

PECAN

PRODUCTION

IN

SOUTHWEST

ARKANSAS

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PECAN VARIETIES POLLINATION TYPES

TYPE I

Protandrous
Pollen first
Nutlets late

TYPE II

Protogynous
Nutlets first
Pollen late

Varieties

Western
Desirable
Cheyenne - Scab
Caddo
Pawnee
Cape Fear
Cherokee
Barton
GraCross
Brake
Clark
Moore
No. 60
Onliwon
Peruque
Riverside
San Saba Improved
Starking
Success
Oconee
Houma - (Looks good - not sure)
61-6-67 - (Temporarily 15-17 years)

Varieties

Wichita
Choctaw
Shawnee
Tejas
Kiowa
Apache
Brooks
Burkett
Candy
Chickasaw
Comanche
Curtis
Elliot
Evers
GraBohis
GraKing
GraPark
GraTex
Grazona
Hays
Ideal
Mahan
Mohawk
Odom
Schley
Shoshoni
Stuart
Texhan
Willmann
Sumner
Melrose - Bitter taste
Moreland

KEYS TO PROFITABILITY IN PECANS

Financing - Cost of money and unit size (do not plant more than you can finance and manage effectively).

Site Selection - Unsuitable climate, poor soil, not enough rainfall, uncontrollable pest.

Establishment - Preparation, spacing, varieties, training, irrigation, weed control, nutrition and labor all need to be integrated.

Annual Cultural Operations - Tree thinning before crowding occurs, weed control, frequent nitrogen fertilization, foliar zinc sprays, pest monitoring, pest control and labor management.

Harvesting - Hand harvesting, semi mechanical or totally mechanical harvesting should be taken seriously with maximum preparation by August. Pecans need to be shaken from the trees, picked up, cleaned, sacked, sold and shipped before December 10, each year.

Marketing - No factor in pecan production has more opportunities than selling good pecans for a fair price. In-shell and contract shelled pecans can be marketed directly to the consumer at the orchard.

TWELVE BEST VARIETIES FOR SOUTHERN ARKANSAS

Type I

Protandrous
Pollen First
Nutlets Late

Type II

Protogynous
Nutlets First
Pollen Late

Variety

	Average nut/lb.	Percent Kernel
Desirable	45	55
Caddo	64	56
Cape Fear	45	53
Oconee	46	59
Houma	55-65	55
61-6-67	44	52

Variety

	Average nut/lb.	Percent Kernel
Shawnee	55	56
Choctaw	36	58
Sumner 51		55
Candy	72	46
Elliot	71	52
Moreland	58	55

FERTILIZATION RECOMMENDATIONS FOR PECAN TREES IN ARKANSAS

- Young non-bearing trees
- first year - no fertilizer
 - second year - apply **2** pound of Ammonium Nitrate or Ammonium Sulfate in April - **2** pound in May and **2** pound in June
 - third and 4th year - 1 pound on first of April - 1 pound on first of May - 1 pound on first of June
 - fifth year - 2 pounds first of April - 2 pounds first of May and 2 pounds first of June

- Bearing Named Varieties and Natives
- Always follow leaf analysis recommendations

<u>Percent nitrogen in leaves</u>	<u>Pounds of nitrogen to apply per acre</u>
Below 2.0	150
2.1	140
2.2	130
2.3	120
2.4	110
2.5	100
2.6	100
2.7	100
above 2.75	non (unless specifically suggested)

Minimum amount of nitrogen per acre in the absence of a soil test

Natives - 60 units of actual nitrogen per acre

- Named Varieties
- River bottoms - 90 units of actual nitrogen per acre
 - Uplands - 120 units of actual nitrogen per acre
 - Non producing established orchards - 200 units of actual nitrogen per acre
 - Using split applications apply 50% in March and 50% in May

Available carriers of nitrogen

Anhydrous Ammonia	82%	Chicken Litter	2.5 - 3.0%
Urea	45-46%	(Broiler Litter only)	
Ammonium Nitrate	33.5%	Nitrogen Solution	20-32%
Ammonium Sulfate	20.5%	Calcium Nitrate	15.5%

ZINC RECOMMENDATIONS

Young non-bearing trees - apply foliage application every two weeks from April to mid August

<u>Named Varieties</u>	- first Spray	- green tip
	- second spray	- one week after green tip
	- third spray	- three weeks after green tip
	- fourth spray	- casebearer
	- fifth spray	- eight weeks after green tip

