

Dealing with Winter Damage

By Jason Miller

March 3, 2009



By now you've probably walked around your post-winter backyard and been met with a cold, hard reality: Winter was not kind to your plants.

In my backyard in Concrete, where a bit more than 5 feet of snow fell during the last two weeks of December, my blueberry bushes have split and toppled, my evergreen huckleberries are missing limbs, and I don't even want to talk about my poor Japanese maple.

When it comes to winter damage, though, snow isn't the only culprit. Injuries can be caused by dramatic fluctuations in winter temperatures; the time of year when a severe cold period occurs; bright, sunny days with frozen soil; drying winds; and the depth to which soil freezes, just to name a few factors.

What to look for

Broken limbs or branches are obvious signs of winter injury, caused primarily by unbearable snow or ice loads. Other less-obvious signs include:

- **Bud and stem damage.** Buds and stems will die or be damaged if the tissue is not able to withstand cold temperatures. A partial kill of buds or tissues also is not uncommon. When this happens, there may not be a full complement of flowers on the plants.
- **Frozen roots.** Roots in an above-ground container may freeze, killing the roots. The plant may leaf out in the spring and then, for no apparent reason, wither and die. Check for dead roots to see if this type of injury has occurred. Dead roots are usually brown to black and may be soft. Live roots may have white growing tips and will be white to greenish under the bark.



Concrete homeowner Eric Parks surveys the damage done to his Japanese maple by heavy snow. Photo by Jason Miller.

- **Sun scald on leaves.** This occurs during periods of severe or extended cold weather, combined with bright sunshine. Scalded leaves turn brown, starting with brown edges or needle tips and progressing between the veins or down the needles.
- **Sun and wind scald of bark.** Sun scald occurs on sunny winter days when the bark of a tree is warmed by the sun. The bark and cambial tissues immediately beneath the bark warm, then crack open or separate from the tree when the temperature drops abruptly after sundown. The result is damage or death of tissue.
- **Bark splitting and frost cankers.** Bark often splits at the crown of the plant where roots and stem meet. This is caused by cold temperatures near the soil surface. Split bark often will result in the death of roots and eventually the entire plant. In the spring, the twigs and leaves above may appear alive and green, but the plant is actually dead. Sometimes, instead of the bark splitting, it adheres to the wood instead of cracking, and as it dries it forms a sunken area—a “canker.”
- **Leaf droop, leaf roll.** Drooping of leaves and leaf roll are protective reactions to cold. They reduce the amount of leaf surface exposed to cold or drying winds. Leaves usually return to normal as temperatures warm—if they weren’t killed by extreme cold, that is.
- **Delayed symptoms.** The results of winter injury sometimes take months or years to appear. Sometimes the leaves live on their reserves until they are depleted. This occurs slowly in cool weather or rapidly when the weather suddenly becomes hot.



This photo is a close-up of the damage shown in photo above. Photo by Jason Miller.

What to do

Feeling overwhelmed? Stay with me. After you’ve diagnosed the problem, you can take steps to deal with the damage.

Step one: Remain calm and patient. Don’t do anything until late spring, when new growth begins on the live wood and does not begin on the dead wood. Then prune to remove dead wood. Before doing anything, check to be sure the crown is alive.

- Prune the broken portion of branches left on the tree or shrub back to another branch or the main trunk. On large branches, make this cut just outside the branch collar.
- Water properly. Make sure the plant is not further damaged by drought. Pay special attention to evergreens and plants situated under eaves. Water properly throughout the spring, summer and fall, taking care not to overwater.
- Fertilize properly. Fertilization is recommended if the soil lacks adequate amounts of basic plant nutrients.
- Mulch with a loose organic mulch to maintain soil moisture and protect from temperature extremes.
- On damaged fruit trees, remove as much of the developing fruit as possible to allow it to overcome the winter injury rather than produce fruit.
- Avoid further stress during the coming season by giving your trees and shrubs special attention and care. Baby your blueberries. Coddle your crabapple. Pamper your pines.

For more information on diagnosing and treating winter injuries in your backyard, download the free WSU Extension bulletin, “Winter Injury of Landscape Plants in the Pacific Northwest,” EB1645, at <http://cru84.cahe.wsu.edu/cgi-bin/pubs/EB1645.html?id=3mZTJQEM>. And stay tuned for an article on preventing winter damage, coming this fall.



Another Japanese maple succumbs to the overpowering weight of snow. This one sustained heavy injuries—breaking in two places—and may need to be “pruned at ground level.” Photo by Jason Miller.