A Grower’s Quest

A 40 year search for the perfect pecan cultivar

William Reid
Chetopa KS
Experience informed by Native Pecan Groves
Deep, black soils frequently flooded
Non-irrigated

Rely on large soil water reservoir
Cultivars must ripen before frost

Average growing season:
202 days above 28 degrees

Average cooling degree days:
1649 CDD

Average date of Pawnee ripening: Sept. 28
Listening to the “experts” from southern states

Mohawk

Maramec
Best for firewood
Selected from the wild because it produced large thin-shelled nuts

At one time Giles was the most widely propagated pecan cultivar in KS and MO

No longer a viable cultivar choice because of poor kernel quality and scab susceptibility
The Kanza story

USDA cross made in 1955

Grafted 1969 in KS

Released 1996

Widely Grafted in 2000’s
Measuring Cultivar Performance

Flowering
Budbreak
Disease susceptibility
Nut Phenology
Response to stress
Nut & Kernel Quality
Cultivars vary in time of budbreak

Goosepond  Colby  Kanza  Surecrop  Lakota
Spring frost damage

Greenriver

Kanza

USDA 61-1-X
Scab susceptibility often defines cultivar success
Scab impacts nut size and quality
Scab resistance does not equal Disease resistance

Complete omission of fungicides increases risk of other disease problems.

Pecan Anthracnose is often confused with scab infection
Importance of early ripening

• Required for adaptation to northern growing areas
• Southern growers capture higher, early-season prices
• Long term focus of USDA pecan breeding
Pollination vs Fertilization
Phenologically important processes

- Fruit sizing
- Kernel filling
- Shuck dehiscence
Cultivars differences

17 July 2012

Osage  Kanza  Maramec
Kernel filling
Cultivar differences

Osage  Kanza  Maramec

10 August 2012
Kernel filling period affected by water supply and crop load

- Extended drought through most of summer
- 3 inches of rain fell 25-26 August
Phenology of early ripening

Henning
- Fruit Sizing: 28-Jun, 14-Jul, 22-Aug
- Shuck Dehiscence: 6-Sep, 20-Sep, 4-Oct, 18-Oct, 1-Nov

Kanza
- Fruit Sizing: 34-Jun, 14-Jul, 36-Aug
- Kernel Filling: 9-Aug, 23-Aug
- Shuck Dehiscence: 6-Sep, 20-Sep, 4-Oct, 18-Oct, 1-Nov

Stuart
- Fruit Sizing: 39-Jun, 19-Jul, 39-Aug
- Kernel Filling: 23-Aug
- Shuck Dehiscence: 6-Sep, 20-Sep, 4-Oct, 18-Oct, 1-Nov
Water and soil

Chetopa

Increasing drought stress

Silt Loam Irrigated
IL

Silty Clay Loam Dry land
KS

Silt Loam Dry land
MO

Silty Clay Dry land
MO
Excessive crop load reduces kernel quality
Water stage shaking

Before shaking  After shaking
Objective is to produce quality kernels
Scab-free and early ripening

Kanza

Hark
Scab susceptible, early ripening

Pawnee

Gardner
Will something new be better?
Follow my pecan adventures online

Northern Pecans

Observations on growing pecans in Kansas and across middle America

Author

For 37 years, Dr. William Reid was Pecan Research and Extension specialist for Kansas and Missouri. In retirement, he is tending his 30 acre

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Checking Lakota nut fill

Lakota is a scab resistant pecan cultivar that performs well in S.E. Kansas but it has one fault that must be carefully monitored. Lakota will over-produce and slip into severe alternate bearing. To alleviate the problems associated with excessive nut set, I used my trunk shaker in mid-summer to remove a portion of the crop.

Recently, I pulled a sample from my 2019 Lakota crop to check on nut quality and determine if I had shaken off enough nuts back in August. I found that 90% of the

Plump Kernels

Shriveled Kernels