Natives - two sprays - first spray - one week after green tip - second spray - casebearer

Zinc Carriers and amount to apply

Zinc Sulfate - 2-3 pounds per 100 gallons of water

Zinc Nitrate - 2-3 pounds per 100 gallons of water + 3 pints of liquid nitrogen fertilizer (32-0-0)

PECAN LEAF ANALYSIS - ACCEPTABLE RANGE ELEMENTS

Concentration on Dry Wight Basis

Nitrogen (N)	2.50-.4.00 percent
Phosphorus (P)	0.15-0.30 percent
Potassium (K)	0.75-1.25 percent
Calcium (Ca)	0.70-3.00 percent
Magnesium (Mg)	0.30-0.60 percent
Sulfur (S)	0.20-2.50 percent
Iron (Fe)	50-300 ppm
Manganese (Mn)	40-300 ppm
Zinc (Zn)	80-500 ppm
Boron (B)	20-45 ppm
Copper (Cu)	10-30 ppm

MOST HARMFUL PECAN INSECTS IN SOUTHERN ARKANSAS

Hickory Shuckworm - Active mostly at night. Overwinters as a larva in the shucks of nuts. Begins attacking nuts in early June and continues until harvest. Three to four generations per year.

Control - Emergence of the shuckworm varies from year to year and orchard to orchard. Spraying should be timed to shuckworm activity. Activity should be monitored with black light traps. In the absence of a light trap, start scouting for activity in July.

Insecticides - Malathion 5EC
Guthion 2L
Asana XL 0.66EC
Phaser 50% WP

Phylloxera - Leaf phylloxera forms galls on leaves. Nut phylloxera forms galls on shoots and nuts.

Control - Survey orchard in May. Mark the trees that have galls on them for treatment the following year. Dormant oil may be applied to trees before budbreak in late February and early March. Insecticides must be applied after eggs hatch in spring but before nymphs are protected inside galls. Treat after budbreak when leaves are one to two inches long.

Insecticides - Lindane
Lorsban 4EC
Asana XL 0.66EC
Thiodan 50% WP
Phaser 50% WP

Pecan Nut Casebearer - This gray moth is active at night time only and is the most damaging insect pest in Arkansas. Eggs are laid on the tip end of the nutlets. Females lay 50-150 eggs during her five to eight day life span. Eggs are white when laid, but will turn pink or red prior to hatching. Eggs hatch in four to five days. Insecticides should be applied two to three days after the first eggs hatch.

The casebearer may have one to four generations. By carefully monitoring egg hatch and control of the first generation the second, third or fourth generation will be controlled.

Warm spring temperatures influence casebearer development. Cool rainy weather can delay moth activity and egg laying. Thus, the period of egg laying can vary as much as two weeks from year to year.

Control - Mothers Day is usually a designated time to start scouting for casebearer eggs.

DISEASE OF PECANS IN SOUTHERN ARKANSAS

Pecan Scab - Leaves can be infected from budbreak until June. Nuts can be infected from May to late September. Lesions are brown and later become black. Lesions reduce photosynthetic activity and cause early leaf loss.

Shucks stick to nuts and nuts can become unsized. Nuts may stick to tree or drop prematurely.

Environmental Influences - Frequent rains, high humidity, heavy dew, and cloudy days.

Control - Fungicide spray should begin as soon as budbreak.

Fungicides - Syllit 65W
Super-Tin 4L
Triple Tin 4L
Benlate 50 W
Topsin M 70 W

Shuck Dieback - Shuck tips turn black, curve backward and remain attached to the pecan shell. One to two weeks prior to normal shuck opening.

No kernel or a poorly filled kernel if formed. Damaged pecans are smaller than healthy ones. Success, Choctaw, Mohawk and Barton are very susceptible to shuck dieback.

Pecan Bunch Disease - Trees affected with pecan bunch disease display a proliferation of stem shoots on scaffold limbs. It usually shows on one or two limbs, but can cover entire tree. Leaves on affected shoots are larger than normal. They differ from zinc deficient trees which are smaller than normal. Bunches force out one to two weeks earlier than the rest of the tree, but defoliate earlier in fall than healthy limbs.

Trees are lower yielding and produce inferior quality pecans. Most often associated with native pecans. Pruning is effective if bunch disease is on restricted limbs. Cut should be made several inches below infected bunches. If bunches widespread, complete tree removal is necessary for control.