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## Winterize Your Trees

As trees in our urban and suburban landscapes prepare for winter dormancy and cold, they could use a little extra care from you to ensure a good start in the spring. As the seasons change, trees prepare to overwinter in a dormant state. Dormancy is not death; it is a natural state in which trees prepare and adapt to cold conditions with physiological and structural adjustments. Even though the leaves are changing colors and falling to the ground, trees are still active, making necessary preparations for winter.

Winter conditions will make finding moisture a challenge—and keeping plant cells hydrated in winter is critical for survival. Potential sources of winter water include unfrozen soil; internal reservoirs; and the area above the ground, but just under the snow cover (the *subnivean zone*). If trees cannot find needed water in these areas,

expect poor health and growth the following spring.

Summer and fall drought conditions can place trees in an overall water deficit, predisposing them to pest issues and poor health the next growing season. Likewise, spring and summer weather affects the trees' ability to survive winter weather. Young or newly planted trees will require more attention because of limited abilities in obtaining water in their growing environment. The key to survival is giving trees adequate moisture before winter freezes the world around them.

Good cultural practices and proper plant health care make a difference in how much water is available to your trees in winter and how well they survive. Tips for winter preparation include:



**Trunk wrapping.** Smooth or thin-bark trees like honey locust, crabapples, linden, and especially maple, are susceptible to sunscald and frost cracks because of the temperature fluctuations from sun exposure in the winter. The wounds caused by temperature fluctuations can leave the tree exposed to fungal organisms, which cause decay in the tree. Prevention includes guarding the trunks of younger and smooth-bark trees up to about the first branches using a flexible, white tree wrap. Leave the wrap on until after the last freezing temperatures. Remove tree guards in the spring to reduce potential damage from disease and insects.



*Cracking can occur on smooth-bark trees during the winter months.*



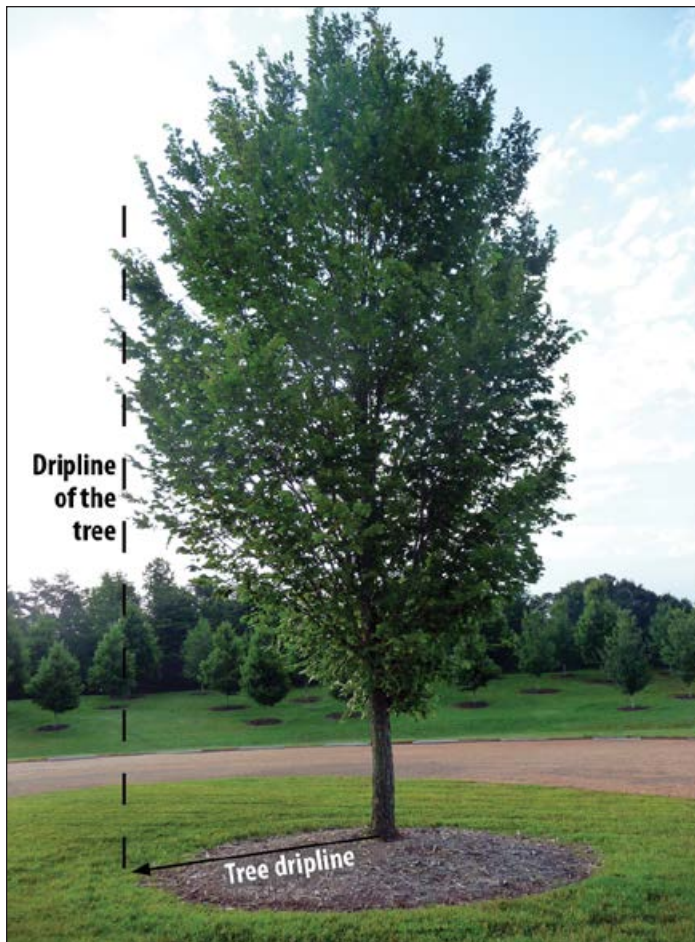
*Use flexible, white tree guards to protect trees with smooth bark from injury.*

**Mulching.** Mulch benefits trees all year long, not just during the summer months. Refresh the mulch layer placed in the spring so that there are about 2–3 inches of wood chips, bark, or other organic mulch over the root zone of the tree. Start at the base of the trunk, but not against it, and extend mulch to the edge of the outer branches or dripline. This will reduce soil evaporation, improve water absorption, and insulate against temperature extremes.



*Mulch should be maintained at 2-3 inches covering the root zone of newly planted trees.*





Extend mulch to the dripline of older, established trees.

**Pruning.** Late fall and early winter are acceptable times for limited, functional pruning of most tree species. Prune trees to remove dying, diseased, or dead branches, or to improve branching structure. This also is a good time to remove water sprouts and basal sprouts. However, limit the amount of green wood pruning going into winter to reduce the amount of energy reserves the plant must use to heal the pruning wounds. Be sure to use proper pruning practices as outlined in *Trees Need a Proper Start: Prune Them Right* (FNR-FAQ-19-W) found at Purdue Extension's The Education Store.

**Fertilizing.** If trees are not stressed from moisture deficits, apply a complete fertilizer with micronutrients. Use a low-nitrogen formulation (5-10-10 or similar ratio/combination) to prevent a late flush of new growth. Be sure to broadcast the material uniformly over the root zone and with sufficient water so that roots can absorb nutrients. You can apply water-soluble fertilizers during watering to provide nutrients as well. Follow label directions. Providing trees essential elements just before winter will enhance next season's growth.

**Watering.** Whenever rainfall is insufficient for extended periods, supplemental water is needed, especially on newly planted and less-established trees. Follow the "5 + 5 rule," which says to provide 5 gallons of water plus another 5 gallons for every diameter-inch of tree trunk. This should provide plenty of water to help a tree during times of inadequate rainfall. For mature and well-established trees, 1 inch of supplemental water applied to the root zone every week should keep soil moisture adequate. Continue to water through the fall until the ground is frozen, so that trees have ample moisture to survive the winter months and are ready for spring growth. If limited rain or snowfall in winter indicates drought, it may be necessary to water in the winter. The best time for winter watering is a warm day, when the temperature is above 40 degrees. Refer to *Drought? Don't forget the trees!* (FNR-483-W) for more information on watering trees.

These simple guidelines will help trees get off to a good start after the long winter, when we are ready to transition from snow white to growing green.

Nov 2013

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