

# Best Blackberry Varieties for Retail Farms

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# Blackberries in the US: East and West

- Eastern US – primarily for fresh market; erect and semi-erect; most are thornless; derived from eastern US germplasm; grown mainly in the eastern US plus some in the west particularly California
- Western US – mainly grown in Oregon; primarily for processing (and some local fresh market); trailing; more diverse genetic background (not the same as eastern US blackberries); These days the variety ‘Columbia Star’ is being marketed in the Eastern US, so be aware of that....and it is an OR variety
- Today I am focusing on the Eastern US category

# What to Plant....but first....

- Folks call and ask me: “What variety should I plant?”
- I say, what you gonna do with them?
- So, think about that first, then determine which are best for you.....always be **thinking about the market**



# What to Plant

- Folks call and ask me:  
“Which of the Arkansas  
blackberries should I  
plant” If they don’t have  
prior info, right now I  
say:
  - Ouachita
  - Natchez
  - Osage
  - Now add Caddo and  
Ponca!!



# What to Plant

- They then ask “how many of each to plant?” and I say:
  - Ouachita – 1/2
  - Natchez - 1/4
  - Osage -1/4
  - -PLUS Caddo and Ponca
  - Of an area (such as an acre)
  - But lets look further and broader at variety selection...other options, new releases, the future.....



# What to Plant

- Often, they then “I have heard of so and so variety, should I consider that one?” and I say:
  - Tell me what you have heard
  - Where did you hear it
  - Then I spread out to consider other options based on what they know, their specific expertise, weather, location, market, etc



*Bottom line: Learn all you can before you decide: from growers, nursery folks, extension agents, others; you cant know too much!*

# Blackberry Cane Fruiting Types

Floricanne fruiting –  
no flowers on  
primocanes;  
summer season  
fruiting.  
The standard type  
for most regions.



Primocane-fruiting – fruiting on  
first-year canes, later summer to  
autumn season.

Almost all world blackberry  
production is floricanne-fruiting.  
The first substantial  
primocane-fruiting production  
commercially appeared **about 13**  
years ago.

Challenging is PC crop production  
where summer temperature



# Lets Begin with Floricane-Fruiting Varieties



# A New Arkansas Thornless: Ponca!

- Sweetness and flavor a key attribute
  - Soluble solids can exceed 13%
  - Reduced acidity, always below 1%
  - Great aromatics
  - Folks really like!
  - The one I MAKE SURE I PICK FIRST TO TOTE HOME!



# A New Arkansas Thornless: Ponca!

- Begins harvest with Natchez, 2- 4 days before Caddo and Osage and a week before Ouachita
- Average 6.8 g; a little larger than Osage, about with Ouachita
- Comparable yield to Osage and Ouachita (20,000 lb/acre), below Natchez (22,000 lb/acre)
- Chilling?



# A New Arkansas Thornless: Ponca!

- Postharvest performance:
  - Very good storage potential (pic at right, one week storage)
  - Firm berries
  - Comparable to Ouachita and Osage for reversion; better than Natchez
  - Flavor consistently good **after storage 7 days**
  - **Plus unique cane growth habit**



# A New Arkansas Thornless: CADDDO!

- Thornless, erect canes, floricanes fruiting
- Begins harvest between Natchez (2 d after) and Osage (2 d before) season; ave. 8 June but can run much later with Ouachita or after
- Average 8-9 g; 2-3 g larger than Osage and 1-1.5 g larger than Ouachita; large all season
- Comparable yield to Osage and Ouachita (19,000 lb/acre), below Natchez (22,000 lb/acre)



# A New Arkansas Thornless: CADDDO!

- Flavor a key attribute
  - Great aromatics
  - 10% SS or more
  - 1% acidity
  - folks really like!
- Postharvest performance: 2012-2018
  - Excellent storage potential
  - Comparable to Ouachita and Osage for reversion, leak, very good firmness in storage
  - Flavor consistently good **after storage 7 days**
  - Stored adequately for 14 days in 6 of 7 years



# Ouachita – The Arkansas Standard

- The most widely planted and adapted
- Consistent production
- *I still say (tho with new one's still best?): If you plant one Arkansas variety, plant this one*



# Ouachita – Other Comments

- Berry size 6-7 g
- Excellent shipping capability
- Reduced acidity
- Mid chill – 400-500 h
- Good hardiness
- Working well on the RCA/Shift Trellis
- Just not a lot of complaints on this one!



