



Protecting Your Trees: Managing Pests, Diseases and Other Orchard Challenges

Overview

Managing pests and diseases in home pecan orchards requires a different approach than commercial production. Most homeowners lack access to air-blast sprayers, restricted-use pesticides or the labor needed for intensive monitoring. Instead, success depends on **low-input, practical strategies** that emphasize prevention, good tree care and timely intervention when problems arise.

In Louisiana's humid climate, disease pressure, especially from pecan scab, can be high. Likewise, insect pests such as aphids, shuckworms and pecan weevils are common. But with thoughtful planning and a few key practices, many issues can be minimized or managed without routine spraying.

This publication focuses on **what to do when problems appear**, especially in settings where spraying is limited or not feasible. It includes homeowner-accessible tools and techniques such as:

- Choosing scab-tolerant cultivars and planting sites with good airflow
- Using sanitation, pruning and canopy management to reduce pressure
- Applying labeled fungicides and insecticides only when needed and only when feasible
- Addressing wildlife pressure and non-pest concerns that often prompt homeowner calls

Note on integrated pest management: This publication focuses on practical, homeowner-friendly actions to manage pests, diseases and other orchard challenges. For a broader, systems-based approach, including how to monitor pests, plan ahead and integrate multiple control strategies, see other titles in the From Soil to Shell: Louisiana Pecan Series and the Louisiana Home Orchard: Pecans publication available through the LSU AgCenter.. Together, these offer both the “what to do” and the “why and when” behind effective orchard care.

This publication will cover:

1. **Recognizing and Managing Pecan Diseases:** Major disease of pecan scab, leaf and shoot diseases, wood and crown diseases, surface growths and secondary issues.
2. **Recognizing and Responding to Pecan Pests:** Nut and shuck feeders, foliage feeders, sucking insects, gall-forming pests, trunk and limb pests, scale insects, nonpest organisms.
3. **Practical Care and Knowing When to Ask for Help:** Guidance on when to contact extension or a certified arborist, with examples of situations that warrant outside help.

1. Recognizing and Managing Pecan Diseases

Pecan trees in Louisiana are vulnerable to several fungal diseases, especially in humid regions where moisture lingers on leaves and shucks. While commercial growers rely on intensive fungicide programs to manage these threats, most homeowners lack the equipment or time to spray regularly. That makes **cultivar resistance**, **site selection** and **canopy management** the most important tools for disease control in home orchards.

Among all diseases, **pecan scab** is by far the most serious. It can reduce yield, damage nut quality and weaken trees over time, especially in susceptible cultivars. Other diseases like **powdery mildew**, **downy spot** and **anthracnose** may appear occasionally but are usually less damaging in low-input settings.

This section focuses on identifying common diseases, understanding their life cycles, and using practical, homeowner-friendly strategies to reduce their impact.

Major Disease: Pecan Scab

Pecan Scab (*Venturia effusa*)

Pecan scab is the most destructive disease of pecans in Louisiana, especially in humid regions. It affects leaves, twigs and nut shucks, reducing photosynthesis, weakening tree vigor, and in severe cases, causing total crop loss.

Timing:

- Most active from budbreak through late summer; infections peak during wet weather.

Identification:

- **Leaves:** Olive-brown to black spots along midribs and veins; lesions may coalesce and cause early leaf drop.
- **Nut shucks:** Pinpoint black lesions that expand and darken; may cause stick-tights and poor kernel development. Severe scab early can cause nuts to abort.
- **Shoots:** Lesions on young twigs in wet springs; may cause dieback.

Cultural control:

- Choose scab-resistant cultivars (e.g., Elliott, Kanza, Amling, Lakota, Woodman).
- Plant in open, sunny sites with good air drainage.
- Use wide spacing (50-by-50 feet or greater) to improve airflow.
- Prune to open the canopy and reduce interior shading.
- Rake and remove fallen leaves and shucks in winter to reduce overwintering inoculum.



This pecan leaflet shows small, olive-brown to black scab lesions along the midrib and veins.
Photo by William Reid



A cluster of leaves shows multiple scab lesions. Severe infections can cause early leaf drop and reduce tree vigor. Photo by William Reid

Monitoring:

- Inspect lower canopy and shaded areas for early lesions.
- Watch for stick-tights (nuts that fail to open or release from the shuck at maturity) and poor kernel fill in susceptible cultivars.

Chemical control:

- Not practical for mature trees in home settings.
- For young trees, preventive sprays with phosphorous acid (Group P07) or boscalid + pyraclostrobin (Groups 7 + 11) may help.
- Rotate fungicide modes of action to reduce resistance risk.
- Apply only when trees are small enough to spray effectively.

Unopened pecan shucks remaining on the tree after harvest, a condition known as stick-tights. This often results from drought stress, poor pollination or late-season disease pressure, leaving kernels unfilled or poorly developed. Photo by William Reid



Healthy pecans with open shucks, at left, as compared to stick-tights which fail to open and often contain shriveled kernels. Stick-tights reduce marketable yield and indicate stress or disease during nut development. Photos by William Reid



Visual identification table: Pecan scab symptoms.

Plant Part	Symptom Description	Notes
Leaves	Small, olive-brown to black spots along midrib or veins	Lesions may coalesce; severe infections cause early leaf drop
Nut shucks	Pinpoint black spots that expand into dark, sunken lesions	May cover entire shuck; leads to stick-tights and poor kernel development
Shoots/twigs	Dark lesions on young, tender growth	Can cause dieback in wet springs or on young trees
General pattern	Symptoms worsen in wet, humid weather; more severe on susceptible cultivars	Often starts in lower canopy or shaded areas

Cultivar Resistance, Site Selection and Tree Spacing

The most effective way to manage pecan scab in home orchards is to **avoid it altogether**, and that starts with choosing the right cultivars and planting them in the right place.

Cultivar Resistance

Scab resistance varies widely among pecan cultivars. In home settings where fungicide spraying is limited or impractical, **resistance is nonnegotiable**. Cultivars like Elliott, Kanza, Amling, Lakota and Woodman have shown



Exterior view of pecan nuts with scab lesions increasing in severity from left to right. Heavy infection can cause blackened shells, poor nut fill and crop loss in susceptible cultivars. Photo by William Reid

strong resistance under Louisiana conditions and are recommended for low-input orchards. Others, like Desirable or Schley, are highly susceptible and should be avoided unless a full spray program is in place.

Even resistant cultivars can show some symptoms in high-pressure years, but they typically maintain foliage and produce usable nuts without intervention. For this reason, **cultivar choice is the single most important decision** a homeowner can make to reduce scab risk.

Site Selection

Where you plant matters just as much as what you plant. Scab thrives in **humid, poorly ventilated environments**, especially in low-lying areas where air stagnates and moisture lingers after rain or dew.

To reduce disease pressure:

- **Choose elevated sites** with good air drainage.
- **Avoid planting in swales, near dense woods or in shaded areas** where humidity remains high.
- **Orient rows to maximize airflow**, ideally north to south or southeast to northwest, so prevailing winds can move through the canopy.

Tree Spacing

Tight spacing increases humidity and reduces airflow, both of which favor scab development. While commercial orchards often use 40-by-40-foot spacing to maximize early yield, this leads to crowding and disease pressure within 15 to 20 years.

For home orchards, wider spacing is better:

- **50-by-50 feet:** A good balance for airflow and long-term canopy development
- **60-by-60 feet or wider:** Ideal for minimizing scab pressure and reducing the need for pruning or thinning

Wider spacing also makes it easier to mow, harvest and monitor trees as they mature, further supporting long-term tree health.



Cross-sections of pecan nuts showing progressive scab infection from left to right. Severe scab reduces kernel development and quality, leading to shriveled or poorly filled nuts. Photo by William Reid



The left cluster shows advanced scab infection causing husk blackening and early nut drop (arrow), while the right cluster shows green husks with scab spots beginning to spread. Timely fungicide applications are critical to prevent crop loss in susceptible cultivars. For homeowners or low-input orchards, starting with resistant or tolerant cultivars is the most effective long-term strategy. Photos by William Reid



Dropped pecan nuts showing heavy scab infection. Husks are darkened and covered with fungal lesions, often accompanied by mold growth. Severe scab reduces nut quality and commonly leads to premature nut drop in humid regions without fungicide protection. Photo by William Reid

When Fungicides Are Practical in Home Orchards

Fungicides can be useful in managing pecan scab and other diseases, but their practicality depends on tree size, cultivar susceptibility and equipment access. In **low-input home orchards planted with resistant cultivars** like Elliott, Kanza or Amling, **three to four well-timed sprays per season** may be sufficient to maintain healthy foliage and nut quality, especially during wet springs or in high-pressure years.

For **young trees under 15 feet tall**, fungicide applications are often feasible using **hose-end, backpack or pump sprayers**. These tools can provide adequate coverage when trees are small and the canopy is still open.

For **larger trees**, fungicide use is only practical if the homeowner has access to **specialized equipment** such as a **high-pressure sprayer, mist blower or PTO-driven sprayer** capable of reaching the upper canopy. Without this equipment, coverage is often incomplete, and sprays may offer limited benefit.



A tractor-mounted air-blast sprayer is designed to reach the upper canopy of mature pecan trees. This type of equipment is essential for achieving full coverage on large trees, but it is rarely practical for most home orchards. Photo by William Reid

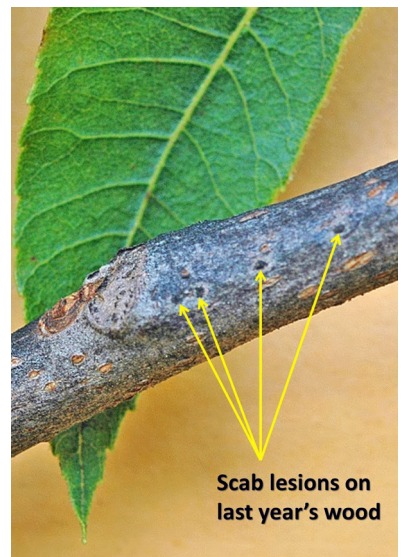
Dark, sunken scab spots are visible on tender shoots and developing nuts. These early-season infections weaken new growth and reduce nut quality, spreading quickly under wet conditions. Resistant cultivars and timely fungicide applications are the most effective strategies for control. Photo by William Reid



Dark, raised scab lesions show on last year's shoots and buds. These overwintering infections serve as a source of spores for new growth in spring, increasing disease pressure early in the season. Photo by William Reid



Scab lesions are marked on last year's wood. Infected shoots allow the fungus to persist and spread when conditions become favorable. For homeowners and low-input orchards, planting resistant or tolerant cultivars is the best strategy to reduce long-term disease risk. Photo by William Reid



Scab lesions on last year's wood

It's also important to match your spray schedule to your cultivar. **Highly susceptible cultivars** like Desirable may require **frequent applications every 10 to 14 days** during periods of active growth and rainfall — something that is rarely practical in home settings. In contrast, **resistant cultivars** can often be managed with **fewer, strategically timed sprays**, or even none in dry years.

