

It's Not Easy Being Green During Nebraska's Winters

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Winter can be tough on trees and shrubs. Low temperatures, rapid temperature changes, winter desiccation and the weight of ice and snow can damage vulnerable trees and shrubs.

Nebraska is located in USDA Hardiness Zones 4 and 5. The average annual minimum temperature in Zone 5 is -10 to -20 degrees F. The average annual minimum temperature in Zone 4 is -20 to -30 degrees F. The dividing line between Zones 4 and 5 lies roughly a few miles north of Interstate 80.

Woody plants gradually acclimate to cold temperatures. Cold hardiness is initiated by decreasing day length and temperature. Trees and shrubs gradually become more cold hardy during the fall and early winter season and possess maximum cold hardiness in mid-winter. Cold hardiness then decreases. As a result, a temperature of -5 to -10 degrees F in January is generally not a problem for hardy plants. However, a temperature near zero in early November or late March may cause considerable damage to poorly adapted trees and shrubs.

The best way to prevent damage caused by low temperatures or rapid temperature changes is to select trees and shrubs that are hardy in your area. Marginally hardy plants should be planted in protected sites, such as courtyards or eastern exposures. Avoid late summer pruning and fertilization of trees and shrubs. Late summer

pruning and fertilization stimulate late season growth and delay the hardening process, making the plants more susceptible to winter injury.

Narrow and broadleaf evergreens lose considerable amounts of moisture through their leaves or needles, buds and stems during the winter months. The cold, dry winds and sun are mainly responsible for the water loss. Once the ground freezes, however, plant roots are no longer able to absorb water. Plant foliage that loses a large amount of moisture may dry and suffer desiccation injury.

Plants susceptible to desiccation injury should be planted in protected areas. A shield or screen can be erected to deflect drying winds or shade exposed plants. A simple screen can be constructed with wooden posts and burlap. Anti-desiccants can also be used to prevent desiccation injury. When sprayed on plant foliage, these materials form a protective film that slows water loss. In dry years, water evergreens susceptible to desiccation injury in the fall.

Major damage to trees and shrubs can also be caused by the weight of ice or heavy, wet snow. Multi-stemmed evergreens, such as arborvitae and weak-wooded deciduous trees, such as Siberian elm, green ash and silver maple are most susceptible to branch breakage. High winds during an ice or snow storm can greatly increase tree and shrub damage. Oak, crabapple, pine, spruce and fir are less susceptible to winter storm damage.

When heavy, wet snow accu-



You can gently shake heavy, wet snow from branches or brush off the snow with a broom.

mulates on shrubs and small trees, home gardeners can gently shake the snow from their branches or carefully brush off the snow with a broom. Sharply bent, ice-covered branches on small trees and shrubs can be propped up to prevent breakage. Don't attempt to remove the ice by beating the tree or shrub with a broom or rake. This may only cause greater damage. Individuals should stay away from large, ice-covered trees. Nothing can be done to prevent damage to large trees. Individuals, however, can be severely injured or killed if a large, ice-laden branch or tree were to suddenly crash to the ground while underneath it.

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Avoid Stacking Firewood Next to House

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That big woodpile that gives you such a feeling of snug security going into the winter may also shelter rodents and insects and may even provide them an opportunity to spend the cold season under your roof.

Where and how you stack the wood is the key. Mice and rats will readily take shelter in a backyard woodpile if conditions are right. If the woodpile is located some distance from the house so the rodents would have to cross a wide expanse of open lawn, they're likely either to stay near the woodpile or move on. If the wood is stacked next to the house, however, so the rodents don't have to venture out into the open, the woodpile enables them to search in perfect safety for an opening through which they can squeeze into your house.

It doesn't have to be a very big opening—a mouse can squeeze through a hole 1/4-inch in diameter, and a rat needs only a 1/2-inch hole. Both rats and mice can climb any surface rough enough to give them a toehold, so openings need not be at or below ground level to give them entrance.

Provide the rodent with shelter in the form of a woodpile right next to the house, and they'll be able to take as much time as they need to scout out an entryway.

