Pecan Cultivars for Arkansas

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Pecan Cultivars (CV) or Varieties

There are hundreds of Pecan CV’s. USDA list 160 CV at cgru.usda.gov/carya/pecans/cvintro.htm
Planning for a Pecan Orchard

- One of the first decisions to make is which cultivars to plant.
- No cultivar is perfect. All have pros and cons.
- You will need more than one cultivar for good pollination, one from each type.
- Arkansas is in unusual position between what is best to use: Northern or Southern pecan cultivars
Pecan Pollination Types

- Two basic types of pecan trees
- Type I (Protandrous) pecan trees have pollen released before the female flower is receptive to pollen.
- Type II (Protogynous) pecan trees have female flowers which are receptive before the pollen is released from this tree.
Perfect Pecan for AR

Scab Resistant and resistant to other diseases, resistance to aphids.
Precocity but does ‘not’ over crop (alternate bear)
Good nut production, Nut matures early?
Strong tree
‘Good size” nut with good percent kernel
Winter hardness with late spring budbreak
Dr. George Ray McEachern (TAMU) says:

Varieties will continue to change. 1st Stuart then Success, Western, Desirable, Wichita, Cheyenne and now is Pawnee.

We have dozen new varieties that might be the variety of the future but who will it be. “A variety needs to have production potential, quality, scab resistance, moderate size, strong tree, limited alternate bearing, responsive to hedging and most important production as an old tree.”
Commercial Pecan Varieties for Arkansas

Pawnee
Caddo
Kanza
Forkert?

Oconeé
Desirable
Lakota
Pawnee

Released in 1984;
44 nuts/lb, 58% kernel; with wide dorsal grooves and deep basal cleft.

Type I, Precocity and production medium,
Nut matures early, fair resistance to downy spot, resistance to yellow aphids.
Pawnee- Problems

Tendency to biennial bearing.

Medium or less resistance to scab

Early nut matures can cause wildlife damage

Kernel necrosis

Poor kernel appearance
Caddo

Released in 1968.

Nut: pointed both ends (football shape);
60 nuts/lb, 56% kernel; kernels golden; shelling well.

Type I,
Precocious and prolific. Ripens mid-season. Moderate scab resistance.
Oconee

Large nut 48 nuts/lb, 56% kernel. Type I, Good precocity and yield potential. Nut matures with mids season,

Moderate scab resistance, fair resistance to downy spot and vein spot.
Desirable

Large 38 nuts/lb, 54% kernel; kernels golden in color, with wide dorsal grooves, shells very well Type I, moderate production of high quality nuts, normally does alternate bear
Desirable Problems

Bears in about 10 years

Ripens in late mid-season, shortly after 'Stuart'.

Susceptible to scab.

Poor/weak tree structure
Lakota

('Mahan' X 'Major') There are **59 nuts/lb**, **62% kernel**. Kernels are cream to **golden** in color. Nuts shell out easily into full halves and are very attractive.

Time of spring budbreak is similar to Kanza and Pawnee.

Protogynous (**type II)**,

Ripens about two weeks after Pawnee.
Forkert

('Success' X 'Schley')

Large nut at 49 nuts/lb, 62% kernel; kernels cream to golden in color, Type II, Susceptible to scab in LA.
New Pecan Cultivars

Lipan*  Eclipse*
Mandan*  Nacono*
Apalachee  Waco
Excel*  Headquarters*
Morrill  Byrd*

* Cultivar that might work in AR
Lipan

• (‘Cheyenne’ x ‘Pawnee’) is the newest USDA Pecan. 44 nuts /lb & 55 % kernel. Harvest is 2 weeks after ‘Pawnee’ and budbreak is midseason. protandrous (Type I) good pollenizer for Choctaw, Elliott and Kanza.

