PECAN MANAGEMENT

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UNIVERSITY OF GEORGIA EXTENSION

Bearing trees only | Both non-bearing and bearing trees | Non-bearing trees only

JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC

TREE PHENOLOGY

- Dormant
- Bud break
- Vegetative growth
- Second vegetative growth flush
- Leaf senescence
- Dormant

- **Prepollination** — 10 to 14 days
- **Pollination**
- **Postpollination** — Stigmas turn brown; catkins drop; first nut drop occurs; one to 21 days
- **Early nut sizing** — Nuts grow slowly; fertilization occurs; second nut drop
- **Rapid nut sizing** — Nuts grow rapidly but no kernel development yet; early water stage; third nut drop
- **Late nut sizing** — Mid-water stage Shell hardening begins at tip
- **Early kernel filling** — Water stage; shell hardening half complete
- **Kernel filling** — Late water stage; early gel and dough stages; shell hardening complete
- **Flower induction for next crop year**
- **Late kernel filling** — Late dough stage; kernel development near completion
- **Shuck split** — Kernel development complete; nuts can be shaken from shucks

DISEASE MANAGEMENT

- **Fungicide sprays at budbreak**
- **Prepollination fungicide sprays at 10- to 14-day intervals based on disease potential**
- **Postpollination fungicide sprays at 10- to 21-day intervals based on disease potential** — Close to 10 days during wet weather toward the end of the month
- **Continue fungicide sprays at 14-day intervals**
- **Fungicide may be needed under heavy disease pressure**
- **Pecan scab** is possible on immature foliage and expanding wood throughout the year. **Most young, non-bearing trees do not require fungicide applications.** With highly susceptible cultivars (e.g., 'Desirable' and 'Pawnee'), fungicide applications can be coordinated with insecticide applications.

INSECT AND MITE PEST MANAGEMENT

- **Ambrosia beetles** Deploy alcohol-baited log traps along borders of wooded areas adjacent to young orchards. Look for holes and sawdust toothpicks as signs of attacks. Once attacks are detected on traps, scout for attacks on vulnerable trees (young, stressed, and under flooded conditions). Spray pyrethroids every seven to 10 days on infested trees.
- **May/June beetles** Infestations are sporadic and irregular. They actively feed at night so injuries are not normally associated with insect presence during daytime.
- **Black pecan aphid** High numbers or signs of infestation are common later in the season. Feeding from black aphids cause necrotic areas on the leaves. Repeated gibberellic acid sprays starting mid-July to prevent injury and aphid establishment in orchards. If established, use aphid-targeted materials to control. It's best to rotate materials to delay insecticide resistance.
- **Bud moths** Trees with new growth are vulnerable to attacks by bud moth larvae. Scout for rolled-up leaves and dead terminals. Treatment should be done before larvae bore into the shoots. Feeding can kill main terminals causing lateral branching. Use insecticides targeting caterpillars.
- **Leaf scorch mites** Infestation can occur when broad-spectrum insecticides were used earlier in the season and during hot and dry weather. Scout for leaf scorch mites on the underside of leaves, particulary along the mid-vein.
- **Borers (flatheaded apple tree borers, twig girdlers, twig pruners)** Infestations from these borers are sporadic and patchy. Keep an eye on the types of injuries they can cause on young trees.
- **Phylloxera** For orchards with a previous history of infestation, treat with imidacloprid at budbreak.
- **Yellow aphid and blackmargined aphid** Early-season aphid infestation rarely requires control. Avoid using broad-spectrum insecticides. If late-season infestation occurs, rotate materials.
- **Leaf-feeding caterpillars (walnut caterpillars and webworms)** These pests occur in groups. Use physical removal when under light infestation levels. Treatment with caterpillar products may be necessary under high infestation.
- **Nut casebearers** Deploy sex pheromone-baited traps in mid-April. After 10 to 14 days, scout for eggs and larvae. Nut casebearer infestation can serve as a natural thinning mechanism. Treat only if needed (early to mid-May).
- **Hickory shuckworms** Orchards with a previous history of shuckworm may need to treat as early as the beginning of June. Orchards with phylloxera infestations may need to manage for shuckworm using caterpillar products.
- **Pecan weevils** High emergence occurs from late July to late September. Deploy traps in late July in orchard blocks with known history of infestation. Monitor regularly for captures and treat whenever sustained captures are observed, especially following rain.
- **Stink bugs** Maturing nuts and matured nuts can be vulnerable to stink bug attack. Pheromone traps and visual surveys can be used to monitor stink bug populations depending on the species.

