

# Pecan Production: Establishing an Orchard

New concepts in establishing pecan orchards have been developed, particularly in spacing. Traditionally, Mississippi pecan growers planted trees 50 feet by 50 feet, 60 feet by 60 feet, 80 feet by 80 feet, and even 100 feet by 100 feet. Often 10 to 15 years passed before crops set well and the grower saw any profits. With today's land prices, no one can afford to devote an acre to only 4 to 6 trees as the old 80 by 80 and 100 by 100 plantings allowed.

New spacing concepts are being used throughout the Southeast pecan-growing belt. These ideas were developed in the Western irrigated growing areas, primarily

in New Mexico and Arizona. These high-density schemes establish more trees per acre, resulting in higher production at an earlier orchard age.

How productive is high-density planting? Compare production per acre for various tree spacings. Table 1 shows a theoretical production per tree at various spacings and indicates the number of trees per acre.

Using the data in Table 1, you can calculate the pounds of pecans produced per acre for each of the spacing schemes. Table 2 shows a much greater production per acre for high-density plantings.

**Table 1. Number of trees and production potential per tree for various tree spacings.**

Spacing	Trees/Acre	Production of Tree at Age				
		4	5	6	7	8-10
		Pounds				
30 x 30	48.4	10	20	25	30	40
40 x 40	27.2	10	20	25	30	40
80 x 80	6.8	10	20	25	30	40
100 x 100	4.4	10	20	25	30	40

**Table 2. Production: pounds per acre at various spacings and tree ages.**

	4th year	5th year	6th year	7th year	8-10th year
30 x 30	484	968	1,210	1,452	1,936
40 x 40	272	544	680	819	1,088
80 x 80	68	136	170	204	272
100 x 100	44	88	110	132	176



Neighboring state report results that approach the theoretical figures in this table for the early years of tree production.

These figures point to a major opportunity for pecan growers and researchers. There is little doubt this theoretical production can be obtained or even surpassed.

## High-Density Plantings and Varieties

When establishing a high-density planting, realize it will be necessary to thin or remove trees in 20 to 25 years. However, during this time, you will make extra profits. If you plant an orchard 30 feet by 30 feet, in future years you may reduce it to 30 feet within the rows and 60 feet between rows. Its final proportions will be 90 feet by 90 feet.

Some pecan varieties can be maintained at 30 feet by 30 feet. Such varieties must have early bearing characteristics and should bear nuts on internal branches instead of terminal branches. You can prune trees with these fruiting habits to confine them to their original spacing; such trees include Cape Fear, Sumner, and Choctaw. Other trees meet these requirements and have been released as varieties.

Varieties such as Stuart, Schley, Candy, Owens, Desirable, Barton, Elliott, Forkert, and Jackson, do not have the characteristics to be maintained permanently at close space plantings. However, they could be productive at 30 feet by 30 feet or 40 feet by 40 foot spacings in their early bearing years before crowding begins.

## Establishing the Orchard

You can establish a pecan planting in two ways:

Transplant trees of a desired variety.

Plant pecans directly into the soil and either graft or bud later.

It is sometimes better to buy trees from a nursery than to attempt to grow your own. Trees with 1-year-old tops are recommended since they withstand transplanting better than do older trees, require less care, and are more economical. Trees of 4 to 5 feet and 5 to 6 feet are the best to plant, but 3- to 4-foot trees are satisfactory. Plant trees in December, January, or February.

One advantage of transplanting trees is they come into bearing sooner than seedlings. Another advantage is that nursery trees usually are already grafted, and you will not need to do this job later.

A major disadvantage is the cost of the trees, especially the grafted ones. As a grower, you must decide which method you prefer to establish your grove. The decision is determined by the acreage to be planted, the production speed desired, and other factors.

To ensure you get the desired variety and number of trees, order your trees and specify a delivery date.

Immediately upon delivery, examine the trees. If the roots are dried out, reject the delivery and notify the nursery at once.

You should plant trees immediately upon delivery, but in some cases this may be impossible. If you must delay planting, dig a shallow trench, unwrap the trees, and cover the roots with moist soil or sawdust. Under no circumstances should the roots be allowed to dry.

## Direct Seeding of Nuts

Several Mississippi orchards have been established by direct seeding of nuts. When trees of desired varieties are not available from nurseries, direct seeding will establish trees that may be budded later.

Many growers are planting large, well-filled nuts in a planned spacing scheme. They will later bud these seedlings when graft or budwood of these desirable varieties becomes available. Budded trees in the Delta have come into bearing at about the same time as 1-year-old trees transplanted from the nursery. Establishing an orchard by direct seeding costs considerable less than nursery trees.

If you decide to establish a pecan orchard by direct seeding, select large well-filled nuts for planting. Nuts harvested in the fall may be used to start a nut planting the following spring.

If pecans are to be stored in winter before planting the following spring, place the nuts in layers 3 inches deep between moist sand or peat moss to keep them cool and prevent germination. Keeping the shell of the pecan moist results in faster germination when you plant the seeds in spring.

In the early spring, plant three to five nuts per hill. Plant pecans about 2 to 3 inches deep. Place a stake or a wire screen around each hill so you can identify the small plants.

If more than one of the seeds germinates and grows in each hill, select the best tree. Cut all the others below the ground. Bud or graft the seeding trees to the desired variety.



MISSISSIPPI STATE  
UNIVERSITY

EXTENSION SERVICE

msucares.com

By **Dr. John Braswell**, Extension Professor, from an earlier editoin by Dr. Richard Mullenax, former Extension Specialist, Plant and Soil Sciences.

Discrimination based upon race, color, religion, sex, national origin, age, disability, or veteran's status is a violation of federal and state law and MSU policy and will not be tolerated. Discrimination based upon sexual orientation or group affiliation is a violation of MSU policy and will not be tolerated.

Information Sheet 493

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. MELISSA J. MIXON, Interim Director  
POD 02-10