



Pecan

Pecan, the largest of the hickories, is native to about 150 Texas counties and can be grown anywhere in the state. This Texas state tree is at home in fertile, well-drained river and creek bottoms. Homeowners utilize the tree for its filtered shade as well as the hope for the occasional bumper crop of nuts in the fall. Some mature landscape pecan trees originated as natives from seed while others are specific varieties selected and planted by the homeowner.



While pecan is a tree native to river bottoms, it will grow on any well-drained soil if supplied with adequate moisture. It survives drought fairly well when situated on native river bottoms, but suffers when planted on shallow soils and soils disturbed by development making mulching and irrigation important management tools. The species is also sensitive to extreme cold temperatures.

It is very prone to branch failure due to heavy branch ends, poor tree structure, and the added weight of large nut crops. Most pecans benefit from periodic pruning, specifically thinning to reduce weight at branch ends.

Pecan has several disease and insect pest problems but none that commonly kill trees. *Scab* is a fungus disease that infects leaves and nuts in the spring and early summer. Infected nuts develop black spots and may drop before maturing or just die on the tree. Infected leaves have olive-brown to black spots and may shed early. Defoliation weakens the tree and will reduce nut production and quality in subsequent years. When planting new trees in the home landscape, disease resistant varieties are a must. Good choices include Chickasaw, Mohawk, and Choctaw. Stuart is an older variety that displays moderate resistance to pecan scab. In rainy springs, disease problems should be anticipated unless newer resistant varieties have been used.

Fall webworm is a major defoliator of pecan, producing up to four generations per year. Their webby nests remain throughout the winter making the tree unattractive. They can produce heavy defoliation that will damage tree health. An aphid-like insect called a *phylloxera* occasionally forms galls on both leaves and petioles resulting in premature leafdrop. Control of this insect requires careful timing of treatments.

Another important insect pest to those interested in the nut crop is the *pecan weevil*. Adult feeding causes a tobacco-like stain at the site where the beetle punctures the nut. This happens during the water stage and causes premature nut drop. The feeding of the larvae within the shell causes a second more important type of damage. The female adult beetle inserts the egg through the husk. After egg hatch, the larva feeds and grows, destroying the kernel. At maturity weevil larvae chew a 1/8-inch diameter hole through the nut and drop to the ground to complete their life cycle. In some years as much as 95% of the nut crop can be lost to weevil damage.

There is an array of other insect and disease pests that can impact tree health by infecting or eating foliage and attacking roots. *Spider mites* can give the foliage a bleached appearance while in certain seasons *aphids* may build to high numbers. This sucking insect not only damages the tree but also creates a nuisance by secreting sticky “honeydew” onto objects below. During wet or humid conditions, *powdery mildew* and *anthracnose* may damage foliage. *Crown gall*, a bacterial disease, causes large woody galls to form on the roots, root flairs, and lower trunks and may lead to premature decline in young trees.

Fertilization

Heavy nut crops put a heavy drain on the stored food supply of the tree. Regular fertilization with slow release fertilizer such as Boost® or Boost granular is important to produce vigorous growth in young trees and to maintain health in established trees. Periodic soil analysis to ensure optimum pH and secondary and micronutrient availability is also critical to good plant health.

Pecan is a heavy user of zinc and has a difficult time extracting enough from the soil. Extra zinc may sometimes need to be added to avoid symptoms of deficiency. Without sufficient zinc the inner nodes between buds is shortened and the foliage takes on a clumped appearance called rosetting.

Recommended Monitoring for Pecan

Timing	Treatment
Winter	Structurally prune young trees to develop a strong structure for the future. In mature trees, prune to remove dead and dying branches and thin to reduce branch weight as needed. Gather up and dispose of fallen leaves and husks that harbor overwintering pests. Inspect for sapsucker woodpecker damage.
Early Spring	Apply first treatment for pecan scab and other diseases (if a wet spring). Treat for phylloxera if severe in the previous year.
Spring	Apply a second treatment for pecan scab/diseases (if a wet spring) If needed apply a third treatment for scab and other diseases (2 weeks later).
Early Summer	Inspect for casebearer eggs/damage and webworms. Begin monitoring for aphids. Make treatment as needed.
Midsummer	Observe for zinc rosette symptoms (zinc deficiency). Monitor for fall webworm, walnut caterpillar, aphids, mites, & phylloxera. Perform foliar nutrient analysis if needed.
Early Fall	Apply first treatment for pecan weevil (water stage). Continue to scout and treat for webworm.
Fall	Apply second treatment for pecan weevil (10-14 days after the first). Fertilize to maintain soil nutrient levels.