FERTILIZATION

- Take soil samples
- Apply lime
- Zinc, phosphorus, and magnesium may be applied to the orchard floor
- Apply potassium to dry and irrigated orchards
- Apply all potassium and phosphorus
- Fertilize dryland orchards according to leaf and soil analysis
- Make foliar zinc, nickel, and boron applications
- Make first nitrogen application to mature trees — Two-thirds of total expected annual rate
- Fertilize young trees (second year and up)
- Apply nickel sprays to mouse ear affected trees as needed
- Obtain leaf tissue samples — 75 pairs of middle leaflets from the dominant tree variety
- Soil samples may be taken
- Make foliar sulfur applications
- Make second nitrogen application to mature trees if crop load is good — One-third of total expected annual rate
- Fertilize first-year trees exhibiting good growth, and make second fertilizer application to second-year trees and up
- Make foliar zinc and nickel applications if new growth flush is present or deficiency symptoms appear
- Assess crop load, and if heavy, make third nitrogen application to mature trees — One-third of total expected annual rate. Do not apply nitrogen if there is no crop on trees
- Take soil samples
- Lime, zinc, phosphorus, and magnesium may be applied
- Make nickel application to severely deficient trees

IRRIGATION

48-70 gal/tree/day 576-840 gal/acre/day 16-20% full capacity Drip cycle: 60% Sprinkler (in./acre): 0.5 in.	75-105 gal/tree/day 900-1260 gal/acre/day 25-30% full capacity Drip cycle: 70% Sprinkler (in./acre): 0.75 in.	90-140 gal/tree/day 1080-1680 gal/acre/day 35-40% full capacity Drip cycle: 80% Sprinkler (in./acre): 1.0 in.	120-158 gal/tree/day 1440-1896 gal/acre/day 45-50% full capacity Drip cycle: 90% Sprinkler (in./acre): 1.25 in.	300-350 gal/tree/day 3600-4200 gal/acre/day 100% full capacity Drip cycle: 100% Sprinkler (in./acre): 1.5 in.	300-350 gal/tree/day 3600-4200 gal/acre/day 100% full capacity Drip cycle: 100% Sprinkler (in./acre): 1.5 in.	90-140 gal/tree/day 1080-1680 gal/acre/day 35-40% full capacity Drip cycle: 90% Sprinkler (in./acre): 1 in.	Drip cycle: 60% Sprinkler (in./acre): 0.5 in.

- Turn irrigation off for three days when receiving >1 in. of rain. Sandy soils: Use higher end of rate. Clay soils: Use lower end of rate
- 1- to 3-year-old trees: Apply 100 gallons per week
- 1- to 3-year-old trees: Apply 100 gallons per week
- 1- to 3-year-old trees: Apply 100-130 gallons per week
- 1- to 3-year-old trees: Stop irrigating

OTHER PRODUCTION ACTIVITIES

- Thin overcrowded orchards
- Clean up limbs and debris
- Service and repair equipment
- Collect and store graftwood
- Dig trees
- Prune, hedge, or train trees
- Plant or move trees
- Plant nuts
- Whip graft
- Bark graft
- Four flap graft
- Keep orchard mowed — Unless allowing clover to re-seed
- Summer hedge pruning
- Examine June drop and determine cause — Pollination- or insect-induced
- Keep orchard mowed — Mechanical or chemical mowing
- Order new trees for planting
- Apply herbicides as needed
- Patch bud
- Fruit thin
- Prepare for harvest — Mow orchard, remove debris, and service equipment
- Be aware of preharvest intervals for all chemicals applied
- Early harvesting may begin
- Nuts may need mechanical drying
- Market crop
- Prepare site for new planting
- Harvest early for top quality and price
- Do not allow pecans to lie on ground for extended period of time
- Collect and stratify nuts for new planting
- Prevent damage to crop from nuisance wildlife
- Continue harvest and marketing of crop if not complete
- Thin overcrowded orchards
- Clean up limbs and debris
- Service and repair equipment
- Dig up nursery trees
- Prune or train trees
- Plant trees