

NEW UGA PECAN RELEASES



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University of Georgia – Tifton Campus



THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL &
ENVIRONMENTAL SCIENCES



University of Georgia Pecan Releases

Dr. Darrell Sparks

1. 'Byrd'
2. 'Morrill'
3. 'Cunard'
4. 'Treadwell'
5. 'Huffman'
6. 'Whiddon'
7. 'Tom'
8. 'Tanner'

Dr. Patrick Conner

1. 'Avalon'



History of 'Avalon'

- Ga. 00-7-75, selected from a cross between 'Gloria Grande' and 'Caddo' made in year 2000.
- Selected for large nut size, good quality, and lack of scab.
- 'Avalon' topworked into Ponder Variety Grove in 2009. Wider testing began in 2012.



Avalon has excellent scab resistance.

Ray City trial in
2018

Date	Application
4/2	Phosphite – 1 Qt.
4/25	Azoxystrobin – 12 Oz.
5/10	Phosphite – 1 Qt.
5/30	Quadris Top – 14 Oz.
7/10	Super Tin -12 Oz.+ Azoxystrobin 12 Oz.
8/5	Super Tin – 12 Oz.
8/20	Super Tin- 12 Oz. + Phosphite 2 Qt.

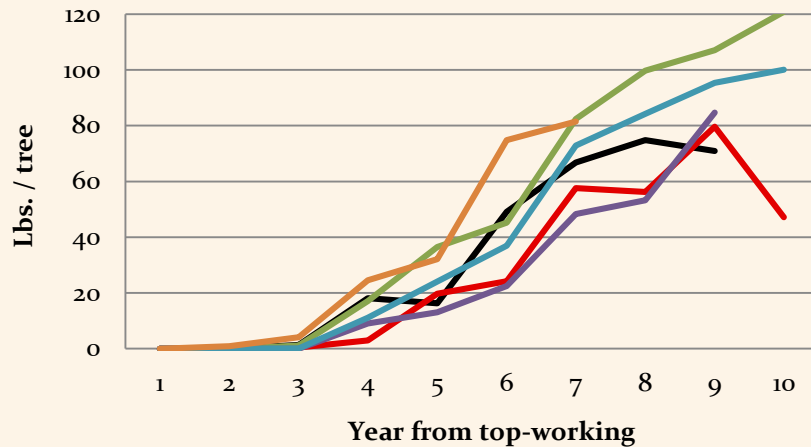
Cultivar	Leaf scab (1-4)	Nut scab Avg. (1-5)	Nut scab Max (1-5)
Avalon	1.0	1.0	1.0
Desirable	3.3	4.3	5.0
Zinner	1.0	2.0	3.5



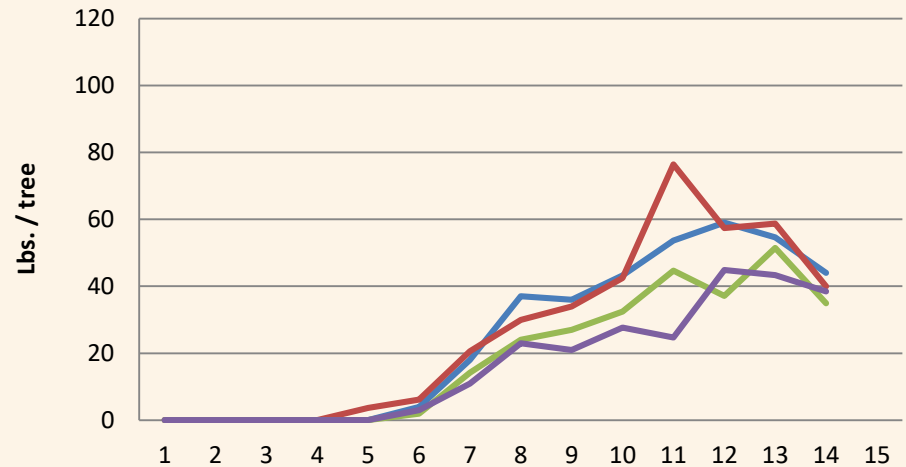
Tifton yield trial of Avalon

40 x 40 spacing, 14 year old trees.

Top-worked Avalon



Desirable



Avg. last 4 years

Avalon – 80 lbs.

47 nuts/lb, 54% kernel

Desirable – 48 lbs.

44 nuts/lb, 50% kernel



Ray City yield trial of Avalon

Yield trial at Shiloh Farms planted in 2012.

