



# Pecan

Pecan, 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. Probably more mature pecan trees are an artifact of the prior land use (as an orchard), than as a deliberate act of selection on the part of the homeowner. Therefore, the actual pecan variety is unknown. Most mature landscape pecans are not highly disease resistant because most of these varieties have been developed in the last quarter century.



Pecan is a tree native to river bottoms, but will grow on any well-drained soils when supplied with adequate moisture. It grows the largest of any of the hickories and is sensitive to extreme cold and to drought. It is very prone to branch failure due to heavy branch ends and the weight of large nut crops.

Pecan has several disease and insect pest problems but none that commonly kill trees. Any pest that affects nut yield is a concern of the pecan tree owner. Scab is a fungus disease that infects leaves and nuts in the spring and early summer. Infected nuts develop black spots, and then may drop before maturing or just die on the tree. Infected leaves have olive-brown to black spots and may shed early. When planting new trees in the home landscape, disease resistant varieties are a must. Good choices include Chickasaw, Mohawk, Stuart, and Choctaw.

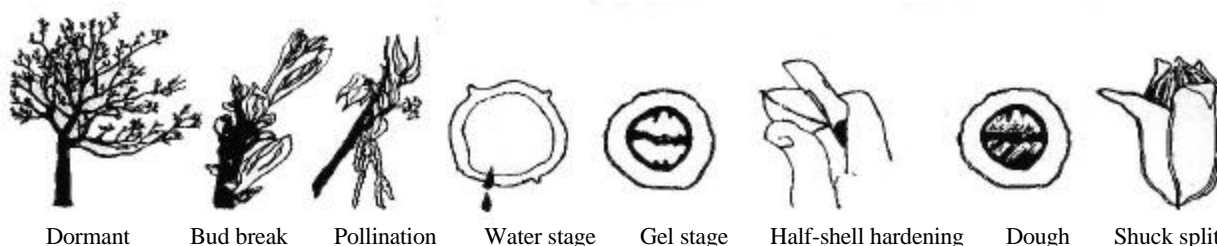
A major insect pest is the pecan weevil. This tiny, snouted beetle emerges from the soil from under the tree in late summer after spending almost two years in the ground. The adult beetle enters the tree by flying or crawling up the trunk. Two types of damage occur. Adult feeding causes a tobacco-like stain at the site where the beetle punctures the nut. This happens during the water stage and causes premature nut drop. A second more important type of damage is caused by the feeding of the larvae within the shell. The female adult beetle inserts the egg through the husk. After egg hatch, the larvae feed and grow destroying the kernel. At maturity the weevil larvae chew a 1/8-inch diameter hole through the nut and drop to the ground. 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 can make a tree unattractive and remain throughout the winter. Heavy defoliation will affect tree health.

There is an array of other insect and disease pests that 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. Foliage is damaged by spider mites, aphids, phylloxera, and the walnut caterpillar. Other foliar diseases that may be serious during wet growing seasons are powdery mildew and anthracnose. Crown gall, a bacterial disease, causes large woody gall to form on the roots, root flairs, and lower trunks. Crown gall can cause premature decline in young trees.

### Seasonal Pecan Pest Profile

The development of various pecan pests is usually closely related to the seasonal development of the pecan. Although the severity of insect problems cannot be predicted on a seasonal basis, tree owners should frequently determine tree and nut development to aid them in predicting insect problems associated with various developmental stages of the pecan.



**Dormant:** Period from leaf drop to bud break

**Bud break:** The bud scale splits and the leaf begins to expand.

**Pollination:** Catkins are shedding pollen and stigmas are receptive.

**Water stage:** The nut interior is filled with water.

**Gel stage:** Interior of the immature kernel is filled with a gel-like substance.

**Half-shell hardening:** Resistance can be felt when cutting through nut.

**Dough:** The gel of the kernel begins to solidify.

**Shuck split:** shuck begins to split exposing the shell.

### Recommended Monitoring for Pecan

Timing	Treatment
Winter	Structurally prune young trees to develop strong structure for the future. In mature trees, prune to remove dead and dying branches and thin to reduce branch weight as needed. Gather 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 (bud break). Treat for pecan phylloxera if severe in previous year.
Spring	Apply a second treatment for pecan scab/diseases (pollination). Apply a third treatment for scab and other diseases (2 weeks later). Monitor and treat for aphids.
Early Summer	Apply a fourth scab/diseases treatment (if needed). Inspect for casebearer eggs/damage and webworm nests. Make treatment if needed.
Midsummer	Observe for zinc rosette symptoms (zinc deficiency). Monitor for fall webworm, walnut caterpillar, mites, & phylloxera. Perform foliar nutrient analysis if needed.
Early Fall	Apply first treatment for pecan weevil (water stage). Scout for and treat fall webworm as needed.
Fall	Apply second treatment for pecan weevil (10 days after the first). Fertilize to maintain soil nutrient levels.