dense tree. Prefers moist-well drained porous soils and full sun. Excellent windbreak and wildlife cover.

Colorado Spruce (not recommended)



- ◎ **COLORADO SPRUCE (Blue Spruce):** Pyramidal tree that grows to 60', 20' in 20 years. Has deep green to silvery-blue needles. Prefers dry to moist gravelly soils. Has been the spruce most effected by needlecast disease recently.



Norway Spruce



- ◎ **NORWAY SPRUCE:** Pyramidal tree that grows to 75', 30' in 20 years. This is one of the fastest growing of all spruces. Excellent windbreak and wildlife tree that will grow most anywhere except where water soaked. Large cones with attractive drooping branches.

Red Pine



- ◎ **RED PINE (Norway Pine):** Pyramidal tree that grows to 80', 30' in 20 years. Fast growing long needled pine that prefers full sun and light well-drained soils. Good windbreak tree. Minnesota State Tree.

White Pine



- ◎ **WHITE PINE:** Grows to 100', 30' in 20 years. Fast growth rate with a pyramidal shape when young. With age the shape becomes broader. The needles are long (3-5"), soft, and are in fascicles of 5. This tree prefers sandy loam to silt loam soils but will grow on a wide range of soils. Not tolerant of poor drainage and may become chlorotic with high pH.

Eastern Red Cedar



- ◎ **EASTERN RED CEDAR:** Pyramidal native tree grows to 30'. A long-lived, winter hardy, and alkali resistant conifer. Shouldn't be planted on wet sites or close to apple orchards, as it is a host for cedar-apple rust disease. It makes a very good windbreak tree with many benefits to wildlife.

Northern White Cedar



- ◎ **NORTHERN WHITE CEDAR (American Arborvitae):** Pyramidal tree grows to 40', 15' in 10 years. Fast grower that prefers sun to semi-shade and moist to wet soils. Tolerant of pruning and will grow into a solid hedge. Also, may winter burn until established.

HARDWOOD TREES

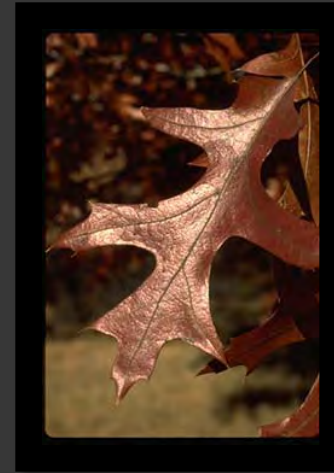
(Tall Trees - use 16' spacing's)

Bur Oak



- ◎ **BUR OAK: Grows to 60', 20' in 20 years. A very hardy native tree used for lumber and other wood products. Prefers well drained soils but will tolerate both wet and dry soils. Can be used for windbreaks if wildlife is prime concern. Has excellent value for this by providing nesting cover, browse, and acorns.**

Red Oak



- ◎ **RED OAK:** Grows to rapidly 80', 25' in 20 years. Hardy native tree that prefers rich, deep, moist, medium to fine textured soils. Has excellent value for wildlife by providing nesting cover, browse, and acorns. Holds leaves through winter.

Hackberry



- ◎ **HACKBERRY: Grows to 60', 35' in 20 years. A hardy native with wide spreading branches. Grows best in moist well-drained sites, but not too particular. Has high wildlife value.**

Norway Poplar



- ◎ **NORWAY POPLAR: Grows to 80', 60' in 20 years. A large, fast growing narrow crown tree. Longest lived of all poplars. Grows well on most sites.**

SHRUBS – USE 4' SPACING'S



American Cranberry



- **AMERICAN CRANBERRY:** Grows to 10', 10' in 10 years. White flowers in May followed by red foliage and scarlet edible berries in fall. Tolerates heavy soil types. Excellent wildlife habitat and makes a good snow catch or screen.

Arrowwood



- ◎ **ARROWWOOD: Grows to 15', 10' in 10 years. Fast growing, multi stemmed and freely suckering from base. White flowers, blue-black fall berries and red fall color. Will grow in any soil and take shade.**

Common Lilac



- ◎ **COMMON LILAC:** Grows to 10', 10' in 10 years. A large rounded shrub with purple flowers. Is an excellent choice for the snow catch row in windbreaks. Grows well on most soils.

Redtwig Dogwood



- ◎ **REDTWIG DOGWOOD:** Grows to 8', 8' in 10 years. Fast growing native shrub. It has bright red bark and is shade tolerant. Grows best in heavy soils including those that are water soaked.