• Resistant to scab? and medium susceptible aphids.
New extremely early nut maturing, ripens 2 weeks before ‘Pawnee’. high percent kernel, moderate size nut with **good scab-resistance**. Has 61.4 nuts / lb and 55 percent kernel. Has upright growth like ‘Pawnee’ and is Protandrous (Type I).
Mandan

- Protandrous (Type I), 46-52 nuts/lb, with 63-65% kernel. Kernels are cream to golden in color, with medium,
- Nut maturity is very early or about one week before Pawnee.
- Tree form strong branch angles.
Nacono

('Cheyenne' X 'Sioux') released in 2000. 44 nuts/lb, 56% kernel; kernels cream to golden in color, Nuts shell out easily into full halves Type II, Moderately Resistant to scab, & Moderately to yellow & black aphids. Trees are vigorous, with strong limb. Medium precocity. bears well, but avoids overbearing.
Apalachee

('Moore' X 'Schley') is high nut quality, high yield potential, and moderate scab disease resistance, shells well, very precocious, bear in 4 years, 84 nuts/lb, 54% kernel; protandrous (type I),

Trees develop central leader structure with strong limb angles
Waco

('Cheyenne' X 'Sioux') released in 2005. 53 nuts/lb. (up to 38 nuts/lb), with 56% kernel. Kernels are cream to golden in color, Type I, 'Waco' is more susceptible to pecan scab than 'Desirable' and is moderately susceptible to the yellow aphid complex. medium precocity, nut maturity is mid-season at about eight days before 'Desirable'.

Excel

Suggests that it has high resistance to scab. 45 nuts/lb, 49% kernel.

Type II,

Nuts have thick shell and very bright kernel color.

For Southern AR only?
Headquarters

AL seedling (Macon County), Type II. 60 nuts/lb. 54% kernel. This tree is likely an Elliott seedling, but nuts are larger than Elliott and have similar quality. Headquarters, has produced good yields of nuts of good quality with minimal care and no sprays. Scab resistance is excellent, and harvest date is midseason, about October 17. Nuts have a rounder shape than Elliott.
• ('Desirable' x 'Pawnee') large nut cultivar 46 nuts per pound and
• 62 percent kernel. Ripens similar to Pawnee and is Protandrous
• (Type 1).
• Has moderately upright growth similar to 'Pawnee'. Budbreak is 3 days before Stuart.
• Scab(?) and aphid resistant.
Morrill

- 'Morrill' was released because of its precocity, moderately early nut maturity especially suited to pecan/peanut growers, exceptionally high kernel percentage (67 percent kernel), 46 nuts per pound, high resistance to scab, and good resistance to black pecan aphids and powdery mildew.
Older Pecans CV’s Might work in AR

Cape Fear  Sioux

Barton  Choctaw

Maramac
Cape Fear

Orig., NC Ag. Exp. Sta. From seedling of 'Schley'

Good size nut at 45 nuts/lb,
54% kernel

Protandrous (type I), very precocious and prolific, a tendency to overbear. Ripens late mid-season,

Susceptible to fungal leaf scorch complex which can defoliate trees.
Sioux

Cross made in 1943 Released in 1962. 60 nuts/lb,
Excellent quality 60% kernel; kernels cream to golden in color, with narrow dorsal grooves, smooth texture, high oil. Type II, Medium precocity, good productivity. Susceptible to scab in GA and LA.
Barton

Released in 1953. 48 nuts/lb, 57% kernel; kernels golden in color, Late to break buds in spring, with 'Stuart'. Protandrous(type I), Precocious and prolific, with a tendency to overbear with maturity. Ripens early mid-season. Moderately resistant to scab.
Choctaw

('Success' X 'Mahan'). Cross in 1946. Scion, released in 1959;

Very large nut 37 nuts/lb,

58% kernel; kernels cream to golden in color wide, shallow dorsal grooves.

Type II, Prolific.
Choctaw Problems

Kernels can have darker veins.

Prolific. Shell can crack along suture.

Moderately resistant to scab in most locations.

Requires good site and management to produce large crops of well-filled nuts.

Poor tree structure (correct training of young trees vital)
Maramac

Seedling of 'Mahan' from Maramec, OK. Introd. in 1969.; shell rough, ridged, pinched in middle;

Large nut 44 nuts/lb, 59% kernel; Type II, Precocious.