# Natchez –BIG and EARLY

- Earliness is the key, a week before Ouachita
- Quite low chill (300 hours?)
- Very high yield potential, don't let it overcrop
- Tends to do much better in NC and Arkansas vs Georgia



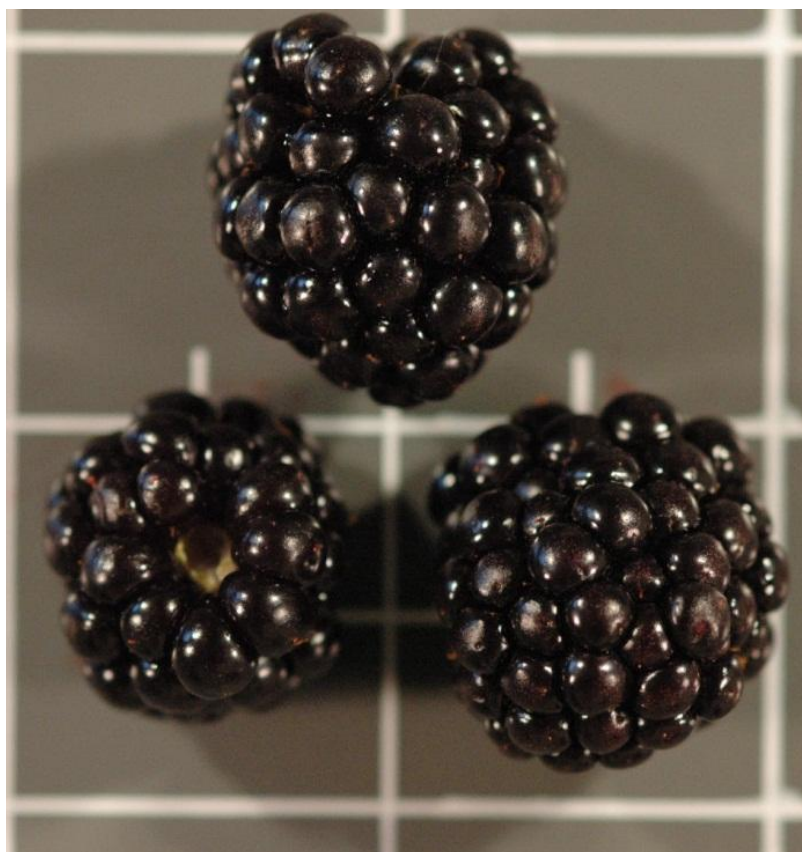
# Natchez

- Can be tart early, can be the BEST also; 9.5% soluble solids, higher and lower; environment impacts also....
- Large, fills the clamshell mighty quick; Berry size large, 8-10 g or more; remain large season-long
- Postharvest handling a little trickier, more reversion and softer than others; pick and handle early in the day to avoid heat impacts



# Osage– Stepping Up Flavor

- Ripens (In Ark.) between Natchez and Ouachita, ave. June 10 beginning harvest – a COMPLEMENT TO OUACHITA
- Yields have been consistent and good, comparable to higher than Ouachita
- 5 – 6 g, slightly smaller than Ouachita
- Flavor is a key attribute of Osage, lower acid flavor with notable flavor components coupled with high soluble solids
- Great postharvest handling potential in Arkansas trials; some growers comment that more soft than Ouachita and some not
- Reduced N has benefited PH handling



# Osage

- Folks are saying “The FLAVOR IS GREAT – BRING THAT ONE HOME!!” ...before Ponca that is..
- Packs really easy particularly in smaller clamshells due to fruit size and shape
- The best plant health!
- Not many reports on Osage on the RCA/Shift trellis; under evaluation in Arkansas
- *This one is worth trying if you have not considered*



# Apache

- Ripens after Ouachita and Navaho, a key value
- Good yields, good plants and great flavor



# Apache



- Very good postharvest potential
- High chill, 800 hours – not for the deep SOUTH!!
- White drupe limitation is a major concern and at one time, shippers were not recommending this variety
- Reports are is working well on RCA/Shift trellis as this reduces light exposure and greatly reducing white drupes
- Rethink this one for later season and RCA????

# Navaho

- Not likely as widely planted now
- Value is later, good storer, flavor
- Produces basal buds that can fruit later, can be of value....
- Chilling 800-900 h and not for deep South



# Navaho

- No comments on RCA/Shift trellis available; assume is fine
- Orange rust always a concern...size can be small



# Kiowa

- Thorny, semi-erect
- Very large, 9-14 g (ave. 12 g)
- Postharvest potential fair but not for shipping
- Chilling 200-300 hours –among lowest of Ark. group
- Mentioned today as still has some strong following, particularly in Alabama



# Von

- ‘Von’ produces fruit in the mid-late season, with average date of harvest commencing in the third week of June (in NC), peaking in the second week of July and ending the first week of August.
- In post harvest evaluations shows good performance
- Soluble sugars content of ‘Von’ was 9.4% and pH was 3.6, traits that characterize ‘Von’ as sweet with low acid.
- “Resistant” to orange rust
- Von is producing large sweet fruit in western NC. Growers like it!