Provide them with a supply of food, too, and your rodent problem can get serious very quickly. Food can be in the form of easily accessible garbage, a poorly managed compost pile, wild bird food in flimsy containers, crop residues in the vegetable garden or dog food.

If right next to the house is the worst place for a woodpile, probably the next-worst place is next to the dog pen. If you feed the dog there, spilled and leftover food and the dog's water dish provide rodents with all they need in addition to shelter.

Stacking wood against an exterior wall of your home also invites insect problems. Wood is the natural home for carpenter ants, termites, wood-boring beetles and countless other insects and spiders. Except for carpenter ants and termites, which can seriously damage your home, most of these insects are more nuisance than threat. But they will move indoors for the winter. You issue the invitation when you stack wood next to the house. The insects then find the little crack in the foundation or the loose-fitting storm door and stroll right in.

Close up openings around windows and doors, seal cracks in the foundation and mend holes in screens. Then stack wood some distance from the house or, if you must pile it nearby, get it up off the ground—at least 18 inches—and keep it an arm's length away from the wall. Make the pile long and narrow, one log wide rather than several logs laid side by side. Multiple rows make better rodent quarters.

Insects may hitchhike indoors on wood, so bring in only what you'll use in a day or two. A log riddled with insect tunnels that begins to erupt with big black ants or termites when it's disturbed or warmed to room temperature should be rushed outdoors at once, then burned or otherwise disposed of. Other insects brought out of firewood by the warmth inside your home are a nuisance rather than an emergency and can be collected with a vacuum cleaner.



Put on an Extra Blanket (Winter Mulching)

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When temperatures drop and the cold wind blows, we throw an extra blanket on the bed to keep us warm. If we think we're doing the same thing when we apply a winter mulch to garden and landscape plants, we may be doing the right thing for the wrong reason.

In most cases, the aim of a winter mulch is not to keep the ground from freezing but to keep it from alternately freezing and thawing. This can injure plant roots and push plants and bulbs right up out of the soil.

The exceptions are roses and strawberries. In roses, the aim of winterizing—covering the plants with soil and/or mulch or rose cones—is to protect the graft union from freezing. The graft union is the place where the named variety, the flowering part, was grafted



A hybrid tea rose properly mulched for winter.

Curtis Swift, Colorado State University Extension

onto the rootstock. If that part isn't protected, the top part may be killed.

Though strawberries are vulnerable to frost heaving, they need a winter mulch to protect the flower buds that will become next year's fruit crop. Mulching protects the flower buds against temperatures below 15 degrees F, which can damage or kill them.

Mulch strawberries after plants stop growing. Applying mulch before growth stops, may smother the crowns. You need to apply mulch before temperatures drop below 20 degrees F, however.

As the name suggests, one of the best mulches for strawberries is straw. Other possibilities are chopped cornstalks, hay and bark chips. Grass clippings and leaves are not recommended because they tend to form thick, smothering mats. Each bale of straw should cover an area about 10 by 10 feet to a depth of 3 to 5 inches.

For perennial and bulb beds, chopped leaves and compost are good because they insulate the beds but plants can push up through them in the spring. Bark chips are often used around trees and shrubs.

A properly mulched tree has mulch over the root zone but not lapping up against the trunk. Mulch piled around the trunk could provide cover for mice and enable them to gnaw on the bark and girdle the plant.



Do not mulch trees directly around the trunk.

Strawberry plants need to be uncovered as soon as they begin growing in the spring. Rake the mulch between the rows where it will be handy in case a freeze or frost warning makes it necessary to re-cover plants. After the danger of frost is past, it can be spread between rows for a summer mulch to help control weeds and slow the loss of moisture from the soil.

Mulches in flower beds and around landscape plants reduce the need to water and keeps lawn equipment at a distance. Injured bark on woody plants can give insects and disease organisms a place to invade.

Mulching to retain soil moisture is especially important around newly planted ornamentals, which tend to have limited root systems for the first year or two after planting. This makes them more susceptible to drought stress than established plants.

Shelia Day