Cultivar	Year 6		Year 7	
	Yield (lbs./tree)	Quality	Yield (lbs./tree)	Quality
Avalon*	35 a	53 nuts/lb 54% kernel	57 a	52 nuts/lb 55% kernel
Desirable**	10 b	44 nuts/lb 51% kernel	9 c	51 nuts/lb 47% kernel
Zinner	13 b	47 nuts/lb 56% kernel	40 b	46 nuts/lb 58% kernel
Ga. 3-6-32	27 a	53 nuts/lb 58% kernel	26 b	44 nuts/lb 57% kernel

*Excellent yields but size was off, 53 nuts / lb.

**Yield and quality reduced by scab in 2018.



'Avalon' nut quality.

Table 7. Nut and kernel quality attributes of pecan cultivars averaged over all years of testing at Tifton, Ga. A minimum of 5 and a maximum of 11 crops were evaluated for each tree.

Cultivar	# Trees	# Nuts per cluster	Nuts/lb	% Kernel	% Fuzz	Kernel rating
Avalon	6	2.5 b	47 c	54 c	0.0 d	4.8 a
Byrd	5	3.5 a	48 c	58 a	1.0 d	4.3 b
Desirable	6	2.4 b	46 c	51 de	2.3 c	3.6 c
Gafford	4	2.7 b	49 bc	50 e	3.8 b	3.7 c
McMillan	5	3.3 a	51 ab	51 de	0.3 d	3.6 c
Pawnee	3	3.5 a	46 c	57 ab	0.0 d	3.9 bc
Stuart	5	2.6 b	47 c	45 f	7.7 a	2.2 d
Sumner	4	3.6 a	54 a	52 d	2.4 c	3.8 c
Zinner	6	2.6 b	48 c	56 b	0.2 d	4.9 a
Sig.		0.001	0.001	0.001	0.001	0.001



'Avalon' nut quality.



'Avalon' tree attributes.

Table 8. Phenology and number of nuts per cluster of pecan cultivars in Tifton, Ga., 2008-2015.

Cultivar	# Trees	Dichogamy	Bud burst date	# Nuts per cluster	50% Shuck split date
Avalon	6	II	6-Apr a ^z	2.5 b	4-Oct c
Byrd	5	I	26-Mar d	3.5 a	18-Sep d
Desirable	6	I	30-Mar c	2.4 b	10-Oct ab
Gafford	4	I	6-Apr a	2.7 b	10-Oct ab
McMillan	5	II	31-Mar bc	3.3 a	6-Oct bc
Pawnee	3	I	31-Mar bc	3.5 a	9-Sep e
Stuart	5	II	3-Apr ab	2.6 b	11-Oct a
Zinner	6	II	1-Apr bc	2.6 b	5-Oct c
Sig.			0.001	0.001	0.001

* **Monitor for black aphids, is a preferred cultivar.**

Pollen compatibility – Desirable, Byrd, Pawnee, Gafford, Creek, Oconee

Possibly with Huffman, Tanner, Tom, Whiddon



Moving Forward.

- Six licensed nurseries:
 - Georgia Pecan Nursery
 - Hampton Pecan Nursery
 - Nut Tree Nursery
 - Shiloh Pecan Farms
 - Clough Pecan Nursery
 - Bass Pecan Nursery

- Limited amount of verified graftwood available.





Dr. Spark's UGA releases

Early Harvest Large Nuts

1. 'Byrd'
2. 'Cunard'
3. 'Treadwell'

Desirable replacements

1. 'Huffman'
2. 'Whiddon'
3. 'Tanner'

Other

1. 'Tom'
2. 'Morrill'