In most home orchards, the best long-term strategy remains **planting scab-resistant cultivars** and managing airflow through **site selection, pruning and wide spacing**. Fungicides may offer short-term help on small or well-equipped trees, but they are not a substitute for good planning and cultural practices.

Active Ingredients to Look For

The following active ingredients are labeled for use on pecans and may be available in homeowner-sized packaging. Always follow label directions and observe preharvest intervals.

Fungicides labeled for use on pecans in home landscapes.

Active Ingredient	FRAC Group	Efficacy Against Scab	Resistance Risk	Notes
Propiconazole	3	Good (if no resistance)	Medium	Systemic; labeled for nonbearing trees only; rotate with other groups
Phosphorous acid (phosphite)	P07	Good	Low	Systemic; effective on both leaf and nut scab; useful in rotations
Boscalid + pyraclostrobin	7 + 11	Good (if no resistance)	Medium-High	Combination product; rotate with other FRAC groups
Neem oil/neem extract	NC	Unknown	Low	Limited data; may suppress disease under low pressure
Sulfur	M02	Poor	Low	Limited efficacy; avoid in hot weather due to burn risk
Copper-based products	M01	Variable	Low	Broad-spectrum; less effective on scab; phytotoxicity possible in heat

Limitations and Considerations

- **Coverage is critical.** Contact fungicides must coat all leaf and nut surfaces to be effective. The effectiveness of systemic fungicides is also increased with better coverage.
- **Height is a barrier.** Most trees over 15 to 20 feet tall cannot be sprayed effectively without commercial equipment.
- **Timing matters.** Fungicides are preventive, not curative. Delayed applications offer little benefit.
- **Resistance risk.** Repeated use of a single fungicide group (e.g., Group 3) can lead to resistance. Rotate modes of action when possible.

For most homeowners, the best long-term strategy is to **plant scab-resistant cultivars** and manage airflow through **site selection, pruning and spacing**. Fungicides may offer short-term help on small trees, but they are not a substitute for good planning and cultural practices.

Cultural Practices to Reduce Pressure

In home orchards, cultural practices are often the most practical and effective tools for reducing pecan scab pressure, especially when fungicide use is limited or not feasible. These practices work by improving airflow, reducing leaf wetness and minimizing sources of inoculum.

1. **Choose open, sunny planting sites:** Scab thrives in humid, shaded environments. Plant trees in areas that receive full sun and allow for good air movement. Avoid low-lying sites, swales, or areas near dense woods where moisture lingers after rain or dew.
2. **Maintain wide tree spacing:** Tight spacing increases canopy humidity and reduces airflow. In home settings, wider spacing (e.g., 50-by-50 feet or 60-by-60 feet) helps reduce scab pressure and improves access for mowing, pruning and harvest. Avoid crowding trees near buildings or other large trees.
3. **Prune to open the canopy:** As trees mature, dense canopies can trap moisture and shade lower limbs. Periodic thinning of interior branches improves light penetration and airflow, both of which help leaves and nuts dry more quickly after rain. This is especially important for older trees that are no longer sprayed.
4. **Remove diseased debris:** Scab can overwinter on infected leaves and shucks. In small plantings, collect and discard fallen debris in winter to reduce the amount of inoculum present at budbreak. While not always practical for large trees, this practice can help in smaller or younger orchards.
5. **Avoid overhead irrigation:** If irrigation is used, avoid wetting the foliage. Drip or micro-sprinkler systems are preferred. Wet leaves, especially in the evening, create ideal conditions for scab infection.
6. **Manage groundcover and weeds:** Tall grass and unmanaged groundcover can trap humidity and reduce airflow near the base of the tree. Maintain a mowed orchard floor and consider mulching or using low-growing legumes like clover to suppress weeds while improving soil health.

Leaf and Shoot Diseases

Powdery Mildew (*Erysiphe penicillata*)

Powdery mildew is a fungal disease that occasionally affects pecan foliage and nut shucks, especially in humid conditions. It is usually cosmetic in home orchards but can reduce nut quality in susceptible cultivars.

Timing:

- Most common in late spring and early summer

Identification:

- **Leaves and shucks:** White, powdery fungal growth on surfaces; may cause distortion or reduced nut size

Cultural control:

- Choose resistant cultivars when possible.
- Maintain good airflow through pruning and wide spacing.

This cluster of pecan nuts has white, powdery fungal growth covering the husks. Powdery mildew is most common in late spring and early summer during humid conditions. While usually cosmetic in home orchards, severe infections can reduce nut size and quality in susceptible cultivars. Photo by William Reid



Monitoring:

- Inspect young leaves and nut shucks for powdery white patches.

Chemical control:

- If treatment is desired on small trees, sulfur (Group M02) or neem oil may suppress symptoms.
- Avoid sulfur applications during hot weather to prevent leaf burn.

Bacterial Leaf Scorch (*Xylella fastidiosa* subsp. *multiplex*)

This bacterial disease causes progressive leaf scorch and branch dieback. It is incurable and can spread slowly through a tree over several years.

Timing:

- Symptoms appear mid- to late summer and worsen over time.

Identification:

- **Leaves:** Brown, scorched edges progressing inward from the margins
- **Branches:** Progressive dieback, often starting on one limb

Cultural control:

- Prune out symptomatic branches if caught early.
- Avoid planting infected trees or using infected scion wood.

Monitoring:

- Watch for scorched leaf margins and uneven defoliation.

Chemical control:

- No chemical treatments are available.
- Management is limited to sanitation and removal of infected material.



A Lakota pecan leaf shows brown, scorched edges progressing inward from the margins — a key symptom of bacterial leaf scorch caused by *Xylella fastidiosa* subsp. *multiplex*. Photo by Michael Polozola

Gnomonia Vein or Leaf Spot (*Gnomonia nerviseda*)

This fungal disease causes dark lesions between leaf veins. It is usually minor but may contribute to early defoliation in wet years.

Timing:

- Most noticeable in mid- to late summer

Identification:

- **Leaves:** Smooth, dark brown to black spots restricted by lateral veins

Cultural control:

- Rake and remove fallen leaves in winter to reduce inoculum.
- Maintain tree vigor and airflow.

Monitoring:

- Inspect leaves for vein-centered lesions, especially in Elliott and other susceptible cultivars.

Chemical control:

- If symptoms are severe and trees are small enough to spray, phosphorous acid (Group P07) or copper-based fungicides (Group M01) may offer some suppression.



Small, dark lesions form between lateral veins on pecan leaflets. These spots are characteristic of *Gnomonia* vein spot and typically appear in mid- to late summer. Photo by William Reid



Leaflets show extensive dark lesions along veins combined with anthracnose damage. Severe infections weaken foliage and may accelerate defoliation, especially in susceptible cultivars like Elliott in south Louisiana. Photo by William Reid

Downy Spot (*Mycosphaerella caryigena*)

Downy spot is a fungal disease that affects pecan leaves, especially in humid conditions. It can cause premature defoliation in susceptible cultivars but is usually minor in home orchards.

Timing:

- Downy spot is most active in spring and early summer; symptoms may persist into midseason.

Identification:

- **Leaves:** Spots typically begin as pale yellow to white on the underside of leaflets but often turn brown as they age. Lesions may coalesce and cause leaf thinning or drop.
- **Upper surface:** Corresponding chlorotic or necrotic areas may appear.

Cultural control:

- Choose resistant cultivars when possible.
- Promote airflow through pruning and wide tree spacing.
- Rake and remove fallen leaves in winter to reduce overwintering inoculum.

Monitoring:

- Inspect lower and interior canopy leaves in spring and early summer for pale spots or early defoliation.

Chemical control:

- If symptoms are severe and trees are small enough to spray, copper-based fungicides (Group M01) or phosphorous acid (Group P07) may offer suppression.

Upper leaf surfaces show irregular chlorotic and necrotic areas corresponding to downy spot lesions beneath. Photo by William Reid



Leaflets exhibit scattered darkened areas and thinning tissue caused by downy spot infection. While usually minor in home orchards, severe cases can weaken foliage and reduce nut fill. Photo by William Reid

The underside of pecan leaflets shows scattered brown lesions typical of downy spot. These spots often align with chlorotic areas on the upper surface and can merge to cause leaf thinning or early drop. Photo by William Reid



Anthracnose (*Glomerella cingulata*)

Anthracnose is a fungal disease that causes irregular lesions on leaves and nut shucks. It is typically minor in home orchards but may contribute to premature defoliation or shuck rot in wet years.

Timing:

- Most common in late summer during prolonged wet conditions

Identification:

- **Leaves and shucks:** Irregular brown or black lesions, sometimes with a target-like pattern.
- **Symptoms** may resemble other leaf spot diseases.

Cultural control:

- Promote airflow through pruning and wide spacing.
- Avoid overhead irrigation.

Monitoring:

- Inspect leaves and shucks for irregular dark lesions, especially in shaded or lower canopy areas.

Chemical control:

- If symptoms are severe and trees are small enough to spray, phosphorous acid (Group P07) or copper-based fungicides (Group M01) may offer suppression.



Irregular brown lesions caused by anthracnose (*Glomerella cingulata*) are visible along the tips and margins of pecan leaflets.
Photo by William Reid



These developing pecan nuts have dark, irregular lesions starting at the tips and extending toward the base of the husks. This tip-to-base progression is typical of anthracnose (*Glomerella cingulata*) during wet conditions and can lead to shuck rot and reduced nut quality. Photo by William Reid

Leaf Dieback (*Neofusicoccum caryigenum*)

Leaf dieback is a fungal disease that causes browning of individual leaflets and rachis necrosis. It typically appears late in the season and may contribute to premature defoliation.

Timing:

- Most noticeable in late summer and early fall

Identification:

- **Leaves:** Browning of individual leaflets, often progressing to the rachis
- **Canopy:** Scattered defoliation, sometimes mistaken for drought stress

Cultural control:

- Maintain tree vigor through proper fertilization and irrigation.
- Prune to improve airflow and reduce canopy humidity.

Monitoring:

- Inspect for leaflet browning and rachis necrosis in late summer.

Chemical control:

- Research is ongoing in commercial orchards; management in home orchards is limited to cultural practices.