Ripens mid-season, shortly before 'Stuart'. Susceptible to scab in LA, but considered somewhat resistant in OK.
Other Pecan CV’s

Cheyenne
Melrose
Melrose

Orig. as chance seedling Hanna, LA. released under that name in 1979; 53 nuts/lb, 57% kernel; kernels golden to light brown, with wide dorsal grooves. Type II, Ripens late mid-season, shortly after 'Stuart'. Resistant to scab. Recommended (1990) for planting or trial in AR.
Cheyenne

Cross made in 1942; released in 1970.

48 nuts/lb, 58% kernel; kernels light cream to cream in color; very wrinkled texture; wide, shallow dorsal grooves. Type I, Very precocious and prolific. Ripens in late mid-season, Slow growing, "dwarf" type tree. Very susceptible to yellow aphids. Susceptible to scab Recommended (1990) for planting in AR.
Older Pecans CV’s
Not recommend for new plantings in AR

Success  Kiowa  Mahan

Stuart  Schley

Mohawk  Gloria Grande
Common Pecan CV’s from the 1950’s

- Mahan
- Success
- Stuart
- Desirable
Success

Seedling selection MS., introduced in 1903. 48 nuts/lb, 50% kernel; kernels golden Protandrous (Type I). Parent of 'Choctaw' and 'Mohawk'. Very susceptible to scab, although once quite resistant. Very susceptible to shuck disorders 'shuck dieback' (stress related) and 'stem end blight'.
Kiowa
('Mahan' X 'Desirable') Cross
made in 1953; Released in 1976.
38 nuts/lb, 58% kernel; kernels
golden in color,
Type II, Lacks cold hardness
More precocious than 'Desirable'.
Ripens in late mid-season, with
'Desirable'. Susceptible to scab.
Mahan

- Orig. as chance seedling from planted about 1910 Monticello, FL. Large 32 nuts/lb, 58% kernel; often poorly filled to base, woody in texture, does not shell well. Type II, Very precocious and prolific, with a strong tendency to overbear as a mature tree. Ripens late, about 12 days after 'Stuart'. Very susceptible to scab.
Stuart

Seedling selection from Pascagoula, MS. planted about 1874

- Good size 51 nuts/lb,
- Type II,
- Late to begin growth in spring, making the cultivar **hardy in North AR**
- Recommended for planting for homeowners in AR.
Stuart Problems

- 45% kernel
- Normally only fair kernel quality
- Moderately Resistant to scab.
- Susceptible to downy spot, black & yellow pecan aphids.
- Very slow to bear (12 years).
Schley

Seedling selection, MS.; 54 nuts/lb, thin shell 62% kernel; kernels golden with narrow dorsal grooves. Protogynous, Type II.

Long considered the standard of nut quality for the pecan industry.

Susceptible to scab, black pecan aphid, and a trunk disorder described as phomopsis canker.
Mohawk

('Success' X 'Mahan') Cross made in 1946 (full sibling of 'Choctaw'), Released in 1965. Very Large 32 nuts/lb, 59% kernel; kernels light brown Type II, Very precocious and prolific with a tendency to alternate bear.

Freeze susceptible, especially after large crop. Ripens mid-season, Susceptible to scab.
Gloria Grande

(possibly from 'Stuart' seedling) growing in Elloree, SC, Intro. in 1923; shell thick, smooth, darkly striped; 44 nuts/lb, 48% kernel; kernels golden, Type I, Not precocious.

Resistant to scab?, fungal leaf scorch and downy spot. Susceptible to black pecan aphids.
Northern AR or High Elevation Pecans CV’s

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Osage

Released in 1989 for use in the northern U. S. pecan production area. Nut: oval elliptic with obtuse apex and acute base; round in cross section; 81 nuts/lb, very small nut, 55% kernel; excellent shelling characteristics. Protandrous (type I), pollen shed similar to 'Pawnee' and 'Peruque'.

Good precocity and yield potential. Ripens very early, Resistant to scab, downy spot and vein spot.
Giles

Orig. as native seedling on the near Chetopa, KS, on the A. E. Giles. Intro. in 1930, 74 nuts/lb, 53% kernel; kernels golden, with Type I,

Used as a Variety, seedstock or rootstock in parts of OK and KS.
Peruque

Matures 5 days before Pawnee
Protandrous Type I
Very scab susceptible
Consistent producer

Peruque  5.38 g/nut
           64.19 % kernel
'Kanza' ('Major' X 'Shoshoni') was released 77 nuts/lb, 54% kernel; kernels golden in color, with dorsal grooves that do not trap packing material. Released for its ability to produce good yields of high quality nuts in the northern pecan producing regions (Zone 6b). Type II, Excellent scab resistance, nuts ripen early. Strong tree, Its early maturity and small size makes it susceptible to predator damage when only a few trees are planted.
Lakota

("Mahan' X 'Major") There are 59 nuts/lb, 62% kernel.

