Cornell University
Cooperative Extension
Rockland County

10 Patriot Hills Drive
Stony Point, NY 10980
Phone: (845) 429 - 7085
Fax: (845) 429 - 8667
www.rocklandcce.org

Winter Protection of Trees and Shrubs

Snow, sleet and icy winds can be hard on landscape plants, especially those stressed by drought or other conditions. Most of the time, trees and shrubs hardy to Rockland County will withstand the normal winter elements that Mother Nature dishes out. Some winters are unusually harsh, and challenge even the hardiest of plants. Marginally hardy plants are likely to need some help from you every year to make it through the winter.

The best time to start thinking about protecting your plants from winter hazards is before you have purchased them. Winter protection begins with proper plant selection and location. When selecting a tree or shrub, find out if it is hardy in Rockland County. Hardiness refers to a plant's sensitivity to cold weather. The United States Department of Ariculture has been divided into hardiness zones, ranging from Zone 1 in the coldest northern states to Zone 11 in the warmest southern states. Rockland County has been assigned to Zone 7, but our cooler areas have conditions that are similar to Zone 6. Therefore, it makes sense to choose plants for our landscape that can handle conditions of Zone 6 or cooler as long as they can handle our summer heat.

Every plant must go through a physiological hardening-off process each fall in order to become winter-hardy. Short days and cold nights trigger the hardiness system inside the plant. However, this process may be upset by gardeners who utilize untimely maintenance practices. For instance, if a plant is pruned or fertilized between mid-July and November, it may not harden off properly and may become more prone to winter damage. Those in western and southern exposures are most vulnerable. Sometimes this damage does not become apparent until the following spring or summer.

Broad-leaved evergreens and plants that are marginally hardy should be protected from winter elements. Locate sensitive plants in sites protected from winter winds (usually southern or western exposure). Avoid sites near driveways or similar features that reflect heat in summer. In winter, plants on these sites heat up during the day, then sustain injury when the temperature drops below freezing at night. The first winter is often the hardest for newly planted stock because the plants' roots are not fully established.

Desiccation

Desiccation results in browning evergreen leaves due to the sun and drying winter winds. During the coldest months, when the ground is frozen, water cannot readily be absorbed and the leaves dry out. Protect evergreen plants (especially broad-leaved plants such as rhododendron, azalea, holly, mahonia leucothoe, mountain laurel and andromeda) from desiccation by making sure that they have sufficient water during the growing season and before the ground freezes. Use of mulch will help.

Mulch prevents soil from drying out and moderates soil temperatures. Organic mulches such as wood chips, shredded bark, compost, oak leaves or pine needles are suitable in most circumstances. For winter protection, these should be spread on the ground around the plant **after** the ground has frozen. Mulches prevent the soil from heaving during freezing and thawing, and thus reduce root breakage. Mulch should be kept away from the trunks or crowns of the plants to prevent rot and discourage rodents (that may live in the mulch) from gnawing on bark of trees and shrubs.

Anti-desiccants are popular aerosol wax sprays that are touted to reduce moisture loss from evergreen plant leaves. These sprays have not been shown to significantly reduce winter injury. As anti-desiccants are most effective if reapplied each time there is a thaw and as this occurs numerous times each winter, this could be an expensive method that provides minimal benefit. It is more effective to use wind screens in windy, exposed locations, as anti-desiccants alone are not sufficient to prevent damage.

Wind screens may be constructed out of snow fencing, burlap, heavy plastic, wood or crates. Attach the screen to stakes placed a foot or so away from the plants.

Ice and Snow Damage

The weight of ice and snow frequently causes injury to branches of landscape plants. In addition to diminishing the plants' aesthetic value, these injuries provide entry points for disease organisms. This problem is prevalent with fast-growing plants, which are, by nature, weak-wooded (such as poplar or willow). Trees with narrow-angled branches or crotches (such as silver maple, Callery pear or arborvitae) may break under the weight of heavy snow or ice. Locate plants away from areas where large amounts of ice or snow will fall on them from a structure or be shoveled onto them. Leave natural snow on perennials and low-growing plants, where it will act as an insulator.

Rodents, such as meadow mice or voles, may cause injury under heavy snow where they are sheltered from predators. These animals girdle stems and eat roots. Landscape plants may be protected with a cylinder made of hardware cloth or heavy nylon mesh ($^1/_4$ inch or less) that encircles the plant. The cylinder must be tall enough to reach above the snow and should be buried three inches deep so that animals do not burrow underneath.

Salt Damage

Avoid using more than ½ pound of sodium or calcium chloride per square yard of surface area to melt ice where it might seep into the root zone of your landscape plants. Alternative ice-melters include calcium magnesium acetate (expensive) and mixtures of sand, sawdust or plain clay kitty litter, with or without calcium chloride. These mixtures give fairly long-lasting suppression of sidewalk ice and snow, but often are messy when tracked indoors. Mix one part calcium chloride to three parts sand, sawdust or litter.

Winter protection is a matter of common sense; choose your plants knowing their potential hardiness, and install and protect them as needed.

Resource: (wildlife) http://wildlifecontrol.info/pubs/Documents/Voles/Voles.pdf

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