Early Harvest Large Nuts

Early Harvest Large Nuts

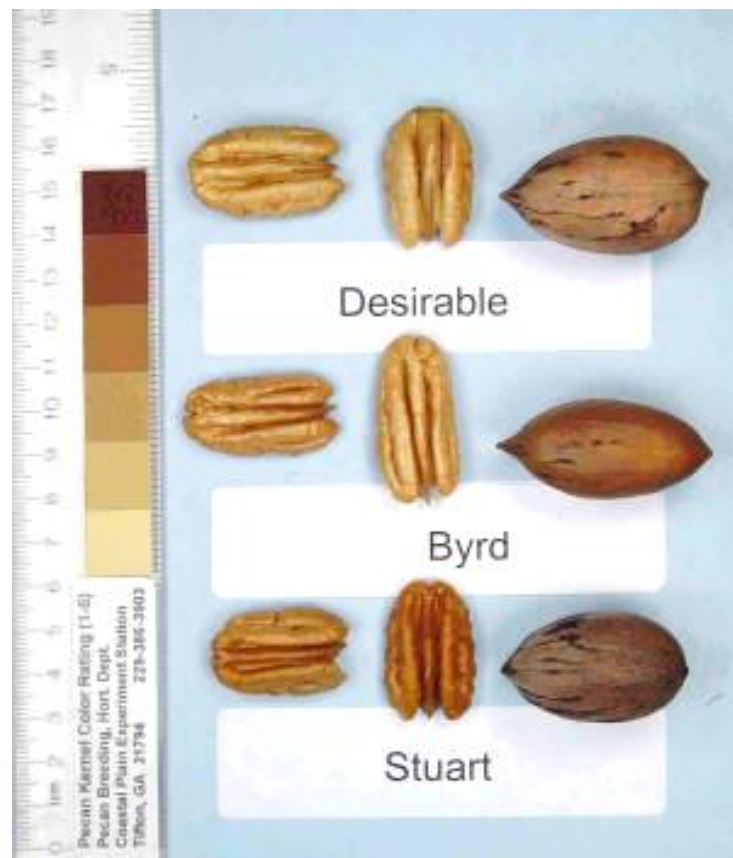
1. 'Byrd'
 2. 'Treadwell'
 3. 'Cunard'
- 'Pawnee' x 'Wichita' cross.
 - Very scab susceptible, need full season fungicide control. At the edge of what we can grow in south Georgia.
 - Very precocious and demand crop thinning treatments, do not plant if you will not thin the crop.
 - Harvest in the 3rd week of September.





Byrd

- Nut Size – Varied from 41 to 60 nuts/lb, avg. 49.
Needs good water to make larger nuts.
- Shell is thin and we averaged 56-60% kernel.
- Color can be dark and does not hold well, similar to ‘Pawnee’.
- Type I flowers and bud break is very early in the spring.
- Very productive tree with heavy early crops.
Very large number of nuts / cluster.

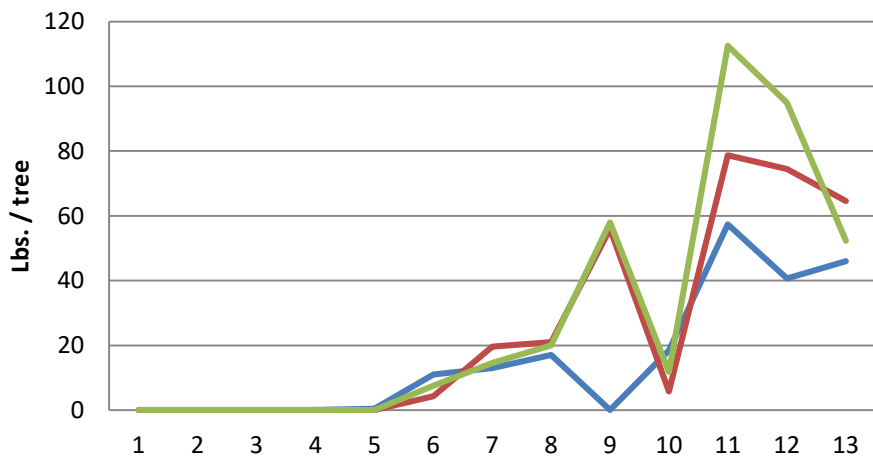




Byrd Vs. Pawnee

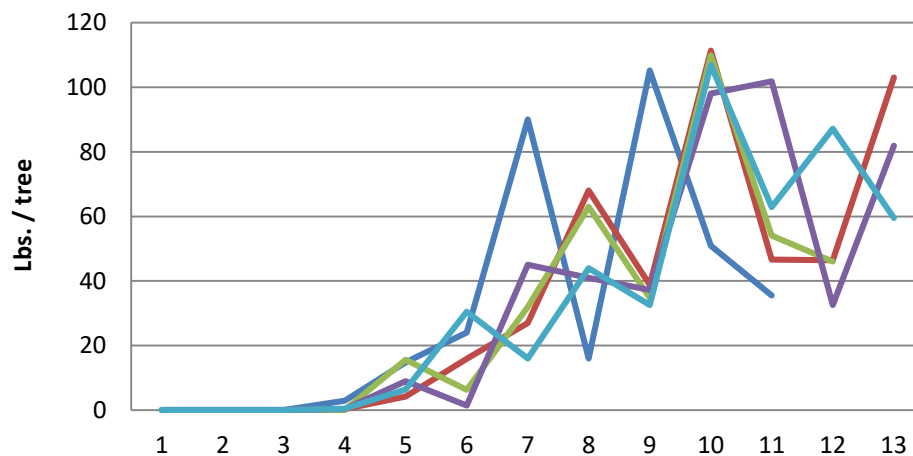
‘Byrd’ appears to be much more productive, at least early on.

