



HORTICULTURAL SERIES

TIMELY INFORMATION

Agriculture & Natural Resources

EXTENSION HORTICULTURE, AUBURN UNIVERSITY, AL 36849-5639

Pecan Cultivar Recommendations for Commercial Orchards in Alabama

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Pecan Notes 2002-3

General Recommendations

Pecan cultivars should be selected based on the marketing goals for the orchard and the desired level of management inputs. Many cultivars require multiple, season long chemical sprays for insects and diseases to be economically productive. Homeowners or commercial growers who desire a low input approach to pecan growing, should only plant cultivars with excellent resistance to pecan scab. *(See Pecan Cultivars for Homes and Low Input Plantings).*

Commercial growers must also consider nut size, kernel quality, shell thickness, ripening date, pollination habit, and precocity. Precocious cultivars begin production early after planting, but often do not produce good quality nuts as older trees. Non-precocious cultivars, like Stuart, are slow to begin production, but bear well as older trees. A combination of cultivars that vary in production traits and provide good pollination in the orchard, is the best approach to cultivar selection. Planting scheme (including pollinizers) in a pecan orchard should be planned for tree removal when canopy crowding occurs.

Table 1. Pecan Cultivars for Commercial Orchards

These cultivars are generally productive with proper management inputs, and are acceptable in nut quality to inshell or shelling markets. They vary greatly in pollination sequence, precocity, scab resistance, shuck split date, and degree of alternate bearing.

Cultivar	Poll. Type	Precocity (bearing age)	Nuts per lb.	Kernel %	Shuck Split	Scab Resistance	Alternate Bearing
Caddo	I	5-7 years	67	55	10-8	Moderate	Low
Cape Fear	I	4-6	55	55	10-16	Moderate	High
Creek	I	4-6	54	49	10-8	Good	High
Desirable	I	7-9	50	52	10-12	Poor-Mod.	Low
Elliott	II	8+	72	54	10-6	Excellent	High
Forkert	II	5-7	52	60	10-27	Good-Mod.	High
Gloria Grande	II	7-9	48	48	11-9	Excellent	Med.
Jenkins	I	7-8	55	54	10-14	Excellent	?
McMillan	II	6-7	56	51	10-19	Good	Low
Moreland	II	5-7	50	56	10-15	Good	High
Oconee	I	4-6	48	54	10-8	Moderate	High
Osage	I	7-9	81	55	9-10	Good	Low
Pawnee	I	6-8	50	55	9-25	Poor-Mod.	High
Stuart	II	8+	50	48	10-16	Moderate	High
Surprize	I	6-8	38	49	10-17	Moderate	Low.

Pollination Requirements

Pecans have a dichogamous flowering habit and are classified into two types: protandrous (type I); pollen shed first, and protogynous (type II); female flowers (nutlets) receptive first. Phenology (timing) for each cultivar is very different, with some having early pollen shed or early pistil receptivity. Simply having a type I and type II in the orchard, may not satisfy requirements for good pollination. Pollen shed and female flower receptivity must overlap in timing (See Figure 1).

Generally, the greater the mix of cultivars in the planting, the greater the chance for cross-pollination. Cultivars should ideally be planted no more than 4 rows from a pollinizer row.

Recommendations for Specific Regions in Alabama

Alabama is generally divided into three pecan production regions. These regions differ in annual precipitation patterns, heat unit accumulation, date of last spring freeze, and date of first fall freeze. Some of the cultivars in Table 1 are not well suited for all three regions in Alabama.

North Alabama

Caddo	Cape Fear	Forkert	Gloria Grande
Jenkins	McMillan	Moreland	Oconee
Osage	Pawnee	Stuart	

Central Alabama

Caddo	Cape Fear	Creek	Desirable
Forkert	Gloria Grande	Jenkins	McMillan
Moreland	Oconee	Pawnee	Surprize

South Alabama

Caddo	Cape Fear	Creek	Desirable
Elliott	Forkert	Jenkins	McMillan
Moreland	Oconee	Pawnee	Surprize

Cultivar Descriptions and Notes

Caddo The small, football shaped nut of this cultivar is consistently well filled with bright kernels. The nut has good cracking qualities, and is suited to shelling markets. It is a very prolific and consistent bearer. Scab is easily controlled with sprays, but it can be susceptible to fungal leaf scorch and black pecan aphids.

