Be sure to remove heavy winter mulch in the spring before plants start growth.

Evergreens: Evergreens lose water from their foliage all winter and may need extra protection from sun and wind. Broadleaf evergreens and new plants are especially vulnerable to winter desiccation (drying out). If you've had problems in the past you may want to try a burlap wrap or screen. Be sure to put stakes in the ground before it freezes but don't add the burlap until temperatures are consistently cold.

Sprays are also available to help protect evergreens from winter desiccation. These can have variable results and may need to be re-applied but may be worth a try.

Roses: Winter care of roses is discussed in the brochure *Caring for Roses* at http://web.extension.illinois.edu/hkmw/downloads/45681.pdf.

Sunscald: Wrap trunks of young or thin-barked trees with light colored material (fabric or plastic). Be sure to remove in spring.

Containers: Hardy perennials and shrubs in containers will need special protection. You can wrap or surround containers with an insulating material, bring into a garage or other area that stays just above freezing or, if the pot is small enough, bury it in the ground. Be sure containers are able to withstand cold. Raised beds containing perennials may also need extra protection. Plants that will tolerate two hardiness zones colder should need minimal protection.

Salt: Avoid planting where there is potential salt exposure or plant salt tolerant plants. Avoid shoveling snow that may contain salt onto plants.

Protecting Plants from Animals: Providing a barrier is the best way to deter animals. A cylinder of poultry wire or hardware cloth 18-24" above the expected snow line will protect against rabbits (bury a few inches below ground to help deter mice). Be sure to extend your barrier if you get more snow than normal.

Plastic tree guards can be used for smaller trees. Fabric wrap will not protect against rodents.

Repellents can be used to protect a larger area. However, they are less reliable and must be re-applied. They may reduce but will not eliminate damage.

Dealing with Heavy Snow or Ice: Ice and heavy snow can bend and break plants. It's hard to protect against this but you can try to minimize the damage. Gently remove snow from smaller trees, working from the bottom up to avoid overloading lower branches. Don't touch plants covered by ice. Trying to remove ice just causes further damage.

Protecting Other Garden Elements

Tools and Equipment: Clean, sharpen, oil, repair, and store hand tools. Winterize power equipment.

Chemicals: Protect liquids from freezing temperatures. Keep powders dry. Rinse and dry sprayers.

Containers, Statuary, & Garden Ornaments: Bring in and store any material that might be damaged by cold and freezing moisture.

Outdoor Furniture: Cover with weatherproof material. Bring in cushions and anything that might be damaged by freezing temperatures.

Hoses, Pipes, & Water Faucets: Drain and store water hoses. Turn off water and protect outdoor faucets.

We've given a lot of information. You don't have to do anything—after all, most plants in natural settings manage to get through winter. In the garden most will be fine (especially natives), some will be damaged, and a few may be killed. But with a little time spent in the yard and garden in pleasant fall weather you can increase the chances of your plants making it through the winter.

For more information on gardening please visit:
http://web.extension.illinois.edu/state/horticulture/index.php
or
call University of Illinois Extension
Knox County
309-342-5108

Other information brochures can be found online at http://web.extension.illinois.edu/hkmw/hort.html

Developed and Written by
Knox County Master Gardeners
University of Illinois Extension
October 2015

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Preparing the Garden for Winter

UNIVERSITY OF ILLINOIS EXTENSION MASTER GARDENER

Garden Tips

from
Knox County
Master Gardeners

UNIVERSITY OF ILLINOIS EXTENSION

In an earlier brochure, *Fall Activities in the Garden* (http://web.extension.illinois.edu/hkmw/downloads/45098.pdf), we discussed general things to do in the fall. In this brochure we'll go into more detail about threats to plants from winter weather and wildlife. Weather can be unpredictable. While there's no way to protect against or completely eliminate all winter damage, we can take certain steps to help reduce it. We'll also briefly discuss fall clean up - things you can do now to get a jump start in spring - and also why you might not want to clean up everything in fall.

How Does Winter Affect Plants?

Temperature: We think of cold when we think of winter temperatures, and extreme cold can certainly damage plants, but temperature fluctuations can actually be more of a threat than cold.

Plants harden off (develop winter hardiness and become dormant) and become able to tolerate cold weather as winter approaches. However, if there is a cold snap before the plant has adapted or if it is not allowed to harden off tender growth can be damaged. If there is a prolonged warm spell in midwinter, the plant may initiate new growth and then suffer damage when cold returns. And if there is unseasonably cold weather after the plant has begun normal spring growth, new growth and expanding buds can be damaged.