Pawnee



Avg. 23 lbs. through 13 years

Byrd



Avg. 33 lbs. through 13 years





Byrd Vs. Pawnee

- Nut quality – Very similar numbers. Both can have color problems.
- Harvest date – ‘Pawnee’ is 10 days earlier, but ‘Byrd’ opens more consistently.
- Scab – Both are susceptible and need full season fungicide control, ‘Byrd’ has rated slightly more susceptible.



‘Byrd’

‘Pawnee’

My opinion – Mid-GA I would plant ‘Byrd’ due to its greater productivity and more consistent opening,

IF you are willing to crop thin.

South-GA – ‘Pawnee’?





Cunard

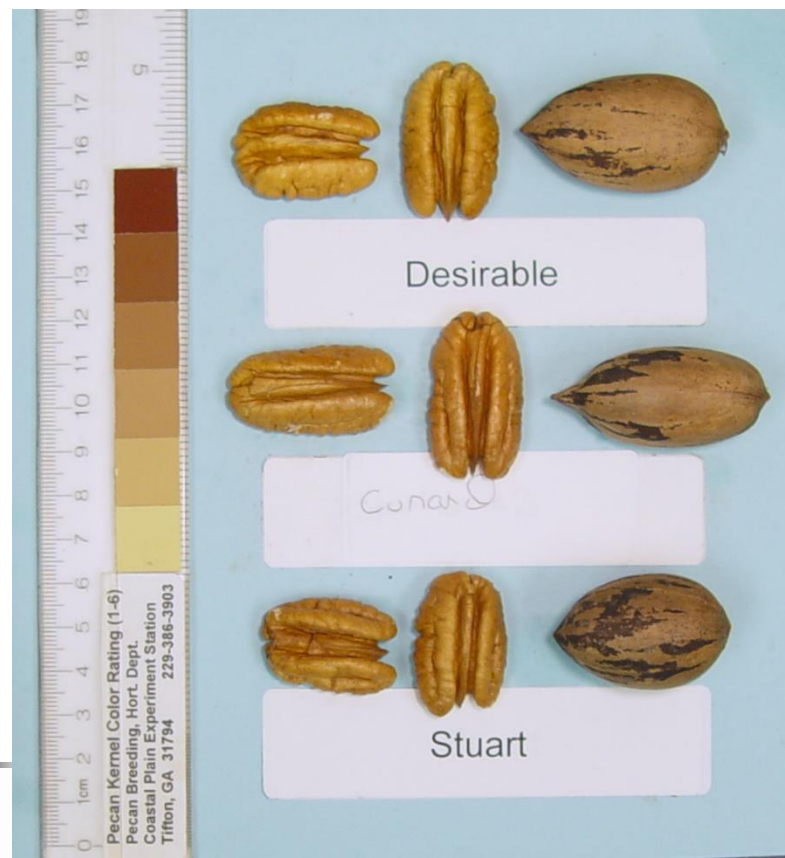
Very similar to 'Byrd', but MORE.

- More size.
- More production.
- More scab susceptible.

Some growers have given up growing 'Cunard' in Georgia, it is just too scab susceptible.

Might be usable in the western region.