Time of spring budbreak is similar to Kanza and Pawnee. Protogynous (type II),
good pollenizer for, and be well pollenized by Pawnee, Osage, and Giles.

Time of nut maturity is early, similar to Giles, and about two weeks after Pawnee.
Colby

Matures 3 days before Pawnee
Protogynous, type II. 62 nut/lb
Scab susceptible
Tends to develop strong structured tree
45 % kernel,
Southern AR Pecans CV’s

Elliott  Excel
Sumner   Prilop
New for Southern AR
Headquarters  Gafford
McMillan  Adams 5
Elliott

- Needs little to no scab protection. 77 nuts / lbs, 51 % Kernel,
- One of the most drought resistant pecan varieties.
- Early bud break makes susceptible to late spring freezes.
- Susceptible to powdery mildew, black aphids and sooty mold accumulation.
- Mature trees bear alternately, but quality remains high in the “on” year.
Excel

Suggests that it has high resistance to scab. 45 nuts/lb, 49% kernel. Type II, Not enough information currently available to comment on alternate bearing or precocity. Nuts have thick shell and very bright kernel color.
Sumner

Chance seedling in Tift County, GA, discovered about 1932. 39 nuts/lb, 61% kernel; Type II, Precocious and prolific, with consistent production. Ripens late, almost 2 weeks after 'Stuart'. Generally resistant to scab, but not in all locations. Susceptible to black pecan aphids.
Prilop

Texas native
Small nuts 84 nuts/lb

Excellent quality 54% kernel,

It would be a good choice for home plantings, and perhaps low input or organic plantings.

It is reported to scab some now in Texas where it has been more widely planted. Should only be planted in Southern AR
Headquarters

AL seedling (Macon County), Type II. 60 nuts/lb. 54% kernel. This tree is likely an Elliott seedling, but nuts are larger than Elliott and have similar quality. Has produced good yields of nuts of good quality with minimal care and no sprays. Scab resistance is excellent, and harvest date is midseason, Nuts have a rounder shape than Elliott.
Gafford

AL seedling (Butler County) Type I. 56 nuts/lb. 50% kernel. Produces a moderate quality nut with bright kernels with occasional speckling. Nuts are medium-sized, and harvest is midseason. It has excellent resistance to scab and foliage pests. It is one of the most pest-free selections we have ever evaluated. Yields have been good to excessive. To maintain quality and reduce alternate bearing, crop thinning will be required.
McMillan

AL seedling Type II. 56 nuts/lb. 51% kernel. This cultivar has been highly productive and consistent. Scab resistance moderate similar to Sumner. Kernels are somewhat dark and occasionally, like Pawnee, have ugly dark kernel markings. Harvest date is about October 20. This selection may be useful for those seeking high yields with minimal input.
Adams 5
GA seedling 81 nuts/lb. 53% kernel. Like Amling, we recommend for yard tree use. It has the distinction of being the only cultivar that we have evaluated has never had a single scab lesion. In other words, Nut quality is good, but nut size is too small for commercial use. Foliage condition is excellent in late season even with no sprays.
Pecan Rootstocks

Pecan rootstocks are mostly planted nuts/seeds from southern (Riverside, Apache, Moore or Stuart) or western (Western or Wichita) nut varieties, which can cause problems in AR like winter damage, spring frost or disease problems.

It would be better to use a northern varieties like Giles or even better a local natives
Giles

Orig. as native seedling on the near Chetopa, KS, on the A. E. Giles. Intro. in 1930, 74 nuts/lb, 53% kernel; kernels golden, with Type I, Recommended for commercial orchards in AR. Used as a Variety, seedstock or rootstock in parts of OK and KS.
Riverside
Apache
Native Pecan
Questions