Cape Fear This cultivar is extremely productive as a young tree, and has good nut quality kernels. As tree matures, excess crop load must be corrected, because nut quality decreases. Extremely susceptible to fungal leaf scorch, hickory shuckworm, and nut abortion from “water-stage split”.

Creek The newest USDA cultivar for the Southeast (tested as 61-6-67). Creek is a very productive cultivar with good scab resistance. It is a smaller tree and suitable to higher density plantings. As tree matures, excess crop load must be corrected, because nut quality decreases. Should be used as temporary trees.

Desirable Nuts from this cultivar obtain premium pricing in inshell or shelling markets year after year. It has a natural ability to shed nuts and reduce alternate bearing. The tree is weak structured and difficult to train. Scab is very difficult to control in high rainfall regions. It is not precocious, but consistently productive as a mature tree.

Elliott Despite small nut size, market acceptance for this cultivar continues to grow, because kernel color and taste is outstanding. It is slow to begin economic production and alternate bears badly. It is a low input cultivar, because it has excellent scab resistance. Budbreak is very early and may freeze in northern regions. Yellow aphids and scorch mites can be severe.

Forkert Consistently produces very high quality kernels with bright color and good taste. The nut is large and thin-shelled, and may be damaged by some mechanical harvesters. The tree is strong and easy to train. Requires a good scab control program, but is an excellent cultivar for retail/inshell marketing.

Gloria Grande This cultivar is suited to low-input, minimal spray orchards, because it has excellent scab resistance; however, black aphids can be severe. The nut is large and resembles Stuart, but ripens much later and is mediocre to poor in kernel quality. Kernel quality has been very poor in Baldwin County, and this cultivar should be avoided by Gulf Coast growers.

Jenkins This cultivar has a large nut and appears to be an excellent tree with regard to pest resistance. Nut quality is outstanding. Nuts resemble Desirable, except a little smaller.

McMillan This cultivar has been highly productive and consistent, and scab damage on nuts has been very light. Harvest is about 3 days after Stuart.

Moreland An outstanding cultivar that is productive, but alternate bearing may be severe. Kernel quality is excellent, even in heavy crop years. Believed to be a Schley seedling, and like Schley is very susceptible to black aphids. Disease problems, including scab, are moderate.

