

# PLANT HEALTH CARE REPORT



## Pecan

Pecan (*Carya illinoensis*), a type of hickory, is grown throughout the southeastern United States as a commercial food crop. Homeowners utilize the tree for its filtered shade as well as the hope for the occasional bumper crop of nuts in the fall. Often, mature pecan trees are an artifact of the land's prior use as an orchard and not selected by the homeowner. If this is the case, the pecan variety is likely unknown and susceptible to disease since most disease-resistant varieties have been developed in the last quarter century.

When planting new trees in the home landscape, select disease-resistant cultivars. Good choices include 'Elliott', 'Excel', and 'Lakota'.

Pecan is native to river bottoms, but will grow on any well-drained soils when supplied with adequate moisture. It is sensitive to drought and extreme cold. It grows the largest of any of the hickories and is prone to branch failure due to heavy branch ends and the weight of large nut crops. Most pecans benefit from periodic pruning to reduce weight at branch ends.

Because heavy nut crops expend the stored food supply of the tree, regularly applying a slow-release fertilizer is important to produce vigorous growth in



154-year-old pecan that was removed in 2013 at Mt. Vernon, Virginia



Pecan nuts developing in early fall  
Photo courtesy of Pixabay

young trees and to maintain health in established trees. Soil sampling is recommended every three years to guide fertilization and soil care programs. Pecan is a heavy user of zinc, which may need supplemented to avoid symptoms of deficiency. Without sufficient amounts of zinc, the inner nodes between buds are shortened and the foliage takes on a clumped appearance called rosetting.

Pecan has several disease and insect problems that affect nut yield but none that commonly kill the tree. The most economically important disease is pecan scab, caused by a fungus (*Venturia effusa*) that infects leaves and nuts in the spring and early summer. Infected nuts develop black spots and may drop before maturing or die on the tree. Infected leaves have olive-brown to black spots and may shed early. Other foliar diseases that may be serious during wet or humid conditions are powdery mildew and anthracnose. Crown gall, a bacterial disease, causes large woody galls to form on the roots, root flare, and lower stem. Crown gall can cause premature decline in young trees.

A major insect pest is the pecan weevil (*Curculio caryae*). This tiny, snouted beetle emerges from the soil under the tree in late summer after spending almost two years in the ground. The adult beetle enters the tree by flying or crawling up the stem. Two types of damage to the tree occur:

- 1) Adult feeding causes a tobacco-like stain at the site where the beetle punctures the husk and deposits eggs. This causes premature nut drop.

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## Monitoring and Treatment Considerations for Pecan

### Winter

Remove dead, dying, diseased, and broken branches. Reduce or remove branches to promote appropriate structure in young trees and reduce risk of branch failure in mature trees. Gather and dispose of fallen leaves and husks that harbor overwintering pests. Inspect for sapsucker woodpecker damage; apply burlap wrap as needed.

### Early spring

Apply first fungicide treatment to suppress pecan scab and other diseases at budbreak. Monitor for phylloxera; treat if severe in previous year.

### Mid-spring

Apply second fungicide treatment to suppress pecan scab and other diseases when catkins are evident. Monitor for aphids; treat as needed.

### Late spring

Apply third fungicide treatment to suppress pecan scab and other diseases.

### Early summer

Apply fourth fungicide treatment to suppress pecan scab and other diseases as needed. Monitor for casebearer eggs/damage and webworm nests; treat as needed.

### Midsummer

Monitor for fall webworm, walnut caterpillar, mites, and phylloxera; treat as needed. Inspect for zinc rosette symptoms. Sample for foliar nutrient analysis if deficiency is suspected.

- 2) A more significant type of damage is caused by the feeding of the larvae on the kernel. At maturity, the weevil larvae chew a 1/8 inch diameter hole through the nut and drop to the ground, completing their life cycle.

In some years, as much as 95% of the nut crop can be lost to weevil damage.

Fall webworm is a defoliator of pecan, producing up to four generations per year. Their webby nests remain throughout the winter making the tree unattractive. Heavy defoliation will affect tree health.

A variety of other pests can reduce nut yield and impact tree health by infecting or eating foliage and attacking roots. The more common pests affecting nuts include nut casebearer, shuckworms, and stinkbugs. Spider mites can give the foliage a bleached appearance, and in some seasons, aphids may build to high numbers. This sucking insect not only damages the tree but also secretes sticky honeydew onto objects below. An aphid-like insect, phylloxera, occasionally forms galls on both leaves and petioles resulting in premature leaf drop. Control of phylloxera requires careful timing of treatments. Foliage may also be damaged by leaf-eating caterpillars, such as the walnut caterpillar moth.

## Early fall

Apply first treatment for pecan weevil. Monitor for fall webworm; treat as needed. Apply second treatment for pecan weevil 10 days after the first. Fertilize, adjust pH, and amend soil according to soil analysis.

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