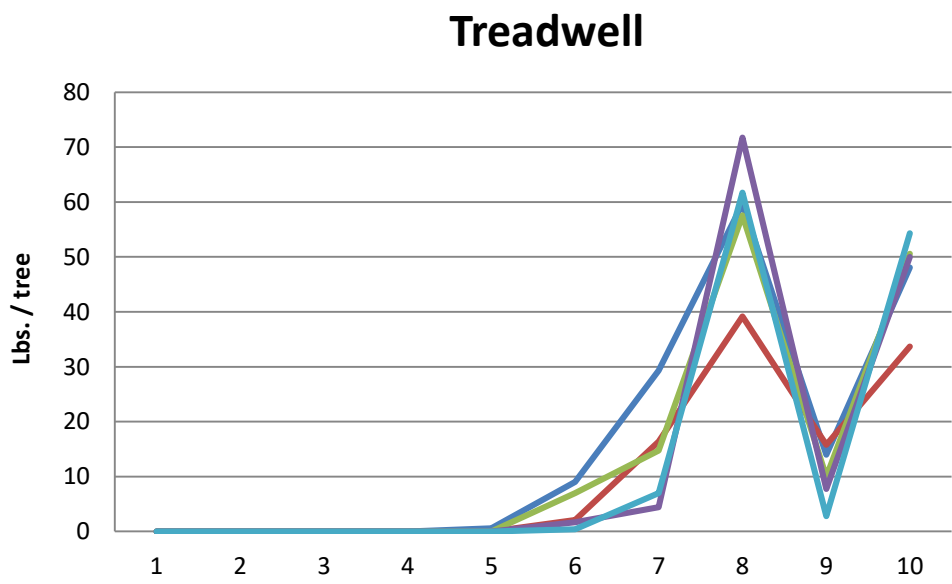
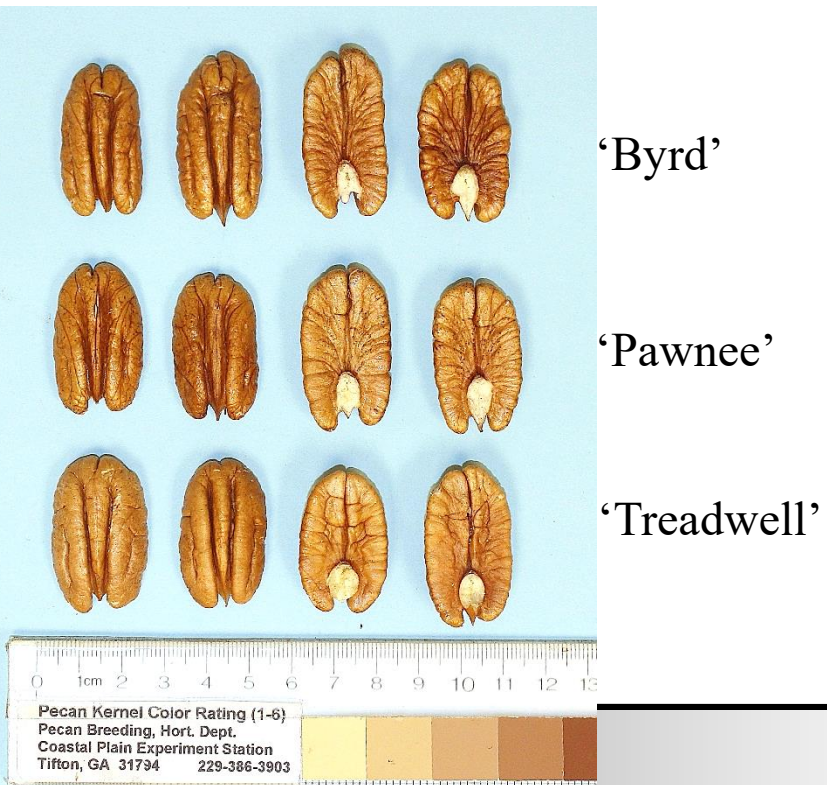
Needs perfect care to be successful.





Where does Treadwell fit in?

- Better color than 'Byrd' or 'Pawnee'.
- Very quick to have an OFF year, definitely needs crop thinning.
- Harvest date and quality were similar to 'Byrd'.
- Smaller tree, may want to plant closer together.