Other Leaf Spot Diseases (e.g., Brown Spot and Zonate Leaf Spot)

Several minor fungal leaf spot diseases may appear in Louisiana pecan orchards. These are typically cosmetic and do not require treatment in home settings.

Timing:

- Most common in mid- to late summer, especially in wet years

Identification:

- **Leaves:** Brown, zonate (ringed) or vein-centered spots; may vary in size and shape
- **Canopy:** Scattered lesions with minimal defoliation

Cultural control:

- Promote airflow through pruning and wide spacing.
- Rake and remove fallen leaves in winter to reduce inoculum.

Monitoring:

- Inspect leaves for spot patterns, especially in shaded or lower canopy areas.

Chemical control:

- If symptoms are severe and trees are small enough to spray, copper-based fungicides (Group M01) or phosphorous acid (Group P07) may offer limited suppression.



Leaflets show scattered the brown lesions typical of brown spot or zonate leaf spot. Photo by William Reid

Wood and Crown Diseases

Wood Decay Fungi (Mushrooms or Shelf-Like Growths on Trunks and Limbs)

Mushrooms or shelf-like fungal growths (sometimes called conks) emerging from the trunk or major limbs are signs of internal wood decay. These fungi do not infect healthy tissue directly but colonize dead or dying wood, often following storm damage, poor pruning cuts or long-term stress. Their presence may indicate structural weakness and increased risk of limb breakage or tree failure.

From a distance, a tree may appear healthy. But if mushrooms are growing from the bark, especially in clusters or near old wounds, it likely has internal decay that isn't visible externally.

Timing:

- Most visible in spring and fall, especially after wet weather

Identification:

- **Fruiting bodies:** Mushrooms or shelf-like growths emerging from bark, often at old wounds or branch junctions
- **Associated symptoms:** Cracking bark, hollow limbs, reduced vigor or dieback

Cultural control:

- **Pruning:** Remove affected limbs if safe and feasible. Use proper pruning techniques to avoid future decay.
- **Avoid wounding:** Minimize mechanical damage to trunks and roots.

Monitoring:

- Do a visual inspection. Check for fungal growth on trunks and major limbs, especially after storms or in older trees.

Chemical control:

- No chemical treatments are available. Management focuses on sanitation and structural assessment. Fungicides do not treat internal decay.



From a distance, this mature pecan tree looks vigorous and structurally sound. However, external appearance can be misleading when internal decay is present.

Photo by Lee Wimberley



This trunk crack has mushrooms growing inside. Fruiting bodies like these indicate internal wood decay and structural weakness, even if the canopy appears healthy. Photo by Lee Wimberley

— IMPORTANT NOTE:

The presence of mushrooms or shelf-like fungal growths on the trunk or major limbs is a serious warning sign. These trees may have internal decay and could fail unexpectedly. If the tree is located near a residence, driveway or area where people gather, it should be evaluated by a certified arborist. In many cases, removal is the safest option.

A deep vertical crack in a pecan tree trunk has allowed wood-decay fungi to colonize the interior. These openings often follow storm damage or poor pruning cuts and can lead to structural weakness over time. Photo by William Reid



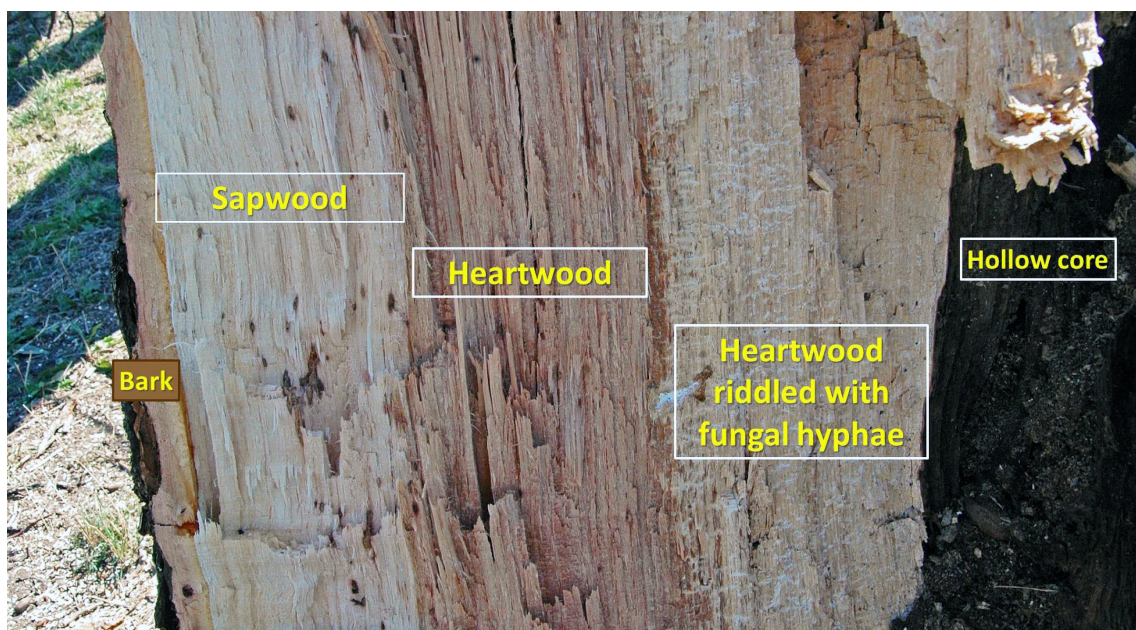
Multiple shelf-like fungal growths (conks) emerge from the trunk as a clear sign of advanced internal decay. Trees with this level of fungal activity often have severe structural compromise and should be evaluated by a certified arborist for removal if near homes or high-traffic areas. Photo by Lee Wimberley



Once the tree was cut, extensive internal rot became visible. The hollow core and degraded heartwood show how far decay can progress before external symptoms become obvious. Photo by William Reid



A cross-section of the trunk shows bark, sapwood, heartwood, heartwood riddled with fungal hyphae and a hollow core. This illustrates how wood-decay fungi progress internally, often producing mushrooms or conks externally only after significant structural compromise. Photo by William Reid



Crown Gall (*Rhizobium radiobacter*, formerly *Agrobacterium tumefaciens*)

Crown gall is a bacterial disease that causes tumor-like growths on roots or trunks near the soil line. It can stunt or kill young trees and is difficult to manage once established.

Timing:

- Galls may appear any time during the growing season.

Identification:

- **Roots and trunk base:** Irregular, woody galls near the soil line; may interfere with water and nutrient flow

Cultural control:

- Avoid planting infected trees.
- Prevent trunk and root injuries during planting and maintenance.
- Do not move soil from infected areas.

Monitoring:

- Inspect the base of young trees for swelling or gall formation.

Chemical control:

- No chemical treatments are available for crown gall in pecans.
- Prevention through sanitation and careful planting is key.

Bunch Disease (Phytoplasma)

Bunch disease is caused by a phytoplasma — a bacteria-like organism — that leads to abnormal shoot growth and reduced nut production. It is incurable and can persist in infected trees for years.

Timing:

- Symptoms appear in spring and worsen over time.

Identification:

- **Branches:** Dense clusters of shoots (“witches’ brooms”) with little or no nut production

Cultural control:

- Prune out infected branches to reduce spread.
- Avoid grafting with scion wood from symptomatic trees.

Monitoring:

- Watch for broom-like growths on limbs, especially in older trees.

Chemical control:

- Management is limited to sanitation and removal of infected wood.

Bacterial Wetwood (Slime Flux)

Bacterial wetwood is a condition caused by anaerobic bacteria that infect the heartwood of pecan trees, leading to pressurized seepage of liquid through cracks or wounds. While not typically fatal, it can signal internal stress and may attract insects or cause bark damage over time.

Timing:

- Most noticeable in warm, humid weather, especially after rain or irrigation

Identification:

- **Trunk and major limbs:** Oozing, sour-smelling liquid from cracks, pruning wounds or branch junctions. The liquid may stain bark and attract flies or ants.
- **Associated symptoms:** Bark discoloration, wet streaks and occasional dieback near affected areas may be visible.

Cultural control:

- Avoid unnecessary pruning or wounding, especially during wet conditions.
- Promote tree vigor through proper fertilization and irrigation.
- Do not seal wounds. This can trap moisture and worsen the condition.

Monitoring:

- Inspect trunks and major limbs for wet streaks or seepage, especially in older trees or those under stress.

Chemical control:

- No chemical treatments are available. Management focuses on reducing stress and avoiding injury.



Dark, wet streaks on the bark are caused by bacterial wetwood (*Xylella fastidiosa* subsp. *multiplex*). Anaerobic bacteria inside the heartwood create pressure that forces sour-smelling liquid through cracks or wounds. While not typically fatal, this condition signals internal stress and may attract insects or cause bark damage over time. Photo by William Reid

Surface Growths and Secondary Issues

Sooty Mold (Secondary to Aphid or Scale Infestation)

Sooty mold is not a true plant disease but a fungal growth on the sugary honeydew excreted by aphids, scale insects or other sap-feeding pests. It reduces photosynthesis and can be unsightly.

Timing:

- Most common in late summer and fall

Identification:

- **Leaves and twigs:** Black, sooty coating on surfaces; often sticky to the touch
- **Associated pests:** Usually found alongside yellow aphids, black aphids or scale insects

Cultural control:

- Control the underlying insect pests (e.g., aphids, scale).
- Encourage beneficial insects like lady beetles and lacewings.

Monitoring:

- Look for sticky residue and black fungal growth on leaves and stems.

Chemical control:

- Treat the insect pests responsible for honeydew production.
- Use insecticidal soaps, horticultural oils or imidacloprid (Group 4A) as a soil drench or foliar spray.
- Fungicides are not effective against sooty mold itself.

Leaflets and twigs are coated with shiny, sticky honeydew excreted by aphids. This sugary residue often precedes sooty mold growth and can attract ants or other insects. Photo by William Reid



A pecan leaflet shows a glossy coating of honeydew. While not harmful by itself, honeydew supports sooty mold fungi that reduce photosynthesis and create an unsightly black coating later in the season. Photo by William Reid



Black, sooty fungal growth covers pecan leaf surfaces. This mold develops on honeydew excreted by aphids or scale insects and is not a true plant disease. While mostly cosmetic, heavy growth can reduce photosynthesis and weaken trees over time. Fungicides do not control sooty mold. Management requires controlling the underlying insect pests. Photo by William Reid



Lichens (Non-Disease Organism)

Lichens are a symbiotic combination of fungi and algae that grow on tree bark and limbs. They are **not harmful** to pecan trees and do **not cause disease** or structural damage. Their presence often indicates good air quality and slow bark growth, especially in shaded or low-vigor areas.

