Guarding Against Winter Damage

By Jason Miller
January 10, 2014

Protect your plants from winter damage

In spring of this year, after the five feet of snow had melted from around my house in Concrete, I made an unpleasant discovery: Winter had not been easy on my plants.

A young Japanese maple had snapped under the weight of the snow. An experimental overwintering of dahlia tubers failed miserably: No new growth showed up, and exploratory digging turned up a clump of rotted, stinky tubers. Three fuchsias had succumbed to the cold— even with several feet of insulating snow on top of them. And don't even get me started on the raspberries.

These results and a few others can plague Skagit County gardeners every winter. But with a little forethought and preparation, you can increase the odds that your landscape will make it through each winter largely unscathed. Here are some tips.

No simple solution

First, recognize that a "one size fits all" solution simply doesn't exist. In the Pacific Northwest's varying climates and microclimates, general predictions are difficult to make. This is especially true in Skagit County. Weather ranges from cities such as Anacortes, which generally has a more moderate winter climate because of its proximity to Puget Sound, to communities such as Marblemount, which endures lower winter temperatures and a harsher climate because of its mountainous surroundings and distance from the Puget Sound.

Second, winter injury can come in many forms: physical damage, desiccation (drying,) cold temperatures or chemical injury. Physical damage includes animal feeding (those darn deer!) heavy snow and ice loads (I know this all too well) as well as snow blower or plow damage. Ice- melting chemicals may cause the worst injury to plants. Most of the time, salt spray damages foliage and buds, disfiguring the plant but not killing it. Salt runoff that accumulates in the soil can become toxic and eventually kill plants.

Your plants may suffer injury because of extremely cold temperatures, bright, sunny days with frozen soil, drying winds, and low humidity.

Location makes a difference. Proximity to a large body of water usually moderates air temperature; barriers such as fences or hedges might trap cold air; windbreaks reduce damage caused by drying winter winds.

Plant-specific factors include hardiness of native plants versus an exotic (non-native) species, and how well the plant is established. Healthier plants can weather the weather better than those stressed from drought, fertilizer burn, insects, etc.

Types of winter injury

Plants in an above-ground container may freeze, killing the roots. Since the stem tissue in some plants may be much hardier than roots, the top of the plant may not be damaged by the freeze. The plant may leaf out in the spring and then, for no apparent reason, wither and die.

Sun scald of leaves can occur during periods of severe or extended cold weather, *combined with bright sunshine*. The leaves of some broadleaved evergreen plants can heat up to 50° to 60° F on sunlit days, as the plant enjoys a brief spring-like vacation – until the sun sets, when the de- acclimated leaf tissue freezes rapidly. Plants with leaves oriented toward the afternoon sun are especially vulnerable.

Sun and wind scald of bark can occur on sunny days in winter when the bark of a tree is warmed by the sun, especially on the southwest side of the trunk. The bark and cambial (inner layer) tissues de-acclimate (see above.) The bark cracks open, or may separate from the tree without splitting. Sun scald is more prevalent on stressed, recently transplanted, smooth-barked, or thin-barked trees.

Drooping leaves and leaf roll are protective reactions to cold, reducing the area of leaf surface exposed to cold or drying winds. Leaf droop is most dramatic on fatsia *(Fatsia japonica)*, where the large leaves bend and drop flat against the stem, looking like death itself. In very cold weather, entire leaves may roll inward on some rhododendrons. If leaves are not killed by extreme cold, even partially damaged ones will recover when the weather improves.

Branches and/or limbs may break because of heavy snow or ice. **End of story – end of plant.**

The results of winter injury can sometimes take months or years to appear, when leaves live on their reserves until depleted. Graft unions may be sensitive to damage from cold winter temperatures. Winter-damaged tissue also may allow disease organisms and insects to enter the plant, causing a slow death that might not have occurred without the initial stress.

Frost crystals embellish this northwest native lupine. Choosing plants already adapted to our wet winters and freeze patterns will diminish plant loss in your garden. *Photo by Christine Farrow / WSU Skagit County Master Gardeners*

Protect your plants

- Now that I've thoroughly depressed you, let me offer some hope. There are steps you can take to diminish or even prevent winter damage to your landscape plants. Try these approaches:
- **Pick the right plants:** Select plants hardy for our local climate and soil conditions.
- **Location, location, location:** Place evergreens in areas protected from exposure to wind. If this is not possible, provide a windbreak or wrap the plant with plant-protecting fabric.
- **Water—but not too much:** Water landscape plants, especially evergreens, during fall and early winter dry spells. Pay close attention to plants under overhangs or other places where they may not receive rain or snow. Do not fertilize, prune or water heavily late into the season, however. This can encourage late-season growth that may not acclimate well in the fall.
- **Move 'em or lose 'em:** Reduce the likelihood of root freeze by putting containerized plants in a protected area, such as a cool garage or greenhouse. In western Washington, containers can be buried in sawdust or ground bark.
- **Protect your investment:** Prevent sun and wind scald of bark by shading the plant, or wrapping trunks of recently transplanted trees with a light-colored wrapping from the soil line to the first set of branches. Leave this material on for the first winter and through the first growing season.
- **Mulch!** Four inches of organic mulch keeps soil warmer and keeps the roots from freezing.
- **Cloches:** Build your own 'winter blanket' from plastic sheeting and wood or wire frames, or buy pre-fabricated plant protectors

RESOURCES:

- Pacific Northwest Handbooks, "Winter Injury of Landscape Plants in the Pacific Northwest," https://pnwhandbooks.org/plantdisease/pathogen-articles/nonpathogenic-phenomena/winter-injury-landscape-plants-pacific.
- "Fall and Winter Care of Perennials"
  En Español: http://urbanext.illinois.edu/perennials_sp/fall.cfm
  In English: http://urbanext.illinois.edu/perennials/fall.cfm
- "Guide to Mulches", Washington State Extension
  https://s3.wp.wsu.edu/uploads/sites/2076/2017/07/C075-Guide-to-Mulches-15.pdf
- "Preparing Your Garden for Winter" Washington State Clark County Extension
  https://extension.wsu.edu/clark/2017/11/preparing-your-garden-for-winter/

Note: some hyperlinks in this article have been updated since its initial publication.