Dr. Patrick Conner

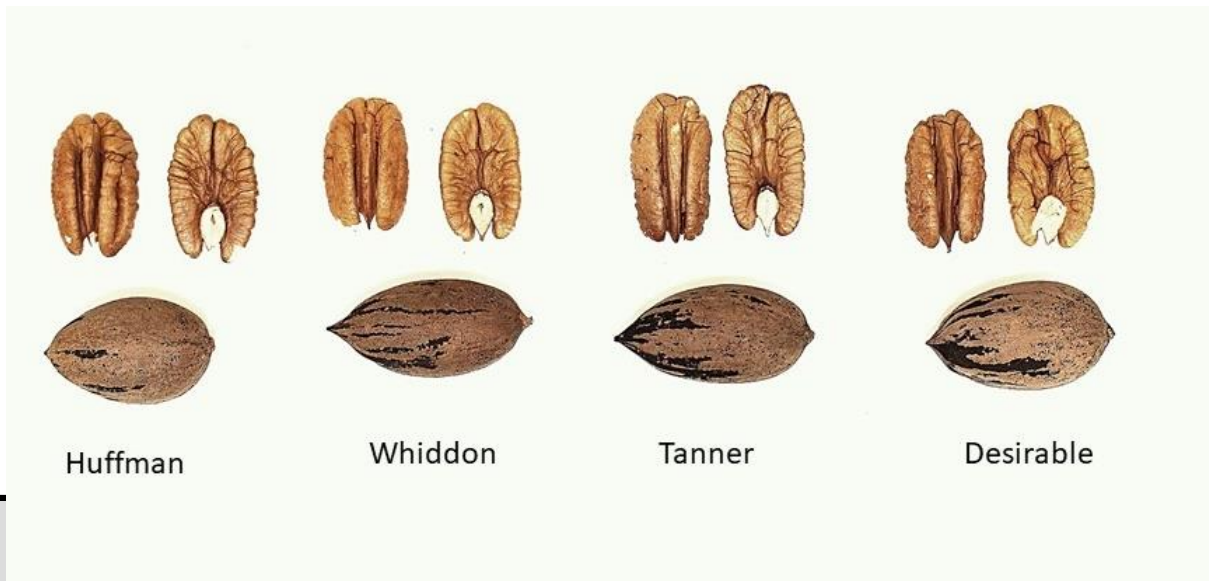




Desirable Replacements

Desirable replacements

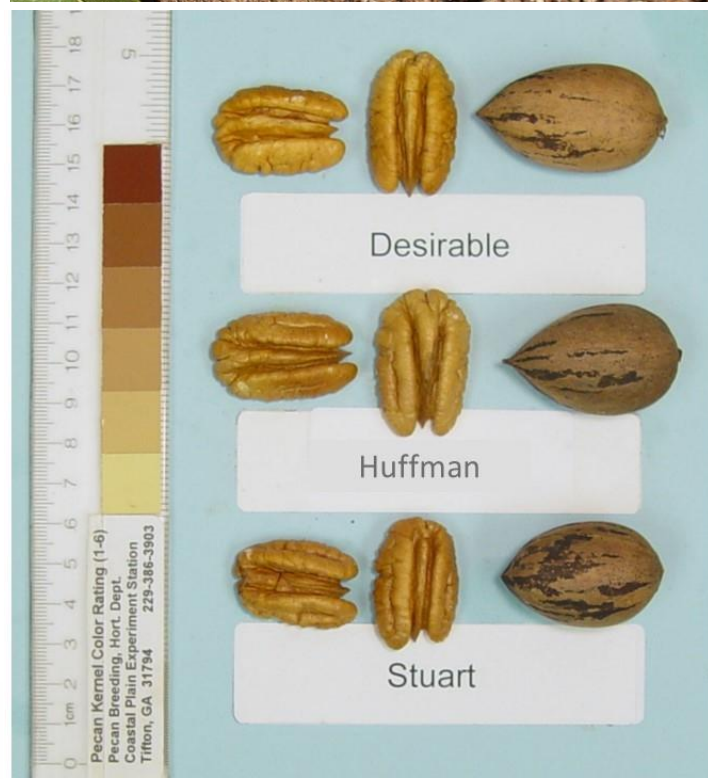
1. 'Huffman' (Pawnee x Desirable)
 2. 'Whiddon' (Pawnee x Desirable)
 3. 'Tanner' (Wichita x Pawnee)
- Low number of nuts / cluster, crop thinning optional.
 - Good scab resistance, so far.
 - Large nut
 - Type I pollination





Huffman

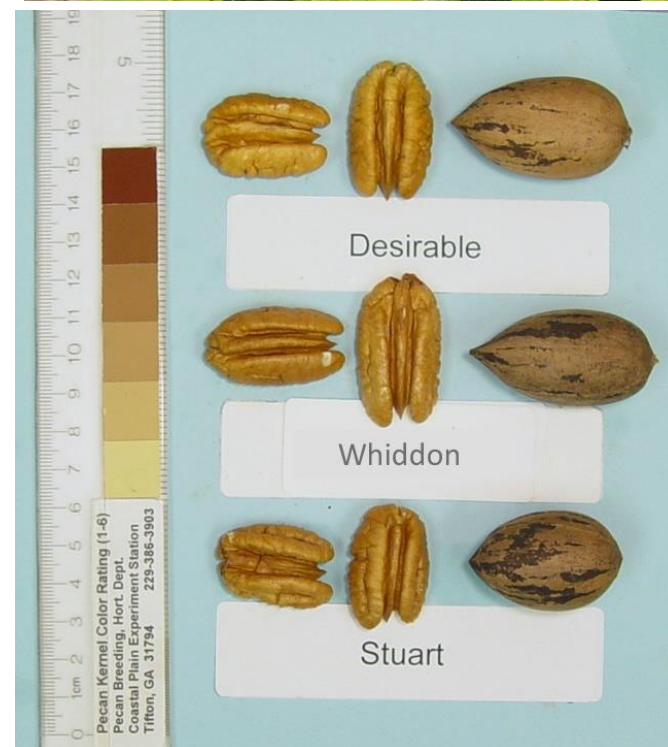
- 39 nuts/lb., 52-55% kernel.
- Yield may be light.
- Scab resistance good so far.
- Harvest 1 week earlier than ‘Desirable’.
- Looks a lot like ‘Desirable’.
- Does not like to be shaded.