Timing:

- Present year-round, often more visible in humid or shaded conditions

Identification:

- **Appearance:** Flat, crusty or leafy growths in shades of green, gray or bluish-white
- **Location:** Found on bark, limbs and sometimes exposed roots

Associated conditions:

- More common on older trees, shaded limbs or areas with reduced growth.
- May co-occur with dieback or decline but is not the cause.

Cultural control:

- Improve sunlight penetration and airflow through pruning.
- Address underlying tree stress or vigor issues.

Monitoring:

- No action needed unless tree health is declining for other reasons.

Chemical control:

- **Baking soda spray:** A mild solution (e.g., ½ pound baking soda per gallon of water) can desiccate and kill lichens over time. Spray thoroughly and allow several days to weeks for results.
- Gently brush off dead lichen if desired.
- Avoid copper-based fungicides or harsh chemicals, which may harm beneficial organisms.

Resurrection Fern (Non-Disease Organism)

Resurrection fern (*Pleopeltis polypodioides*) is an epiphytic plant that grows on the bark of pecan trees and other hardwoods. It is **not parasitic** and does **not harm the tree**. It gets its name from its ability to appear dry and dead during drought then turn lush and green after rain.

Timing:

- Most visible during periods of high humidity or after rainfall

Identification:

- **Appearance:** Fronds that curl and turn brown during dry spells, then uncurl and green up after moisture returns
- **Location:** Grows on bark, especially in shaded or humid areas

Associated conditions:

- Common in older trees or areas with high humidity.
- May be more abundant in low-vigor or shaded limbs but is not a cause of decline.

Cultural control:

- No control needed. Does not affect tree health.
- Pruning to improve airflow may reduce fern growth if desired.

Monitoring:

- Observe seasonal changes in fern appearance; no action required.

Chemical control:

- Not recommended or necessary.
- Fungicides and herbicides are ineffective and may damage bark or beneficial organisms.

Mistletoe (Parasitic Plant)

American mistletoe (*Phoradendron leucarpum*) is a **true parasite** that attaches to tree limbs and extracts water and nutrients. While small infestations are usually harmless, heavy mistletoe growth can weaken pecan trees over time, especially in older or stressed trees.

Timing:

- Visible year-round, especially in winter when leaves drop

Identification:

- **Appearance:** Dense green clumps growing on upper limbs; rounded or bushy shape
- **Location:** Most common in the upper canopy, often on older limbs

Associated conditions:

- More common in mature trees or those with reduced vigor.
- Can contribute to limb decline if left unmanaged.

Cultural control:

- Prune out infected limbs during dormancy, cutting at least 12 inches below the mistletoe attachment point.
- Avoid leaving stubs, which may resprout.

Monitoring:

- Check upper canopy during winter for green clumps. Track spread over time, especially in older trees.

Chemical control:

- No reliable chemical treatments for home orchard use.
- Growth regulators exist but are not practical or labeled for pecans.

Pecan diseases and related issues in home orchards.

Issue	Cause	Key Symptoms	Management Notes
Bacterial leaf scorch	<i>Xylella fastidiosa</i> subsp. <i>multiplex</i>	Scorched leaflet edges; defoliation; branch dieback	No chemical treatments; prune early infections; avoid infected scion wood.
Powdery mildew	<i>Erysiphe penicillata</i>	White powdery growth on shucks, leaves and shoots	Sulfur or neem oil may suppress symptoms on small trees.
Gnomonia leaf spot	<i>Gnomonia nerviseda</i>	Dark spots between leaf veins; early defoliation possible	Phosphorous acid or copper-based fungicides may offer suppression.
Downy spot	<i>Mycosphaerella caryigena</i>	Pale yellow to white spots on leaf undersides	Copper-based or phosphorous acid fungicides may offer suppression.
Anthrachnose	<i>Glomerella cingulata</i>	Irregular dark lesions on leaves and shucks	Phosphorous acid or copper-based fungicides may offer suppression.
Bunch disease	Phytoplasma (bacteria-like organism)	Dense clusters of shoots (“witches’ brooms”)	No cure; prune infected branches; avoid highly susceptible cultivars.
Leaf dieback	<i>Neofusicoccum caryigenum</i>	Leaflet browning; rachis necrosis; late-season defoliation	No fungicide options for home settings; rely on cultural practices.
Crown gall	<i>Rhizobium radiobacter</i>	Tumor-like galls on roots or trunk near soil line	No chemical treatments; avoid planting infected trees; prevent trunk/root injury.
Wood decay fungi	Fungal colonization of dead/dying wood	Mushrooms or shelf-like growths from trunk or major limbs	Indicates internal decay and structural risk; remove tree if near homes or traffic.
Bacterial wetwood	Anaerobic bacteria (various species)	Sour-smelling liquid oozing from trunk cracks; bark staining; insect attraction	No chemical treatments; avoid wounding; promote vigor; do not seal wounds.
Sooty mold	Fungal growth on insect honeydew	Black, sooty coating on leaves and stems	Manage aphids and scale; fungicides are not effective against sooty mold.
Lichens	Symbiotic fungi and algae	Crusty or leafy growths on bark and limbs	Harmless; baking soda spray may desiccate growth; improve airflow if desired.
Resurrection fern	<i>Pleopeltis polypodioides</i> (epiphyte)	Fronds curl when dry, green up after rain	Harmless; no treatment is needed.
Mistletoe	<i>Phoradendron leucarpum</i> (parasite)	Green clumps in upper canopy; nutrient extraction from limbs	Prune infected limbs; no chemical control available for home orchards.

2. Recognizing and Responding to Pecan Pests

Pecan trees in Louisiana attract a wide range of insect and mite pests. Some pests, like pecan weevils and phylloxera, directly damage nuts or reduce yield. Others, such as yellow aphids, primarily create nuisance issues like sticky honeydew and sooty mold. Still others, like fall webworms and walnut caterpillars, can defoliate trees and affect nut fill the following year.

This section highlights the most common insect and mite pests found in Louisiana home orchards, with practical guidance on identification, timing, and homeowner-friendly control options.

Nut and Shuck Feeders

These pests directly damage developing nuts or interfere with shuck opening, leading to reduced yield and poor nut quality. Damage is often not visible until late in the season, making early detection and timely intervention important.

Pecan Weevil (*Curculio caryae*)

Pecan weevils are among the most damaging pests in Louisiana home orchards. Adults emerge from the soil in late summer and puncture developing nuts to feed and lay eggs. Larvae feed inside the nut, destroying the kernel and often causing it to drop prematurely.

Timing:

- Emergence typically begins in late July to early August, depending on soil moisture and temperature.

Identification:

- Adults are grayish-brown beetles with long snouts. Larvae are creamy white, legless grubs found inside infested nuts.

Cultural control:

- **Sanitation:** Collect and destroy fallen nuts promptly to reduce overwintering larvae.
- **Tillage:** Light cultivation under the canopy in late spring can disrupt pupation and reduce adult emergence.

Monitoring:

- **Traps:** Cone traps or trunk bands can help detect adult emergence.

Chemical control:

- **Timing is critical.** Sprays should target adults before egg laying begins.
- **Carbaryl (Group 1A) or bifenthrin (Group 3A)** are commonly used in homeowner settings. Follow label instructions and avoid spraying during pollinator activity.

Two adult pecan weevils (*Curculio caryae*) feed on a green pecan shuck. Adults emerge from the soil in late summer and puncture nuts to feed and lay eggs. These punctures allow larvae to develop inside the nut, destroying the kernel. Photo by William Reid



Green pecan nuts showing entry holes from adult feeding and egg-laying. When cut open, the interior reveals feeding damage and larval development that ruins kernel quality. Infested nuts often drop prematurely. Photo by William Reid



A mesh cone trap is attached to a pecan trunk to capture adult pecan weevils as they climb the tree in late summer. Monitoring with traps helps determine the timing for insecticide applications before egg-laying begins. Photo by William Reid



- **Bifenthrin (Group 3A)** can be used as a contact insecticide targeting adults before egg-laying. Apply during peak emergence in late July to early August. Avoid spraying during pollinator activity.

Hickory Shuckworm (*Cydia caryana*)

This small moth lays eggs on developing shucks. The larvae tunnel into the shuck, disrupting normal opening and causing nuts to remain tightly enclosed or drop prematurely.

Timing:

- Multiple generations per year; late-season infestations cause the most economic damage.

Identification:

- Larvae are small, cream-colored caterpillars with brown heads. Adults are small, gray moths with dark bands.

Cultural control:

- **Sanitation:** Remove and destroy old shucks and debris under trees to reduce overwintering populations.
- **Cultivar choice:** Early-maturing cultivars may escape late-season damage.

Monitoring:

- **Nut inspection:** Look for shucks that fail to open or show entry holes.

Chemical control:

- **Timing:** Sprays are most effective when timed to egg hatch, typically in late summer.
- **Options:** **Spinosad (Group 5)** or **carbaryl (Group 1A)** may be used in home settings. Repeat applications may be needed for extended emergence.

A small gray moth rests on a developing pecan shuck. Adult hickory shuckworms lay eggs on the shuck surface, and larvae tunnel inside, disrupting normal opening and causing nuts to remain tightly enclosed or drop prematurely. Photo by William Reid



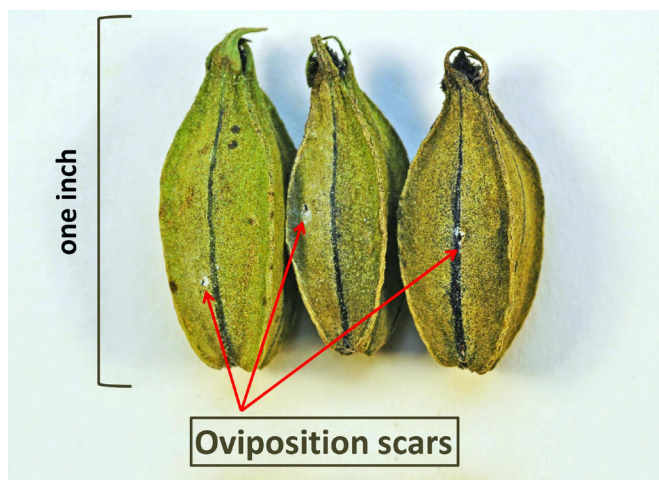
Cream-colored larva with a brown head feeding inside the pecan shuck. Larval tunneling prevents normal shuck opening and can lead to nut drop or poor kernel quality. Photo by William Reid



An opened pecan shows blackened tissue and feeding damage inside the shuck caused by hickory shuckworm larvae. Photo by William Reid



Three pecan nuts show small oviposition scars where eggs were laid by hickory shuckworm moths. These scars are an early indicator of infestation and often go unnoticed until shuck opening problems occur later in the season. Photo by William Reid



Pecan Nut Casebearer (*Acrobasis nuxvorella*)

This pest targets young nuts shortly after pollination. Larvae bore into the nut at the base, often destroying the entire cluster. Early-season infestations can significantly reduce yield.