# Chester Thornless

- USDA Beltsville, MD, 1985
- Thornless, semi-erect
- Medium, 5-7 g
- Ripe 10 July
- Yield very high-25,000 lb/a (not in Arkansas)
- Flavor fair to good, among best USDA thornless; 8-9% SS
- Postharvest handling excellent—commercially among the most important in the world
- **Hardy; a more northern variety**
- **High chill so be careful in the South**
- **Quality concerns...tart often**

# Triple Crown

- Thornless, semi-erect
- Medium-large, 6-8 g
- Ripe late July – 10 Aug.?
- Yield high
- Flavor probably best among USDA thornless; local sales a key option with TC
- Postharvest handling does not appear adequate for shipping; local market option
- Hardiness? Have had reports of less hardy than Ouachita, some say hardy in the North

# Sweetie Pie

- From USDA-ARS, Poplarville, MS; released 2016?
- Derived from Navaho, Brazos and Humble
- Use is for home garden, local markets and pick-your-own
- Rosette/double blossom resistant
- Adapted to Gulf Coast Region; productive in this region
- Susceptible to orange rust (from parent Navaho?)
- 5 g; 11% SS

# Blackberry Planting Considerations

- Order of ripening, Clarksville, Arkansas
  - Ponca and Natchez: June 5
  - Caddo: June 7
  - Osage: June 10
  - Ouachita: June 12
  - Navaho: June 20; Von similar
  - Apache: June 25
  - Triple Crown: June 30
  - Chester: July 10

# New Oregon Eastern x Western Hybrids

- From USDA, ARS, Corvallis, OR, The “Celestial Series”, Dr Michael Hardigan, the late Dr Chad Finn
- Intended to grow where Triple Crown, Chester, and Navaho are adapted
  - Galaxy
  - Eclipse
  - Twilight
  - Eclipse and Galaxy tend to ripen at a similar time to Triple Crown or up to a week earlier, while Twilight tends to ripen close to Triple Crown. All ripen at least 1-2 weeks ahead of Chester.
- Dr. Gina Fernandez has tested these in NC, other areas...

# Others, Skipping Details Today

- Comanche
- Cherokee
- Cheyenne
- Shawnee
- Choctaw
- Arapaho
- Chickasaw
- Darrow
- Doyle's Thornless
- Illini Hardy
- Black Satin
- Hull Thornless
- Dirksen Thornless
- Brazos
- Rosborough
- Womack
- Brison
- Tupy
- Proprietary varieties

# What About Primocane-Fruiting Varieties?

- Prime-Ark<sup>®</sup>45 is the most planted variety
- Miraculous yield in moderate climates, like California
- This one and all others continue to suffer in the Arkansas heat in primocane fruit set and quality
- Some pretty good success in NC (better than Arkansas), VA, not in GA, potential in higher elevations
- In general the PC crop is less than the FC crop on the PF varieties as of now in the South and East; the reverse in California



# **Prime-Ark<sup>®</sup>** *Primocane-Fruiting* **Blackberries**

- ‘Prime-Jim<sup>®</sup>’ and ‘Prime-Jan<sup>®</sup>’ 2004
- ‘Prime-Ark<sup>®</sup> 45’ 2009
- ‘Prime-Ark<sup>®</sup> Freedom’ 2013
- ‘Prime-Ark<sup>®</sup> Traveler’ 2014
- ‘Prime-Ark<sup>®</sup> Horizon’ 2020
  
- Plus ‘Black Magic’
  - (APF-77)
- Plus ‘Stark Black Gem’
  - (APF-205T)



# Introducing *Prime-Ark<sup>®</sup> Horizon*

- KEY THINGS YOU NEED TO KNOW
  - Primocane fruiting, thorny (though reduced thorns on main canes)
  - A complement to Prime-Ark<sup>®</sup> 45
  - Huge floricanes crop potential
  - Longer primocane-fruiting crop potential
  - Impressive berries!



# Prime-Ark<sup>®</sup> Horizon

- The berry:
  - Soluble solids ave. 10% (range of 9-11%)
  - Titratable acidity ave. 0.9% (range 0.8-1.0%) and in the “reduced acidity range” desired
- Harvest period:
  - Floricanes first harvest ave. June 12 (with Ouachita; later than PA 45); approx. 40 days
  - Primocanes first harvest ave. August 4; a few days before PA 45; harvest more than 60 days and into October



# Prime-Ark<sup>®</sup> Horizon

- The plant
  - This baby will GROW!
  - Cane management will need to be developed; long laterals
  - No tipping research conducted
  - Hardy to -15F
  - Chilling? Not determined



Late August, Arkansas, with a single PC tipping



# Prime-Ark<sup>®</sup> 45

- The largest Arkansas seller
- Most planted in California
- Also does well in North Carolina; grower Jeff Crofts says “you must have developed that variety for my farm!!”



