



TEXAS A&M FOREST SERVICE

What's wrong with my Tree?

My Tree is losing its Leaves

It is normal for a tree to begin losing its leaves from late summer to early fall as it begins to go into winter dormancy, especially if it is a relatively dry summer; however, there may be reason to be concerned about the health of the tree if it is losing its leaves during the active growing season. Three reasons a tree may lose its leaves during the active growing season are:

- **Water Stress** - caused by inadequate or excessive water
- **Suffocation** - caused by raising soil grade or applying excessive mulch
- **Chemicals** - salt, excessive fertilizer, herbicides, or excessive chlorine in the water supply

Water Stress due to Inadequate Water:

If a tree does not have adequate water, the response is leaf wilting, followed by yellowing, browning, and finally leaf detachment. If precipitation is lacking, trees need supplemental water, especially during the hot dry summer months, and the first two years after being planted. If adequate moisture is being supplied to the tree, and the tree is still losing its leaves, there could be a more complex problem keeping the tree from being able to take up water. Reasons a tree may not be able to take up water:

- *Compacted soil*
- *Competition*
- *Disruption of the vascular system*

Compacted Soil

Heavy foot, vehicular, or machinery traffic can compact the soil, which inhibits water infiltration. To increase water infiltration, use a slow drip irrigation method around the tree's root system. To amend the compacted soil, aerate the soil and incorporate organic matter. For more information, see info sheet:

[Technical Tree Solutions - Vertical Mulching/Composting](#)

Competition

Other trees, shrubs, and grass can compete with a tree for water. Reducing the competition around a tree by thinning or removing the competing vegetation will



increase the amount of available water for the tree to take up. Sod grass can be grown in a sticky clay soil. If the sod is laid over the top of existing tree roots, the clay soil can act as a barrier and inhibit water infiltration. Aerate the clay layer to allow water infiltration.

Disruption of the Vascular System

A tree's vascular system takes up and transports water from the soil to the leaves, and includes the roots, trunk and branches. Disruption of the vascular system inhibits water uptake and transport, and can be caused by a physical injury or a vascular wilt disease. Physical injury to a tree's vascular system includes root severing, bark removal, and trunk or branch severing. It can be inflicted by humans, insects, animals or storms.

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Common human caused physical injuries to trees occur during trenching for underground utilities, soil grade changes, and mechanical injury during above ground construction.



Insects can cause physical injuries to the trunk and branches of trees by boring into the wood.



Animals cause physical injuries to trees by chewing or rubbing off bark, and breaking trunks and branches of small trees. For more information, see info sheet:

[Tree Health Issues: Injury to Trees from Animals.](#)



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Storms can cause physical injury to trees through limb breakage or lightning strikes. Vascular wilt diseases such as [Hypoxylon Canker](#), [Oak Wilt](#), and others clog the internal water conducting tissues of the tree and disrupt the vascular system, inhibiting water uptake and transport.

Water Stress due to Excessive Water:

If a tree is excessively watered, the response will be leaf wilting, gray or black spotting on the leaves, leaf curling, followed by leaf blackening and finally leaf detachment. Reasons a tree may be receiving excessive water are overwatering lawns, flooding, or planting moisture sensitive species in a low, water holding area. Soil moisture can be tested using a soil moisture meter. For more information on tree water needs, see info sheet:

[How do I Care for my Tree – Properly Watering Trees](#)

Suffocation caused by raising the Soil Grade:

Adding 3" or more of soil to the top of existing tree roots can reduce gas exchange and suffocate a tree. Remove the excessive soil as soon as possible.

Suffocation caused by excessive mulch:

Heavy dense mulches applied over 4" thick and piled around a tree trunk can limit gas exchange and inhibit water infiltration. For more information on mulching, see: [How do I Care for my Tree – Mulching Your Tree](#)



Chemicals:

Salt, excessive or quick release nitrogen fertilizer, herbicides (including weed and feed products), or excessive chlorine in the water supply can cause distorted leaf growth, leaf twisting & curling, followed by leaf yellowing, browning, and finally leaf detachment. If your tree has been affected by chemicals, contact an ISA Certified Arborist to determine treatment options and availability: www.isa-arbor.com/findanarborist