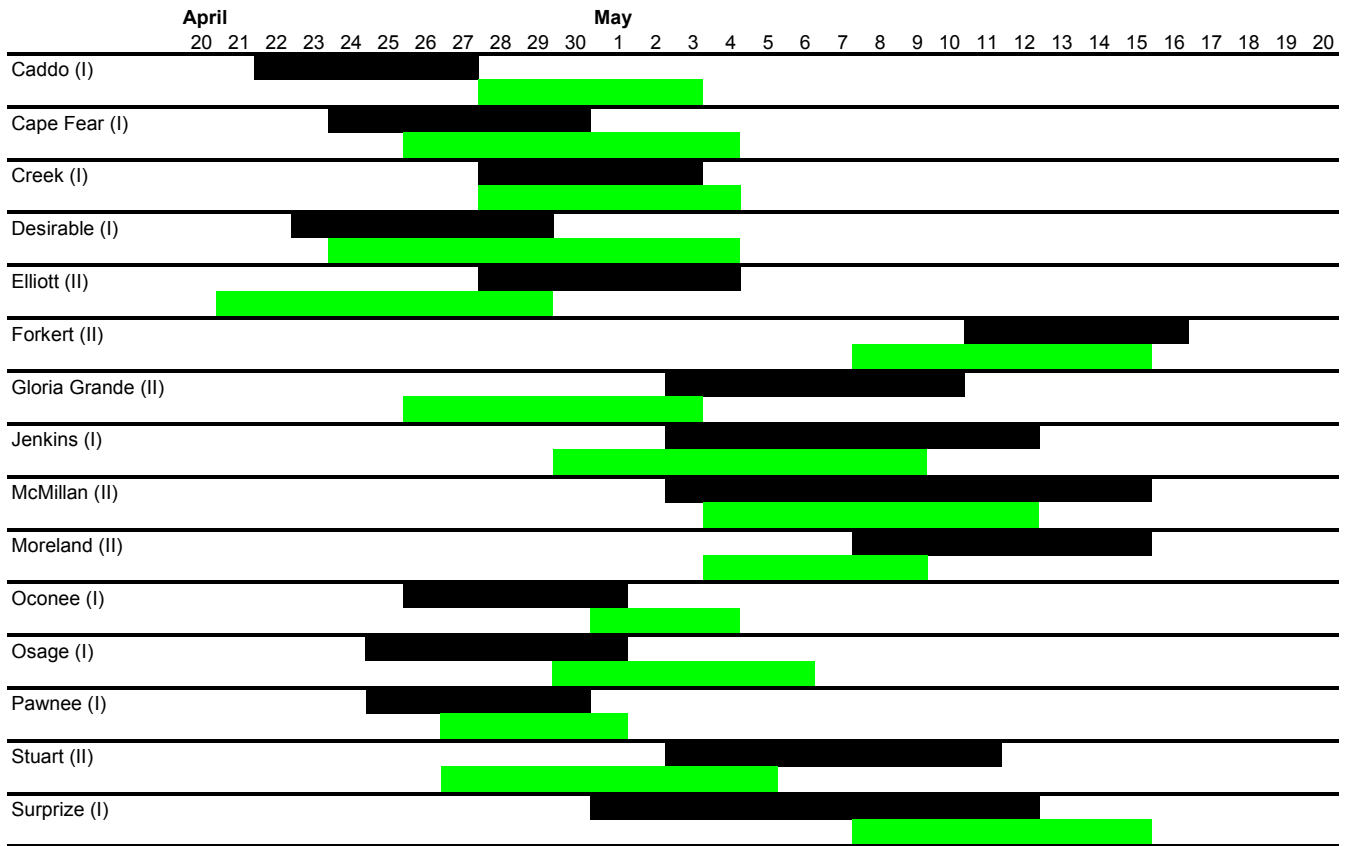
Oconee A relatively new cultivar from USDA that performed well at Tifton, GA. Large, thin shelled nut that resembles Desirable, with excellent kernel quality. Very precocious and productive. Resistant to scab, but susceptible to black aphids. Performance as an older tree is unknown, thus should be used as a temporary tree.


Osage A small, high quality pecan for North Alabama only. Has performed well in other similar geographic regions. Consistent producer. Ripens very early (early Sept.), and must be protected from bird depredation. Good resistance to scab, but susceptible to downy spot. Small nut size is a marketing disadvantage.

Pawnee This cultivar ripens before Oct. 1, and should obtain excellent, early market prices. Produces large, high quality nuts, but kernel color darkens if not dried properly and sold quickly. As trees mature, excess crop load must be corrected, because nut quality decreases. Scab may be difficult to control in high rainfall areas. Resistant to yellow aphids, but susceptible to black aphids and hickory shuckworm. Productivity is questionable.

Stuart Stuart is the standard cultivar of the Southeast, and comprises one-fourth of all commercial orchards today. Stuart trees produce large, thick shelled nuts, with mediocre kernel quality. It is very slow to begin bearing, taking 8 to 10 years, but is very reliable as a mature tree. Moderately susceptible to scab and highly susceptible to downy spot.

Surprize This cultivar originated in Baldwin Co., AL, and is a vigorous tree with strong branches. Nut size is extremely large, making it a good choice for inshell/retail marketing. Kernels may not fill out well in some years if not irrigated properly. Production from year to year is very consistent. Scab may be difficult to control in high rainfall areas.



Key: Pollen Shed 
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