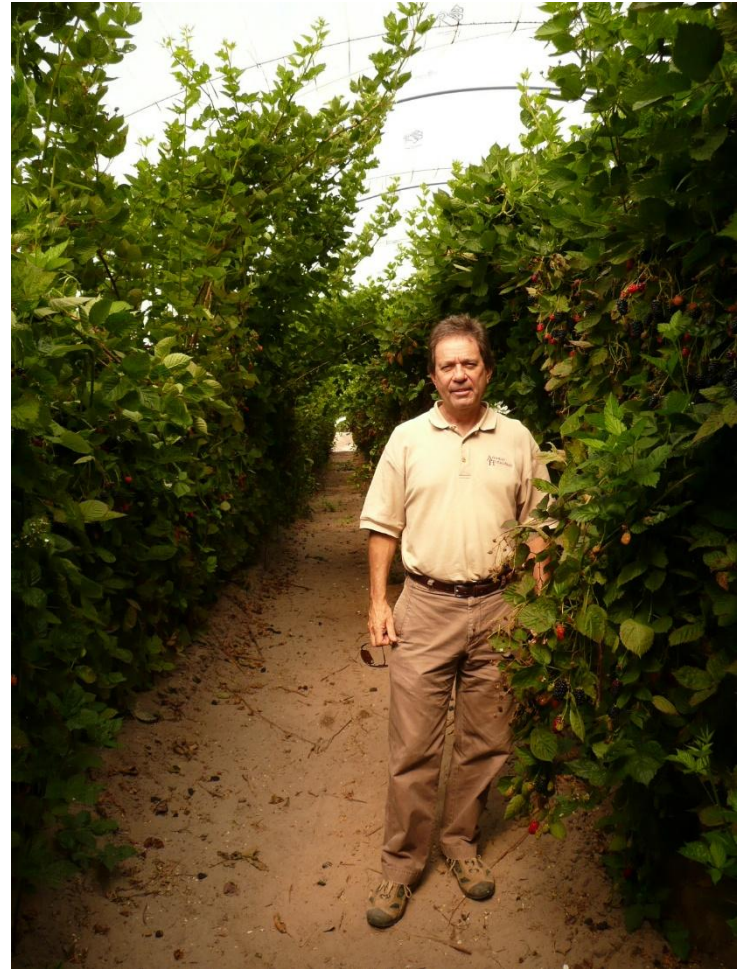
# Prime-Ark<sup>®</sup> 45

- Thorny, *primocane fruiting*; *v large; good postharvest handling; great flavor*
- Productive; floricanes and primocanes (in moderate climates) produce fruit
- Is contributing to the major change in the production of blackberries in the late summer and fall months in the US



# Prime-Ark<sup>®</sup> 45

- Value of floricanes fruit can be high due to very early and high quality – is being used some in the South for this
- No info on RCA/Shift trellis use – thorns an issue
- Very tall plants under tunnels!
- *Make sure PF blackberries work where you are...*



# Prime-Ark<sup>®</sup> Traveler



- Thornless
- Great fruit quality and intended for shipping market

# Prime-Ark<sup>®</sup> Traveler



- Thornless
- Medium size – 7 g
- 9-11% SS, reduced acidity
- Not matching yields with PA 45, particularly in California
- High floricanne crop potential

# Prime-Ark<sup>®</sup> Freedom

- Thornless
- FC crop ripens 7-10 days before Natchez – really early
- 9-11% SS
- Primocane berries up to 16 g in (cool places)



# Prime-Ark<sup>®</sup> Freedom



- Intended for home garden or local-market use, due to limited long-term storage potential
- Is low chill, *and showing promise in Florida!*
- Has value for very early cropping (in May) in the deep South for local markets

# Stark Black Jim – APF-205T

- Did not make the commercial berry quality “Cut”
- Thornless, primocane fruiting
- Great size, flavor, plant, a little reduced seed size, very soft torus/core
- Home garden ***or local market option***



# Baby Cakes

- From Arkansas, APF-236T
- Home garden
- Reduced size, primocane fruiting
- thornless



Pictures courtesy  
"Bushel and Berry"<sup>TM</sup>  
Baby Cakes<sup>TM</sup>  
Blackberry" site

# Final Comment, Common Sense

- NOTHING beats healthy plants to overcome problems tho.....clean stock, well cared for, no winter injury, not “old” plantings, top notch management pays off...time and again!