Whiddon

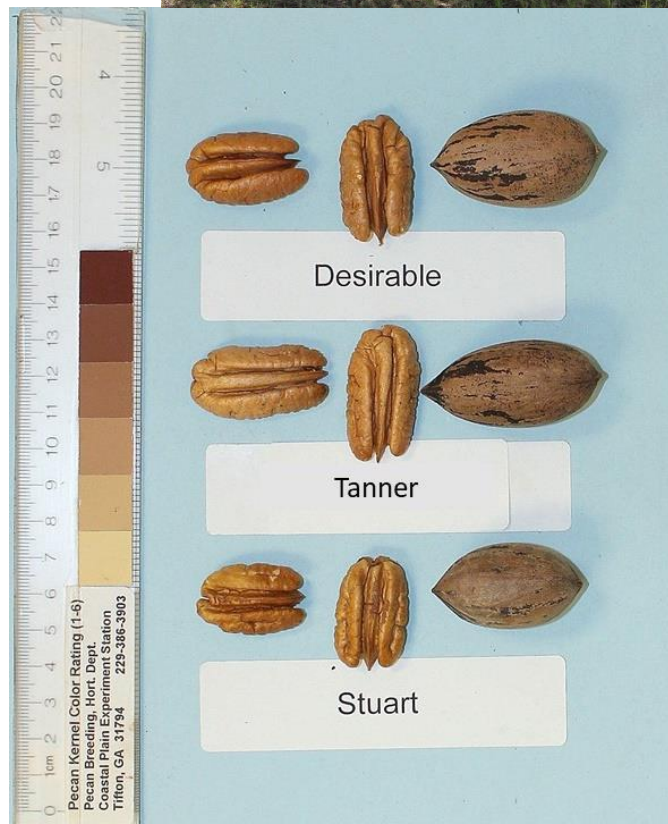
- 40 nuts/lb., 52-54% kernel.
- Most productive of the three.
- Would benefit from some crop thinning.
- Scab resistance reported to be good.
- Harvest at same time as ‘Desirable’.
- May be interplanted among older ‘Desirable’ trees.