Temperature fluctuations can also cause the soil to expand and contract, damaging roots or heaving the crown of the plant out of the ground and exposing it to drying and winter damage.

Sunscald can be a problem on thin-barked or newly planted trees. Cells become active when heated by the sun and are then killed as temperatures drop below freezing. Usually occurring on the south or southwest side of the trunk, sunscald can appear as sunken or discolored bark. Alternate warming and freezing can also cause the bark to split.

Warm temperatures along with wind can cause evergreen foliage to lose moisture.

Moisture: Roots continue to use moisture after the top of the plant has died back, and evergreens (especially broadleaf) lose moisture all winter on warm or windy days. Moisture is also important for root establishment of new plants.

However, some plants (such as lavender and other herbs native to Mediterranean climates) dislike excess winter moisture and are more likely to be killed by wet feet than by cold.

Snow & Ice: Snow cover can help plants survive cold temperatures by providing insulation. However, heavy snow and ice can bend and break stems and limbs.

Wind: Wind can also damage plants, especially those already stressed by snow load or ice. Wind accelerates moisture loss from evergreen foliage.

Salt: Salt used on roads, driveways, and sidewalks can damage plants and soil.

Animals: With food hard to find in winter, rabbits, mice, deer, and other animals may nibble on bark and small branches of trees and shrubs. In a bad year they can girdle a small tree or eat small shrubs to the ground or snow line.

Before Cold Weather

Helping plants survive winter starts even before plants are in the ground. Choose plants that are winter hardy in your area. Avoid trees with weak wood or narrow branch angles that don't stand up well to wind, snow, and ice. If you do want to grow plants that are more susceptible to winter damage be prepared to provide special protection, and accept that they may not survive.

Careful plant placement is also important. Some plants require drier soil with excellent drainage in winter. Broadleaf evergreens do best in sheltered areas protected from winter wind. Avoid planting near areas that receive salt in winter.

Plants kept healthy and well-maintained all season are better able to withstand winter stresses.

Encourage plants to properly harden off. Fertilizing or heavy pruning late in the season encourages new growth and delays dormancy, making plants more likely to be injured by an early cold spell. Don't apply winter mulch too early.

Preparing for Winter

Cleaning Up & Cutting Back: Remove all annuals from flower beds and the vegetable garden. Remove any dead, damaged, or diseased material from perennials and woody plants. Diseases and insect pests can overwinter in garden refuse. Any diseased plant material, as well as any mulch that might be contaminated, should be removed from the garden or burned. Do not add to the compost pile.

Some gardeners like to cut back all perennials and clean all material from the garden. While this may minimize disease and insect problems, remove obstacles for plants that emerge early, and result in less to do in the spring, there are reasons why you might want to consider leaving some of the plants standing over the winter.

Standing stems and foliage may help protect the crown of some perennials. Leave hollow-stemmed perennials standing to reduce chances of water getting in and freezing at the crown. Do not cut back any basal foliage that emerges in fall. Perennials can also provide winter interest, food for birds and other wildlife, and protection for over-wintering beneficial insects. Stems can mark the location of late-emerging perennials.

Research your plant to see what treatment is most appropriate.

Watering: Keep soil well-watered (but not saturated) until ground freezes. This is especially important for evergreens and new plantings.

Weeding: Remove weeds before they go to seed. Weeds can also harbor diseases and insect pests.

Soil: You might want to add organic matter and lightly till it in. Avoid tilling or plant cover crops if erosion is a problem.

Protecting the Lawn: Don't forget about your lawn. Remove leaves to keep the grass from being smothered. (A thin layer can be mulched and left in place.) Keep mowing until growth stops. Long matted grass under snow cover encourages snow mold.

Protecting Plants

Extreme conditions can damage or kill plants no matter what you do. Think minimizing damage rather than eliminating it.

Winter Mulch: We use mulch in summer to help conserve moisture and inhibit weed growth. Winter mulch can help protect plants from temperature swings. The goal is not to keep the soil warm but to keep it uniformly cold all winter. This can help prevent frost heaving as well as unwanted growth during unseasonably warm winter weather.

Not all plants need winter mulch. Plants that are shallow-rooted, newly planted, or marginally hardy are most vulnerable.

Mulch should not be applied until the plant is dormant, the ground has partially frozen, and temperatures are consistently below freezing. This is usually not until the end of November or later. Use light bulky materials that will not compact. Weed-free straw, evergreen boughs, or shredded leaves are good choices.

Keep mulch away from the trunks of woody plants and stems or crowns of perennials. Mulch can hold unwanted moisture and provide cover for rodents.