Timing:

- First-generation larvae appear in late spring, shortly after nut set.

Identification:

- Larvae are small, gray-green caterpillars. Adults are small, gray moths with dark markings.

Cultural control:

- **Prune out infested nut clusters** early in the season to reduce larval populations.
- **Encourage natural predators** by avoiding broad-spectrum insecticides.

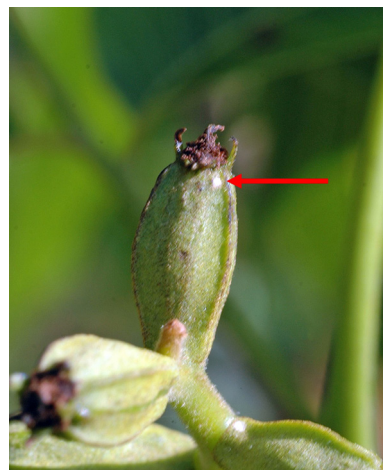
Monitoring:

- **Cluster inspection:** Look for frass and silk at the base of nutlets in late May to early June.

Chemical control:

- **Timing:** Apply insecticides at the onset of egg hatch, usually based on degree-day models or local extension alerts.
- **Options:** *Bacillus thuringiensis* (Group 11A) or *spinosad* (Group 5) are effective.

A single white egg laid by a pecan nut casebearer (*Acrobasis nuxvorella*) is seen at the base of a developing nut (arrow). Eggs hatch into larvae that bore into the nut and destroy the kernel. Photo by William Reid



Frass and silk at the base of nutlets (arrow) indicate early feeding by pecan nut casebearer larvae. Infested nuts often die and turn brown, reducing cluster size. Photo by William Reid



A nut cluster shows one nut shriveled and brown due to larval feeding inside. Early-season infestations can significantly reduce yield if not managed promptly. Photo by William Reid



Two adult pecan nut casebearer gray moths with dark markings are captured on a sticky trap card. Monitoring adult activity helps time insecticide applications before egg hatch. Photo by William Reid



Stink Bugs and Leaf-Footed Bugs

These piercing-sucking insects feed on developing nuts, causing black spots on kernels and premature nut drop. Damage is often mistaken for disease or nutrient issues.

Timing:

- Most active from midsummer through harvest

Identification:

- Stink bugs are shield-shaped and vary in color. Leaf-footed bugs have flattened, leaf-like expansions on their hind legs.

Cultural control:

- **Weed management:** Remove tall weeds and alternate hosts near the orchard to reduce breeding sites.
- **Habitat disruption:** Avoid planting near unmanaged wooded edges or brush piles where populations may build.

Monitoring:

- **Limb shaking:** Shake limbs over a sheet or tray to detect adults.

Chemical control:

- **Spot treatments:** May be warranted if populations are high, especially near harvest.
- **Pyrethroids** such as **permethrin (Group 3A)** can be effective but may also flare aphids. Use only when necessary and rotate modes of action to reduce resistance risk.
- **Bifenthrin (Group 3A)** is effective against adult bugs but may flare aphids and mites. Use only when populations are high and rotate with other modes of action to reduce resistance risk.

An adult leaf-footed bug (*Leptoglossus* spp.) feeds on a pecan through the split husk. These piercing-sucking insects damage developing kernels, often causing black spots and premature nut drop. Populations typically increase from midsummer through harvest. Photo by William Reid



Pecan kernels show black spots and shriveled tissue caused by stink bug and leaf-footed bug feeding. Damage is often mistaken for disease or nutrient deficiency but results from insect punctures during nut development. Photo by William Reid

Foliage Feeders

These pests feed on pecan leaves, reducing photosynthetic capacity and potentially affecting nut fill and return bloom the following year. While occasional partial defoliation is tolerable, repeated or severe infestations can weaken trees over time.

Walnut Caterpillar (*Datana integerrima*)

Walnut caterpillars feed in large groups and can quickly strip entire limbs of foliage. They do not produce webs but are often seen clustered on trunks or branches during molting.

Timing:

- Most common in mid- to late summer; multiple generations possible.

Identification:

- Young larvae are reddish-brown and feed in groups. Older larvae are black with white hairs. Clusters of molting caterpillars leave behind fuzzy gray skins on bark.

Cultural Control:

- **Hand removal:** Small infestations can be pruned out or knocked into soapy water.
- **Encourage natural enemies:** Birds and predatory insects help suppress populations.

Monitoring:

- **Visual inspection:** Look for defoliated limbs and molting clusters on trunks.

Chemical Control

- ***Bacillus thuringiensis* (Group 11A)** is effective on young larvae and safe for beneficials.
- **Spinosad (Group 5)** is another low-impact option for homeowners.

A cluster of small, round eggs laid by walnut caterpillar (*Datana integerrima*) are found on the underside of a pecan leaf. Eggs hatch into larvae that feed in groups and can defoliate entire limbs. Photo by William Reid



Young reddish-brown walnut caterpillar larvae feed in a group on pecan leaflets. Early instars feed together and can quickly strip foliage from shoots. Photo by William Reid



A cluster of walnut caterpillar larvae feed along pecan twigs and leaf petioles. These early to mid-instar larvae consume large amounts of foliage and can quickly defoliate shoots. Photo by William Reid



Older walnut caterpillar larvae, black with white hairs, feed on pecan leaves. Late instars consume large amounts of foliage before pupating. Photo by William Reid



Fall Webworm (*Hyphantria cunea*)

Fall webworms create unsightly silk tents at the ends of branches and feed on enclosed foliage. While rarely fatal, heavy infestations can reduce tree vigor.

Timing:

- Most active from late summer into fall

Identification:

- Larvae are pale yellow to green with long hairs and dark spots. Webs are typically located at branch tips.

Cultural control:

- **Prune and destroy webs:** Remove infested branches when feasible.

Monitoring:

- **Visual inspection:** Look for expanding webs at branch tips.

Chemical control:

- **Bt (Group 11A)** or **spinosad (Group 5)** are effective on young larvae.
- **Insecticidal soaps** may help if applied directly to larvae inside the web.

A white adult fall webworm moth (*Hyphantria cunea*) rests on a pecan leaf. Adults lay eggs that hatch into larvae which form silk webs at branch tips. Photo by William Reid



An extensive silk web encloses pecan foliage and twigs, with numerous fall webworm larvae inside. Heavy infestations can strip leaves and weaken branches. Photo by William Reid



Silk webs at the end of a pecan branch contain fall webworm larvae feeding on enclosed leaves. Webs expand as larvae grow, causing localized defoliation. Photo by William Reid



A young pecan tree is heavily infested with fall webworm webs on its branch tips. While rarely fatal, severe infestations reduce tree vigor and appearance. Photo by William Reid



May and June Beetles (*Phyllophaga* spp.)

These native scarab beetles feed on pecan foliage at night, often causing ragged leaf edges and minor defoliation. While damage is usually cosmetic, repeated feeding can stress young trees.

Timing:

- Most active from late spring through early summer

Identification:

- Adults are medium to large brown beetles that fly at dusk. Larvae (white grubs) live in the soil and feed on roots but are rarely a concern in established pecan orchards.

Cultural control:

- **Encourage natural predators:** Birds, skunks and other wildlife feed on larvae.
- **Avoid excessive night lighting:** Outdoor lights can attract adults to trees.

Monitoring:

- **Visual inspection:** Check for leaf damage and beetles on foliage at dusk.

Chemical control:

- **Not usually needed** in home orchards unless defoliation is severe.
- **Carbaryl (Group 1A)** or **pyrethroids (Group 3A)** may be used if populations are high; apply in the evening and follow label directions.
- **Imidacloprid (Group 4A)** as a soil drench may offer some systemic protection

Japanese Beetle (*Popillia japonica*)

Japanese beetles are invasive pests that skeletonize pecan leaves, leaving only veins behind. They can cause significant aesthetic damage and reduce photosynthetic capacity.

Timing:

- Most active in mid- to late summer

Identification:

- Adults are metallic green with coppery wing covers. They feed in groups and are often seen on upper canopy leaves.

Cultural control:

- **Hand removal:** Shake beetles into soapy water in the morning when they are sluggish.
- **Avoid beetle traps near trees:** These may attract more beetles than they catch.

Monitoring:

- **Visual inspection:** Look for skeletonized leaves and clusters of beetles.



Metallic green Japanese beetles (*Popillia japonica*) with coppery wing covers feed on pecan foliage. Damage appears as skeletonized leaves where only veins remain, reducing photosynthetic capacity. Photo by William Reid

Chemical control:

- **Neem oil** or **insecticidal soap** may help deter feeding.
- **Pyrethroids (Group 3A)** or **carbaryl (Group 1A)** can be used for severe infestations; apply in early morning or evening and avoid spraying during pollinator activity.

Sawflies (Various species)

Sawfly larvae feed on pecan leaves and are often mistaken for caterpillars. While they rarely cause severe damage, heavy infestations can reduce photosynthetic capacity and affect nut development.

Timing:

- Most active in spring and early summer

Identification:

- Larvae resemble caterpillars but lack the crochets (hooks) on their prolegs. They may be green, yellow or striped, and feed in groups.

Cultural control:

- **Hand removal:** This is effective for small infestations.
- **Encourage natural enemies:** Birds and parasitic wasps help suppress populations.

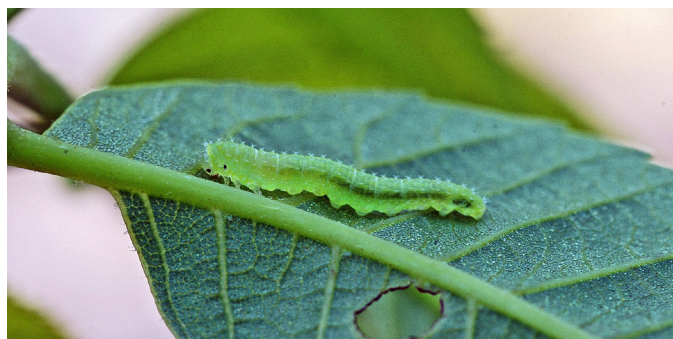
Monitoring:

- **Visual inspection:** Look for group feeding and leaf skeletonization.

