

Pecan Orchard Renovation



There are many abandoned pecan orchards in Mississippi. In recent years, with demand for pecans increasing, there is renewed interest in renovating these orchards. Many of the trees are at least 50 years old and often very large. Pecan orchard renovation is a major undertaking, so be sure to understand what is required before tackling such a project.

While it is possible to return trees to a productive state, it is not an overnight fix and not without costs. The first step is to decide if you're interested in commercial or hobby production. Commercial production requires a greater investment of land, trees, equipment, supplies, infrastructure, and labor. For hobbyists, annual production is desired but not required. Hobbyists can decide how much they wish to invest without the concern of making a profit.

No single improvement will lead to better production of old, long-unmanaged pecan trees. New owners who have no experience with pecan production may believe that improving tree nutrition is the answer to consistent production. While that does certainly play a role, you can also incorporate other management strategies to achieve success.

Irrigation

Irrigating a pecan orchard is the only way to achieve the highest quality and production levels necessary for commercial production. Lenny Wells of the University of Georgia Extension said it best: "If you can't or won't irrigate the orchard, no amount of fertilizer or spray program will make the orchard consistently profitable." The most cost-efficient system to install is drip irrigation. Orchards can require up to 4,000 gallons per acre per day during the peak demand period of mid-August to mid-September (nut fill).

Insect and Disease Control

The most common pecan tree disease in Mississippi is pecan scab. Pecan scab is a fungal disease that infects leaves and shucks. It can also penetrate developing nuts. Leaves will have black spots, and entire shucks can turn black and stick to the shell (sticktights). Many older varieties are susceptible or highly susceptible to this disease. The 'Desirable' variety is no longer recommended for planting in many areas of the South for this reason. 'Stuart' is also susceptible, but the disease can be managed so that production is possible.



Figure 1. Pest control is an important consideration for older orchards because most varieties will be susceptible to pecan scab. Complete coverage of the tree is vital to control this disease. Air blast sprayers are needed to provide the power to reach the top of the pecan tree canopy. Photo by Donna Beliech.

The only way to control pecan scab is to spray the entire canopy of the tree with fungicides (Figure 1). You may need to spray 3 to 10 times per season, depending on the variety and weather conditions. Other pecan diseases may be controlled when spraying for pecan scab. Virus and bacteria diseases may also need attention.

In old orchards, the most common insect problem is pecan phylloxera. This is a small insect that attacks limbs and leaves. Trees form galls in response to the insects' feeding. Once you see galls, it is too late to control the pest. Galls on leaves are less of a concern than those on limbs or shoots because leaves are not permanent structures. Over time, galls can accumulate on the tree and inhibit normal growth and flowering. Nut production can decline without control. Timely insecticide sprays can control pecan phylloxera. Spray when spring leaf growth is between budbreak and 1 inch long.

Other insects such as pecan weevils and hickory shuckworms can cause problems, but they are more sporadic in Mississippi. Scouting for problems in the orchard, along with accurate identification, is key to an effective pest management strategy.

Annual Fertilizer

Annual nitrogen fertilizer application is crucial to renewing pecan tree production. Of course, get a soil test to determine current soil elements and pH. Nitrogen (N) tends to be the most limiting of all nutrients so it should be applied annually. The tree will use very little nitrogen in the year of application; much of it is stored for use the following years. The University of Georgia Extension (UGA) publication [Renovating Older Pecan Orchards](#) recommends 50–75 pounds of nitrogen per acre in the first year with an additional application if the crop is large. MSU Extension [Publication 3055 Fertilizing Pecan Trees](#) recommends more nitrogen annually, but this can vary by individual circumstances, location, and variety.

Zinc is another critical element for pecan trees. Foliar applications to the canopy in spring and early summer are the most effective way to improve zinc in the short term. Applying zinc to the soil takes longer and is only possible when soil pH is acidic. Zinc application may not be needed; foliar analysis can help determine this.



Figure 2. Well-spaced trees in an old orchard. Notice the significant amount of sunlight allowed to reach the orchard floor. Photo by Donna Beliech.

Increase Sunlight Penetration and Overall Orchard Airflow

In Mississippi, tree density is too great in most orchards. If branches from adjacent trees touch, the trees are too close. One way to remedy this problem is to remove trees. If the orchard was properly planned, there should be a predictable pattern to tree removal. However, if varieties are unknown or the orchard has not been managed for many years, it may be better to remove trees that have undesirable characteristics. These could include high amounts of pecan scab and pecan phylloxera, lots of dead wood and broken branches, and poor nut production.

Improving airflow in the orchard will help to reduce humidity and fungal disease pressure. Increased sunlight helps dry dew and rain faster, and it also provides the necessary energy for more fertile trees. Buds exposed to sunlight are more productive than those in the shade. Pruning low-hanging limbs will also expose the orchard floor to more sunlight and make management tasks like mowing, thinning, spraying, and harvesting easier (Figure 2).

Replace Poor Trees with New Varieties

To ensure long-term viability, replace poor-quality trees with new, high-quality varieties. This will allow the orchard's overall quality to improve over time. This is often a long-term endeavor and requires planning to be effective. A good understanding of the pecan nut market should guide variety selection.

Because pecans are in high demand, many varieties of pecan trees may be difficult to source. Check with nurseries as soon as your planting plan is in place to reserve trees or be placed on a waiting list. UGA's publication [Pecan Varieties for Georgia Orchards](#) provides in-depth descriptions of many varieties that will also work in Mississippi. To reduce chemical input, pecan scab-resistant varieties are recommended.

Summary

Deciding to renovate an old orchard should not be taken lightly. A better strategy may be to start over with new trees. New trees will be better varieties with more disease resistance, higher productivity, excellent nut quality, and a longer life span. While it is an attractive idea to get old orchards back into shape, be prepared to work to make it a consistently profitable reality.

References

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