

## Protect Trees and Shrubs from Winter Injury

By Susan Camp

As I write this column on December 28, the temperature outside is 25° F, and the cold snap is predicted to last for several days. As I try to stay warm, I worry about some of our shrubs and younger trees. We mulched the perennial beds in the fall, but we were late in providing shelter for the gardenias, cherry laurels, and Old Garden Roses. The rosemaries have grown so huge we were unable to wrap them, but hopefully, they will survive the winter, their bases protected by pine straw and a burlap wind barrier on the west side of the garden.

Injury to trees and shrubs can be caused by several factors: sun and wind, ice and snow, and road salt can all take a toll on greenery. Some forethought and planning often will prevent major losses, or you can do like we do, and cover the plants at the last minute and hope they will make it.

Virginia Cooperative Extension (VCE) Publication 426-500 “Managing Winter Injury to Trees and Shrubs” recommends selecting trees and shrubs native to our USDA Hardiness Zone 7 or those that are known to be winter hardy. Plant on the north, east, or northeastern side of the house to prevent damage by winter sun and prevailing west winds. Avoid planting below the eaves of buildings, where heavy ice or snow can fall and damage shrubbery. Avoid planting in low areas, which are subject to temperature fluctuations.

Winter sun and wind can severely damage trees and shrubs by causing desiccation, or drying out, of plant tissues. Evergreens are more susceptible to desiccation than dormant deciduous trees and shrubs because their leaves continue to transpire, or lose moisture, in the winter. If evergreen roots are in frozen soil, the plant won't be able to replace water lost through transpiration, and if the preceding fall has been particularly dry, the problem is compounded. Sunny days in winter can warm plant tissue and cause cell activity to resume, but when the temperature falls, foliage will turn dry and brown. Most damage occurs on the southern or southwestern side of the trees and shrubs, where they are exposed to the further drying effects of the prevailing winter winds.

This “winter burn” or “southwest burn” can be prevented by continuing to water susceptible trees and shrubs up to the first hard frost, tapering the amount of water in September to allow shrubs to harden off. Mulch around the base of plants to keep the ground warm. Build a barrier of burlap or canvas, either around the shrub or on the west side. Don't prune brown branches until spring; some may not be dead. Antidesiccant products sold in garden centers degrade quickly and provide little protection from the drying effects of winter sun and wind.

Strong winter wind and heavy snow and ice can cause freezing and breakage of limbs and smaller branches. Proper pruning to remove weak, damaged, and diseased branches will help prevent breakage. Multibranched evergreens like juniper and arborvitae can be wrapped with cloth to prevent heavy snow from collecting on and breaking weak branches.

Temperature fluctuations that alternately freeze and thaw the soil can cause newly planted or small shallow-rooted shrubs to heave out of the ground. The exposed roots will dry out quickly

and must be replanted as soon as the soil has sufficiently thawed. Mulch will help protect the roots from frost heaving.

Road salt runoff from roads, driveways and shoveled snow piles can absorb into the soil and damage plant roots. The salt also changes the composition of the soil. You may not notice the damage until new plants emerge in spring. Heavy watering and the application of organic material will help improve the condition of the soil.

VCE Publication 426-500, mentioned earlier in this column and the University of Minnesota Extension article “Protecting Trees and Shrubs against Winter Damage” provide detailed information on prevention and management of winter injury.

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