Chemical control:

- **Spinosad (Group 5)** or **Bt (Group 11A)** may be effective, though Bt is less reliable on sawflies.
- **Insecticidal soaps** can help if applied directly to larvae.

Pecan leaflets show numerous round holes from sawfly larval feeding. Heavy infestations can reduce photosynthetic capacity and affect nut development. Photo by William Reid



Green sawfly larvae resemble a caterpillar but lack crochets (hooks) on prolegs. Larvae feed on pecan foliage, often in groups during spring and early summer. Photo by William Reid

Slugs and Snails

Slugs and snails are not insects, but they can cause significant damage to young pecan trees by feeding on tender leaves, shoots and bark. Damage is most common in newly planted trees, especially in moist, shaded or heavily mulched areas.

Timing:

- Most active in spring and fall, especially during wet weather

Identification:

- Irregular holes in leaves, shredded bark on young stems and silvery slime trails are common signs.

Cultural control:

- **Reduce mulch depth** around the base of young trees to discourage hiding spots.
- **Improve drainage and airflow** to reduce moisture buildup.
- **Hand-pick slugs and snails** in the evening or early morning.

Chemical control:

- **Iron phosphate baits** are effective and safe for use around pets and wildlife.
- **Avoid metaldehyde-based baits** in home settings due to toxicity risks.
- **Carbaryl (Group 1A)** can be used as a contact treatment around the base of young trees. Apply in the evening when slugs and snails are active. Avoid use during pollinator activity and follow label directions carefully.

Regal Moth/Hickory Horned Devil (*Citheronia regalis*)

Though uncommon, the larvae of the regal moth, known as hickory horned devils, occasionally feed on pecan foliage in Louisiana. These large caterpillars can defoliate small branches but rarely cause significant damage in mature trees.

Timing:

- Most sightings occur in late summer.

Identification:

- Larvae are strikingly large (up to 5 inches), greenish-blue with prominent reddish horns. Despite their intimidating appearance, they are harmless to humans. Adults are large, orange and gray moths with bold markings.

Cultural control:

- **No action usually needed.** Infestations are rare and typically self-limiting.
- **Hand removal** is sufficient if defoliation is occurring on young or stressed trees.

Monitoring:

- **Visual sightings** of larvae on lower limbs or trunk.

A hickory horned devil caterpillar has an elongated body and prominent spines along the sides. Larvae can reach up to 5 inches in length and occasionally feed on pecan foliage in late summer. Photo by Michael Polozola



A young pecan tree shows partial defoliation caused by hickory horned devil (*Citheronia regalis*) feeding. This large green caterpillar with orange horns rarely requires control on mature trees, but physical removal is recommended on young trees to prevent stress. Photo by Michael Polozola



Chemical control:

- **Not recommended** — populations are low and beneficial insects may be harmed.

Sucking Insects

Sucking insects feed on pecan foliage and stems by extracting plant sap. While they rarely kill trees outright, they can reduce vigor, interfere with photosynthesis and create nuisance issues like sticky honeydew and sooty mold. Some species also contribute to early defoliation, especially during drought stress or in overfertilized trees.

Mites (Leaf Scorch and Leaf Roll)

Several mite species can affect pecan foliage, especially during hot, dry conditions. Damage typically appears as bronzing, curling or scorching of leaves, which can reduce photosynthesis and contribute to early leaf drop.

Timing:

- Most active in late spring through summer, especially during drought stress

Identification:

- Mites are microscopic and difficult to see without magnification. Damage appears as stippling, bronzing or curling of leaves, often starting on the undersides.

Cultural control:

- **Water management:** Maintain consistent soil moisture to reduce drought stress.
- **Encourage predators:** Avoid broad-spectrum insecticides that harm beneficial mites and insects.

Monitoring:

- **Leaf inspection:** Check undersides of damaged leaves with a hand lens.

Chemical control:

- **Miticides** such as **horticultural oils** or **insecticidal soaps** may help suppress populations.
- **Avoid pyrethroids**, which can flare mite populations by killing natural enemies.

A comparison of healthy pecan shoot, right, and shoot with severe leaf rolling caused by eriophyid mites. Curling and distortion reduce leaf surface area for photosynthesis. Photo by William Reid



Pecan leaflets show curling and puckering from leaf roll mite feeding. Damage often begins along midribs and edges, leading to distorted growth. Photo by William Reid



A pecan leaflet shows bronzing and scorched patches caused by leaf scorch mites. Injury typically starts on undersides and spreads during hot, dry conditions. Photo by Michael J. Hall



Spittlebugs (Foam Masses and Potential Leaf Scorch Vector)

Spittlebugs are wedge-shaped insects that feed by sucking sap from pecan shoots and leaves. Nymphs produce frothy white foam masses on stems in spring and early summer. While they rarely cause direct damage, spittlebugs are suspected vectors of bacterial leaf scorch. In home orchards, they are usually minor and do not require treatment.

Timing:

- Most active in spring and early summer, especially during periods of new shoot growth

Identification:

- **Nymphs:** Hidden inside white foam masses on stems or leaf petioles
- **Adults:** Small, wedge-shaped insects that jump when disturbed

Cultural control:

- **Airflow:** Promote good airflow through pruning and spacing to discourage buildup.
- **Vegetation management:** Reduce excess ground vegetation near trees.

Monitoring:

- **Foam inspection:** Look for frothy masses on young shoots in spring.

Chemical control:

- Not typically needed in home orchards. Foam masses can be washed off with a strong stream of water if unsightly.

Leafhoppers (Leaf Yellowing and Potential Disease Vector)

Leafhoppers are small, wedge-shaped insects that feed by sucking sap from pecan leaves. Their feeding can cause stippling, yellowing or curling of foliage, and they are suspected vectors of bacterial leaf scorch. While damage is usually minor in home orchards, heavy infestations may contribute to premature leaf drop or reduced vigor.

Timing:

- Most active in late spring through summer, especially during warm, dry conditions

Identification:

- **Adults:** Small, wedge-shaped insects that jump when disturbed
- **Damage:** Stippling, yellowing, or curling of leaves; may resemble early leaf scorch symptoms

Cultural control:

- **Vegetation management:** Reduce excess ground vegetation to discourage buildup.
- **Encourage predators:** Avoid broad-spectrum insecticides that harm beneficial insects.



A pecan leaflet shows yellowing and marginal browning, symptoms associated with leafhopper feeding. These insects suck sap from leaves and may contribute to bacterial leaf scorch development. Photo by William Reid

Monitoring:

- **Leaf inspection:** Check for stippling or yellowing on lower and interior canopy leaves.

Chemical control:

- Not typically needed in home orchards. If populations are high, insecticidal soaps or horticultural oils may help suppress activity.

Yellow Aphids (*Monellia* spp. and *Monelliopsis* spp.)

Yellow aphids are among the most common pests in Louisiana pecan orchards. They feed on the undersides of leaves, producing large amounts of honeydew that lead to black sooty mold. While they rarely cause direct damage to nuts, heavy infestations can reduce tree vigor and interfere with photosynthesis.

Timing:

- Most active from late spring through fall, often peaking in late summer

Identification:

- Small, bright yellow aphids with black legs and antennae; often found in clusters on the undersides of leaves

Cultural control:

- **Encourage beneficials:** Lady beetles, lacewings and parasitic wasps help suppress populations.

Monitoring:

- **Leaf inspection:** Check undersides of leaves for clusters and sticky residue.

Chemical control:

- **Insecticidal soaps** or **horticultural oils** can reduce populations with minimal impact on beneficials.
- **Imidacloprid (Group 4A)** applied as a **soil drench or foliar spray** can provide systemic control, especially during heavy infestations.
- **Avoid pyrethroids**, which may flare aphid populations by killing natural enemies.

A yellow aphid feeds on the underside of a pecan leaflet. Aphids produce honeydew that can lead to sooty mold development. Photo by William Reid



Multiple yellow aphids feed along the midrib of a pecan leaflet. Heavy infestations create sticky honeydew deposits that attract mold growth. Photo by William Reid

Black Aphids (*Melanocallis caryaefoliae*)

Black aphids are less common than yellow aphids but more damaging. They feed between leaf veins, causing dark, sunken lesions that can lead to premature leaf drop. Damage is often localized but can be severe on susceptible cultivars.

Timing:

- Most active in mid- to late summer

Identification:

- Small, dark-colored aphids often found singly or in small groups. Damage appears as dark spots between veins.

Cultural control:

- **Maintain tree health:** Stressed trees are more vulnerable to black aphid damage.

Monitoring:

- **Visual inspection:** Look for dark lesions between veins and scattered aphids on leaf undersides.

Chemical control:

- **Insecticidal soaps or neem-based products** may help reduce populations.
- **Imidacloprid (Group 4A)** is effective for systemic control and may be needed on highly susceptible cultivars.
- **Targeted sprays** may be needed on highly susceptible cultivars if defoliation is observed.
- **Targeted sprays** may be needed on highly susceptible cultivars if defoliation is observed. In these cases, **bifenthrin (Group 3A)** may be used, but should be rotated with other modes of action to reduce resistance risk and minimize impacts on beneficial insects.

Pecan foliage shows dark, sunken lesions between veins caused by black aphid (*Melanocallis caryaefoliae*) feeding. Severe infestations can lead to premature leaf drop and reduced tree vigor. Photo by William Reid



This compares a black aphid nymph, left, and winged adult. These pests feed on pecan leaves, causing localized damage that may become severe on susceptible cultivars. Photos by Michael J. Hall

Yellow versus black aphids in home pecan orchards.

Trait	Yellow Aphids	Black Aphids
Scientific name	<i>Monellia</i> spp., <i>Monelliopsis</i> spp.	<i>Melanocallis caryaefoliae</i>
Color and appearance	Bright yellow with black legs and antennae	Small, dark colored; often solitary or in small groups
Feeding location	Undersides of leaves	Between leaf veins
Damage symptoms	Honeydew and sooty mold; reduced vigor	Dark lesions between veins; premature leaf drop
Timing	Late spring through fall; peaks in late summer	Mid- to late summer
Severity	Nuisance; rarely causes direct nut damage	More damaging; can cause defoliation
Cultural control	Encourage beneficial insects	Maintain tree health
Chemical control	Insecticidal soaps, horticultural oils, imidacloprid	Imidacloprid may help; stronger options (e.g., bifenthrin) may be warranted if defoliation is severe and equipment allows.
Monitoring tips	Look for sticky residue and clusters on leaf undersides.	Look for dark spots between veins and scattered aphids.

