McHenry County Nursery, Inc.

Nursery News

Glacier Oaks Nursery GONatives!™

Winter Injury

In a year when we have had record cold temperatures, as low as -30°F, and a catastrophic ice storm, some species and cultivars of woody plants will be injured due to temperatures falling below their tolerance level. Southern species planted in northern regions may have survived several mild winters, only to be severely damaged in an extreme cold snap this year. Plants native to more northern climates tolerate lower temperatures and are generally not injured under these conditions. Winter damage is determined by many factors including plant species/cultivar, location, conditions under which the plant is grown and weather extremes. Alternating freezing and thawing temperatures can cause frost cracks and winter sunscald lesions to develop on stems of thin-barked trees.

Plant injury is most often associated with extremely low, but short lived, temperature changes rather than prolonged periods of cold or warm weather.

Winter damage can also occur when mean temperatures are above average. The bark on the south side of a tree trunk may be 20° warmer at midday than on the north side. Heating of the south side may initiate changes that decrease the cold hardiness and make it very susceptible to frost injury.

Types of Winter Injury

- **Frost cracks** are long slits in the trunk caused by a rapid drop in temperature causing the bark to shrink, thus splitting. They are most common when winter temperatures are 15°F or below. The width of the split is directly related to the coldness of the temperature. These cracks are not usually fatal. Improper pruning, flush cutting, deep planting or root injury can also cause frost cracks.
- **Sunscald lesions** are dead bark patches, which sometimes peel and expose the wood. Lesions damage the phloem tissue in trunks and interfere with plant circulation. Rapid freezing of stems after sundown is largely responsible for sunscald lesions, and is most common on stressed, newly planted or young trees.
- **Winterburn** causes the browning of evergreen foliage in late winter and early spring. Winterburn is usually attributed to desiccation of needles by sun and drying winds when water in the stems and roots is frozen and unavailable to replenish the transpiration loss. However, a rapid drop in temperature can also cause winterburn, shock and stem damage.
- **Salt damage**
- **Heavy snow and ice breakage**

Minimizing Winter Injury

- Select hardy locally grown species and cultivars.
  This means planting trees that were grown in the climate in which we want them to survive and thrive.
- Avoid late-summer fertilization or pruning, which might stimulate new growth.
- Water trees and shrubs, especially evergreens, during dry periods until the ground freezes.
- Mulch to conserve soil moisture and insulate the roots from cold temperatures.
- Protect evergreens from wind and salt spray with burlap screens.
- Apply anti desiccants.
- Wrap the trunks and major branches of newly planted trees with burlap or commercially available tree-wrap products. Remove the wrap in the spring.
- Inspect trees for evidence of decay and weakness after the leaves have dropped.