Tanner

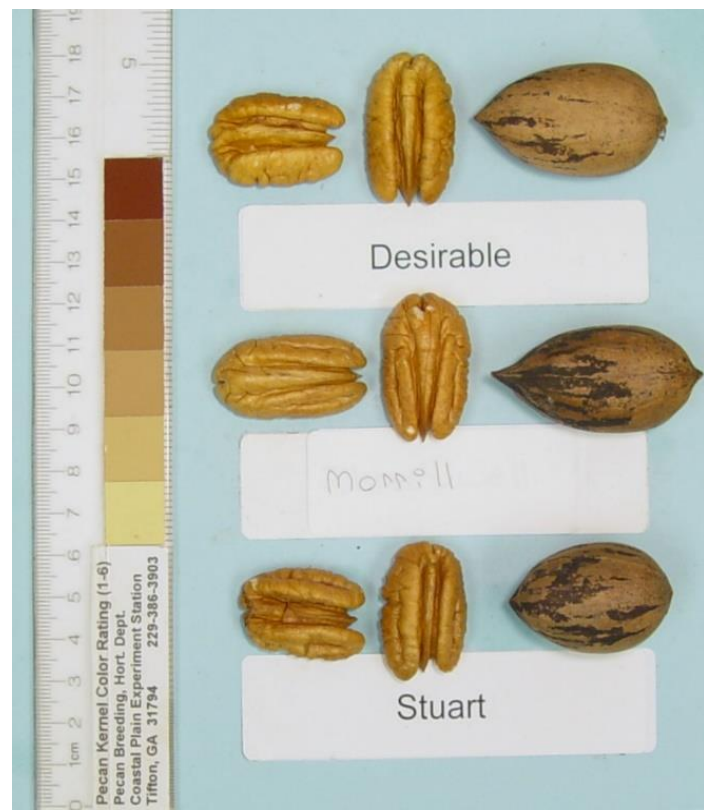
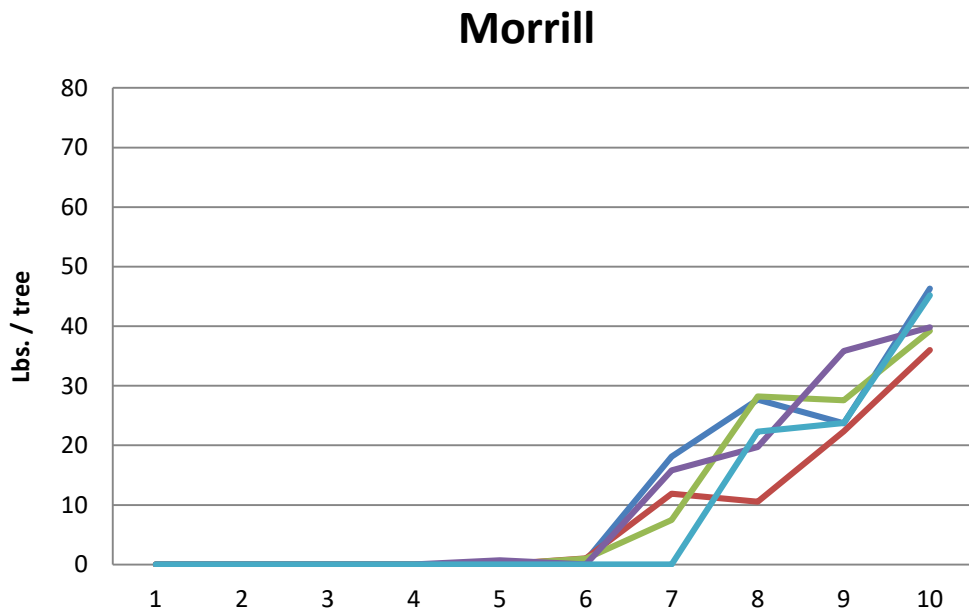
- 42 nuts/lb., 52-55% kernel.
- Some suture split of nuts.
- Early harvest date, similar to 'Byrd', Sept. 20 in Tifton.
- Scab resistance reported to be good.
- Thin canopy.





Morrill

- Pawnee x Wichita seedling.
- 43 nuts/lb., 62% kernel.
- Harvest early Oct.
- Very scab susceptible.

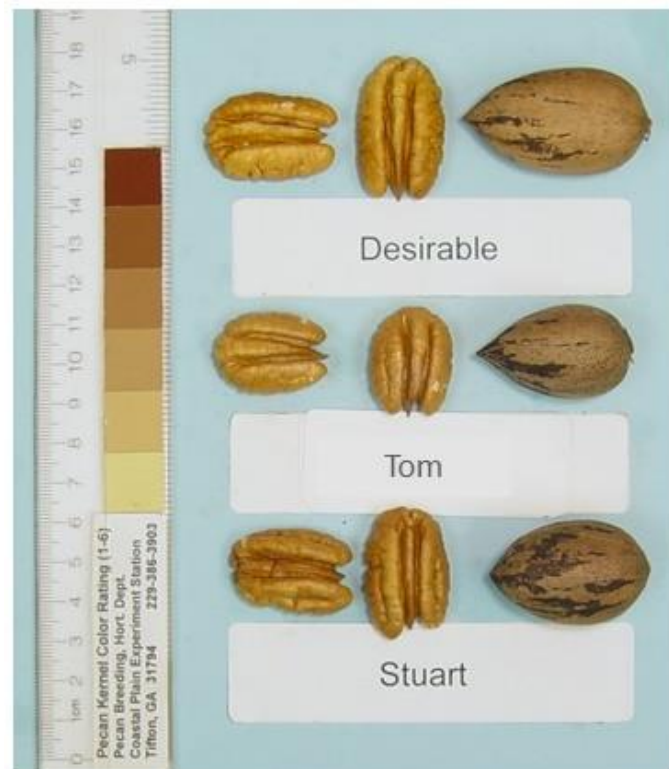




Tom

- Pawnee x Wichita.
- Smaller nut, 58 nuts/lb. ; 55% kernel.
- Harvest with 'Byrd', Sept. 23 in Tifton.
- Trees are small, plant tight.

Replacement for 'Elliott'?
Earlier, larger, less alternating.
Resistance only moderate, at best.





The Georgia Agricultural
Commodity Commission for
Pecan Funds This Work.

Thank You!

All this information and more is on
our website.

Search for us under
“UGA Pecan breeding”



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