Sooty Mold (Secondary to Aphid or Scale Infestation)

Sooty mold is a black fungal growth that develops on the sugary honeydew excreted by aphids, scale insects, or other sap-feeding pests. It does not infect the tree directly but can reduce photosynthesis and be unsightly.

Timing:

- Most common in late summer and fall

Identification:

- **Leaves and twigs:** Black, sooty coating on surfaces; often sticky to the touch
- **Associated pests:** Usually found alongside yellow aphids, black aphids or scale insects

Cultural control:

- Control the underlying insect pests (e.g., aphids, scale).
- Encourage beneficial insects like lady beetles and lacewings.

Black fungal growth covering pecan foliage is a result of honeydew accumulation from aphids or scale insects. Sooty mold does not infect the tree directly but reduces photosynthesis and is unsightly. Photo by William Reid



Monitoring:

- Look for sticky residue and black fungal growth on leaves and stems.

Chemical control:

- Treat the insect pests responsible for honeydew production.
- Use insecticidal soaps, horticultural oils or imidacloprid (Group 4A) as a soil drench or foliar spray.
- Fungicides are not effective against sooty mold itself.

Gall-Forming Pests

Galls are abnormal plant growths triggered by insects or mites. While they rarely cause serious harm to mature pecan trees, they can be unsightly and may stress young or already weakened trees. Most gall-forming pests do not require treatment in home orchards.

Pecan Phylloxera (Leaf and Stem Forms)

Phylloxera are tiny, aphid-like insects that cause galls on pecan leaves, petioles and young shoots. Leaf phylloxera form blister-like galls on foliage, while stem phylloxera create swellings on young twigs that can distort growth and reduce nut production. Infestations are most damaging on young trees or in years with high populations.

Timing:

- Damage appears in spring shortly after budbreak.

Identification:

- Galls are green to reddish swellings on leaves or shoots. Insects are hidden inside and not visible without opening the gall.

Cultural control:

- **Prune and destroy infested shoots** during dormancy to reduce overwintering eggs.
- **Promote tree vigor** through proper fertilization and watering.

Monitoring:

- **Visual inspection:** Look for galls in spring and early summer on both leaves and young shoots.

Pecan leaves show numerous green blister-like galls caused by leaf phylloxera feeding. These insects live inside the galls and damage foliage early in the season. Photo by William Reid



Pecan leaves shows clusters of phylloxera galls along midribs and leaflets. Severe infestations can reduce photosynthesis and weaken young trees. Photo by William Reid



Chemical control:

- **Dormant oil sprays** may help reduce overwintering populations.
- **Insecticides** must be applied at **budbreak** to be effective.
- **Imidacloprid (Group 4A)** applied as a **soil drench** in early spring can provide systemic protection, especially for young trees.



Young pecan shoots have swollen, irregular galls caused by stem phylloxera. These distort growth and can reduce nut production if infestations are heavy. Photo by William Reid

Quick comparison: Phylloxera versus harmless leaf galls.

Feature	Phylloxera Galls	Harmless Leaf Galls
Location	On leaves, petioles and young shoots	Usually on mature leaf blades only
Timing	Appear early in spring , shortly after budbreak	Often show up later in the season
Appearance	Larger, irregular, often clustered galls	Small, rounded, often isolated bumps
Impact on tree	Can distort growth , reduce nut set and affect vigor	Cosmetic only ; no impact on yield or tree health
Insect inside	Phylloxera (aphid-like insect)	Mites or tiny wasps (often not visible)
Management needed?	Yes — may require pruning or early-season control	No treatment is needed in most cases,
Field tip	If galls are dense, early-season, and affecting new growth , phylloxera is more likely.	Scattered bumps on mature leaves are usually harmless.

Trunk and Limb Pests

These pests damage the structural parts of the tree — trunks, limbs and twigs — either by boring into wood or girdling branches. While mature trees can often tolerate minor damage, repeated infestations can weaken limbs, reduce productivity or create entry points for disease.

Borers (Flatheaded and Ambrosia Beetles)

Borers are wood-boring beetles that attack stressed, injured or newly planted pecan trees. While healthy mature trees are rarely affected, young trees are vulnerable, especially those under drought stress or with trunk wounds. Damage can lead to dieback, girdling or even tree death.

Timing:

- Most active in spring and early summer, but attacks can occur throughout the growing season

Identification:

- **Flatheaded borers** leave oval or D-shaped exit holes and create winding galleries under the bark.
- **Ambrosia beetles** bore straight into the trunk and push out fine, toothpick-like frass strands.

Cultural control:

- **Avoid trunk injury** from mowers, string trimmers, or staking materials.
- **Maintain tree vigor** through proper watering and weed control.
- **Remove and destroy infested trees or limbs** to reduce beetle breeding sites.

Monitoring:

- **Visual inspection:** Look for frass, sap flow, or exit holes on trunks and lower limbs.

Chemical control:

- **Preventive trunk sprays** with **bifenthrin (Group 3A)** may help protect young trees during peak activity.
- **Imidacloprid (Group 4A)** as a **soil drench** may offer some systemic protection, but is less effective once larvae are inside the wood.
- **Bifenthrin (Group 3A)** may be used as a **preventive trunk spray** on young trees during peak activity in spring and early summer. It is most effective before beetles bore into the wood.

Accumulation of reddish-brown frass at a wound site on pecan bark, indicates wood-boring insect activity. Photo by William Reid



Trunk injury with darkened wound and frass accumulation is typical of flatheaded borer activity. Larvae create winding galleries under bark, weakening the tree and increasing risk of girdling. Photo by William Reid



Twig Girdler (*Oncideres cingulata*)

Twig girdlers are longhorn beetles that chew a precise groove around small branches, causing them to break and fall. Females lay eggs in the severed twigs, where larvae develop. Damage is most noticeable in late summer and fall.

Timing:

- Most active from August through October

Identification:

- Girdled twigs are cleanly cut and often hang or fall to the ground. Adults are grayish-brown beetles with long antennae.

Cultural control:

- **Sanitation:** Collect and destroy fallen twigs during winter to kill developing larvae.

Monitoring:

- **Visual inspection:** Look for cleanly cut twigs on the ground or hanging from branches.

Chemical control:

- **Not typically recommended** in home orchards. Sanitation is usually sufficient.



A pecan twig shows a clean girdle cut made by a twig girdler (*Oncideres cingulata*). Females chew a groove around the branch before laying eggs in the severed section. Photo by William Reid

This pecan shoot has died above the girdling damage and new shoots are attempting to grow below the damage. Photo by William Reid



A girdled pecan twig hangs loosely after being partially severed by a twig girdler. Fallen twigs should be collected and destroyed to prevent larval development. Photo by William Reid



Twig Pruner (*Elaphidionoides villosus*)

Similar to twig girdlers, twig pruners cause twigs to fall by boring inside the branch rather than girdling it externally. Damage is often mistaken for wind breakage.

Timing:

- Damage appears in late summer and fall.

Identification:

- Fallen twigs show internal boring rather than external cuts. Larvae are pale, legless grubs found inside the wood.

Cultural control:

- **Sanitation:** Remove and destroy fallen twigs to reduce overwintering larvae.

Monitoring:

- **Twig inspection:** Split fallen twigs to confirm internal boring.

Chemical control:

- **Not recommended.** Timing is difficult and control is rarely necessary in home settings.

Scale Insects

Scale insects are small, sap-feeding pests that attach to twigs, branches or leaves. They often go unnoticed until populations build up, leading to branch dieback, reduced vigor or sooty mold from honeydew excretion. Several species may be found on pecans in Louisiana, including obscure scale and walnut scale.

Obscure Scale (*Melanaspis obscura*) and Other Species

Obscure scale is the most common and damaging scale insect on pecans in the region. It forms hard, grayish coverings on bark and twigs, often blending in with the wood. Heavy infestations can girdle branches and reduce tree health over time.

Timing:

- These are most active in spring and early summer; damage may persist year-round.

Identification:

- Small, round to oval, gray or brown scales tightly attached to bark. Often found in clusters on twigs and small branches.

Cultural control:

- **Prune and destroy heavily infested limbs** during dormancy.
- **Encourage natural enemies**, such as parasitic wasps and lady beetles.

Monitoring:

- **Visual Inspection:** Check twigs and small branches for crusty, scale-like bumps.



A pecan twig shows a single Lecanium scale insect attached to the bark. These soft scales excrete honeydew that can lead to sooty mold and weaken tree vigor. Photo by William Reid

Chemical control:

- **Dormant oil sprays** applied in late winter can help suppress overwintering populations.
- **Imidacloprid (Group 4A)** as a **soil drench** may provide systemic suppression, especially in young trees.
- **Avoid broad-spectrum insecticides** during the growing season, as they may disrupt beneficial insect populations.

Nonpest Organisms Often Mistaken for Problems

Not everything found on or around pecan trees is a pest. Some insects, fungi and growths may look alarming but are either harmless or even beneficial. Misidentifying these can lead to unnecessary treatments or concern.

Lady Beetle Larvae

- Larvae are often mistaken for pests due to their spiny, alligator-like appearance.
- These are the immature stage of ladybugs and are voracious predators of aphids and scale insects.

An adult lady beetle rests on pecan foliage. These beneficial insects feed on aphids and scale insects throughout the growing season. Photo by William Reid



Lichen and Moss

- These are common on trunks and limbs, especially in shaded or humid areas.
- Do not harm the tree; their presence often indicates reduced vigor or poor airflow but not a direct threat.

Leaf Galls (Non-Phylloxera)

- Caused by tiny wasps or mites, these galls may appear as small bumps or blisters on mature leaf blades.
- Galls typically show up **later in the season**, are **scattered or isolated**, and do **not distort shoots or petioles**.
- They are usually cosmetic and do not require treatment.
- **Important distinction:** Phylloxera galls tend to appear **early in spring**, often in **clusters** on **young shoots or leaf stems**, and may cause visible distortion or reduced nut set. If galls are dense, early-season and affecting new growth, phylloxera is more likely.

A cluster of lady beetle eggs is attached to the underside of a pecan leaf. Eggs hatch into larvae that resemble small, spiny alligators and are voracious predators of aphids. Photo by William Reid



Spider Mites Versus Spiders

- True spider mites cause leaf damage, but actual spiders and their webs are beneficial and help control pest populations.

Fungal Mats or Mushrooms at the Base

- These may indicate decaying organic matter in the soil, not necessarily root disease.
- If the tree appears healthy, these fungi are likely decomposers rather than pathogens.

Natural Bark Shedding (Especially on Mature Trees)

- This is often mistaken for disease or stress due to peeling bark on the trunk or limbs.
- It is a normal process in mature pecan trees, especially cultivars like Desirable, which shed bark in strips to reveal smooth, cinnamon-colored underbark.
- Shedding is most noticeable in spring and summer and may appear dramatic, but it does not indicate decline if the wood underneath is healthy.
- No treatment is needed unless bark loss is accompanied by oozing, cracking or dieback. In those cases, further inspection may be warranted.

A mature pecan tree shows peeling bark in long strips, exposing smooth, cinnamon-colored underbark. This is a normal process and not a sign of disease if underlying wood is healthy. Photo by William Reid



A pecan limb exhibits rough bark sloughing off in irregular plates. Bark shedding is common in mature trees and does not require treatment unless accompanied by oozing or dieback. Photo by William Reid



Insecticides for home pecan orchards.

Chemical Name	Mode of Action (IRAC Group)	Target Pests	Notes for Home Use
Carbaryl	1A	Pecan weevil, hickory shuckworm, slugs/snails	Broad-spectrum; avoid during pollinator activity
Bifenthrin	3A	Pecan weevil, borers, stink bugs	Effective but may flare aphids and mites
Permethrin	3A	Stink bugs, leaf-footed bugs	Use only when needed; rotate to avoid resistance
Spinosad	5	Casebearer, walnut caterpillar, webworm	Low-impact; effective on young larvae
Imidacloprid	4A	Aphids, phylloxera, scale (systemic)	Soil drench or foliar; avoid during bloom
Neem oil	UN	Aphids, black aphids, soft-bodied insects	Organic option; limited residual activity
Insecticidal soap	UN	Aphids, mites, soft-bodied insects	Contact only; apply thoroughly to undersides of leaves
Horticultural oil	UN	Scale (dormant), mites, aphids	Use during dormancy or cool weather; avoid heat stress
<i>Bacillus thuringiensis</i> (Bt)	11A	Walnut caterpillar, fall webworm	Effective on young caterpillars; safe for beneficials
Iron phosphate	UN	Slugs and snails	Safe for pets and wildlife; apply to moist soil near base of trees

Summary of common pecan pests in Louisiana home orchards.

Pest Group	Pest Name	Damage Type	Peak Timing	Key Management Notes
Nut and shuck feeders	Pecan weevil (<i>Curculio caryae</i>)	Larvae destroy kernels	Late July to August	Sanitation, cone traps, carbaryl or bifenthrin
	Hickory shuckworm (<i>Cydia caryana</i>)	Larvae tunnel into shucks	Late summer to fall	Sanitation, spinosad or carbaryl
	Pecan nut casebearer (<i>Acrobasis nuxvorella</i>)	Larvae bore into nutlets	Late May to June	Cluster inspection, Bt or spinosad
	Stink bugs and leaf-footed bugs	Piercing damage to nuts	Midsummer to harvest	Weed control, pyrethroids if needed

Pest Group	Pest Name	Damage Type	Peak Timing	Key Management Notes
Foliage feeders	Walnut caterpillar (<i>Datana integerrima</i>)	Group defoliation	Mid- to late summer	Hand removal, Bt or spinosad
	Fall webworm (<i>Hyphantria cunea</i>)	Webbing and leaf feeding	Late summer to fall	Prune webs, Bt or spinosad
	May and June beetles (<i>Phyllophaga</i> spp.)	Night feeding, ragged leaves	Late spring to early summer	Avoid night lighting, encourage predators, carbaryl imidacloprid, or pyrethroids if needed
	Japanese beetle (<i>Popillia japonica</i>)	Skeletonized foliage	Mid- to late summer	Hand removal, neem oil, pyrethroids or carbaryl if severe
	Sawflies (various species)	Caterpillar-like leaf feeding	Spring to early summer	Hand removal, spinosad or insecticidal soap; Bt less effective on sawflies
	Hickory horned devil (<i>Citheronia regalis</i>)	Large solitary defoliator	Late summer	Rare; hand removal only
	Slugs and snails	Leaf and shoot feeding	Spring and fall	Reduce mulch, improve airflow, iron phosphate or carbaryl
Sucking insects	Yellow aphids (<i>Monellia</i> spp.)	Honeydew, sooty mold	Late spring to fall	Soaps, oils, imidacloprid
	Black aphids (<i>Melanocallis caryaefoliae</i>)	Leaf lesions, defoliation	Mid- to late summer	Neem, imidacloprid if severe
	Mites (various species)	Leaf scorch, curling	Spring to summer	Oils, soaps; avoid pyrethroids
Gall-formers	Pecan phylloxera (<i>Phylloxera</i> spp.)	Leaf and stem galls	Spring	Dormant pruning, imidacloprid at budbreak
Trunk and limb pests	Borers (flatheaded, ambrosia)	Internal trunk damage	Spring to summer	Avoid stress, bifenthrin sprays, imidacloprid (limited)
	Twig girdler (<i>Oncideres cingulata</i>)	Girdled twigs	August to October	Sanitation only
	Twig pruner (<i>Elaphidionoides villosus</i>)	Internal twig boring	Late summer to fall	Sanitation only
Scale insects	Obscure scale (<i>Melanaspis obscura</i>)	Sap feeding, branch dieback	Spring-summer	Dormant oil, imidacloprid, prune infested limbs

Managing Wildlife Pressure in Home Orchards

Pecan trees support a wide range of wildlife, which is part of their ecological and cultural value. But in home orchards, that same appeal can lead to nut loss, limb damage or bark injury, especially in small plantings or during peak harvest. While some wildlife activity is expected, repeated or large-scale damage can reduce yields and stress trees over time.

Wildlife pressure is often more intense near **wooded edges, pastures or transitional zones** — a phenomenon known as the **edge effect**. These areas provide cover, nesting sites and travel corridors for squirrels, raccoons, deer and birds. If your orchard borders natural habitat, expect higher wildlife activity and plan accordingly.

Common wildlife issues:

- **Squirrels and raccoons** often steal ripening nuts before they fall and may break limbs or strip bark while foraging.
- **Crows and blue jays** peck at nuts in the canopy, especially during shuck split.
- **Deer** browse young shoots and rub antlers on trunks, damaging bark and scaffold limbs.
- **Rodents** may chew bark at the base of young trees, especially in winter.

Signs of wildlife damage:

- Missing or half-eaten nuts before harvest
- Broken or stripped limbs
- Bark damage near the base of young trees
- Nut shells or husks scattered under the canopy
- Tracks, scat or feeding signs near trees



A pile of pecan shells and husks shows characteristic chewing damage from squirrels. Wildlife feeding can significantly reduce harvest in home orchards. Photo by William Reid



A young pecan tree has bark stripped from the trunk due to deer rubbing antlers. This type of injury can girdle the tree and lead to dieback if severe. Photo by William Reid



Bark damage can be caused by squirrel chewing. Bark removal can expose wood and increase risk of disease entry. Photo by William Reid

Wildlife damage quick reference.

Wildlife	Damage Type	When It Occurs	Management Tips
Squirrels	Steal nuts, break limbs, strip bark	Late summer to fall	Harvest promptly; trunk guards
Raccoons	Steal nuts, climb trees, break limbs	Late summer to fall	Electric fencing; remove attractants
Deer	Browse shoots, rub antlers on trunks	Fall to winter	5-6 feet of fencing; trunk guards
Crows/blue jays	Peck nuts in canopy	Shuck split to harvest	Netting on small trees; scare devices
Rodents	Chew bark at base	Winter	Trunk guards; mulch-free zone

Management Options

- **Fencing:** A 5-to-6-foot fence can exclude deer from young trees. For squirrels and raccoons, electric fencing may help in small orchards.
- **Trunk guards:** Protect young trees from rodent chewing and deer rub.
- **Netting or exclusion:** Bird netting may help protect small trees or high-value cultivars.
- **Harvest promptly:** Collect nuts as soon as they fall to reduce losses.
- **Habitat management:** Remove brush piles or nearby food sources that attract wildlife.

Avoiding Misdiagnosis

Wildlife damage is often mistaken for disease or insect activity. If you see missing nuts, broken limbs or bark stripping, but no signs of insects, wildlife is the more likely cause. Look for tracks, scat or feeding signs to confirm.

A Note on Balance

While wildlife can be frustrating, it's also part of what makes pecan trees valuable in the landscape. The goal isn't to eliminate wildlife, but to reduce damage to acceptable levels, especially in years with good crops or when young trees are still establishing.

3. Practical Care and Knowing When to Ask for Help

Most pest and disease issues in home pecan orchards can be managed with good planning, careful cultivar selection and a few well-timed actions. Whether you're pruning for airflow, raking fallen shucks or choosing not to spray a mature tree, the goal is the same: keep trees healthy and productive with minimal inputs.

But sometimes, problems go beyond what's covered here. If a tree shows unexplained decline, symptoms that don't match this guide or if you're unsure about chemical treatments or cultivar identification, don't hesitate to reach out.

When to Ask for Help

Contact your local extension office or a certified arborist if:

- A tree shows unexplained dieback or decline
- You suspect a pest or disease not covered in this guide
- You need help identifying a cultivar or graft union
- You're considering chemical treatments but aren't sure what's legal or safe
- You're managing multiple trees and want help developing a plan

Extension agents can assist with diagnosis, sampling and region-specific recommendations. Arborists can help with pruning, structural issues or tree removal when needed.

For more information on pecan care and orchard management, see other titles in the From Soil to Shell: Louisiana Pecan Series and the Louisiana Home Orchard: Pecans publication available through the LSU AgCenter.

Acknowledgments

Thanks to **Rebecca Melanson** with Mississippi State University for helping me stay current on the pathology side of pecan production. Her guidance and updates have been instrumental in keeping this guide aligned with the latest disease management insights.

Sources Cited or Referenced

Melanson, R.A. (2024). Pecan Scab in the Home Landscape. MSU Extension Publication 3966.

Melanson, R.A., and Layton, B. (2024). Disease and Insect Management for Pecans in Home Landscapes. MSU Extension Publication 3967.

Reid, W. (n.d.). Northern Pecan Blog. Retrieved September 2025, from <https://northernpecans.blogspot.com/>. Images from this blog were used with permission.

Wells, L. (Ed.). (2025). 2025 Commercial Pecan Spray Guide. UGA Extension Bulletin 841.

Wells, L. (Ed.). Pecan Production in the Southeast: A Guide for Growers. University of Georgia Cooperative Extension.



Visit our website: www.LSUAgCenter.com

P1884-C-6 (online) 6/26

The LSU AgCenter and LSU provide equal opportunities in programs and employment.