

New and Emerging Peach Fruit Characteristics

What's on the horizon

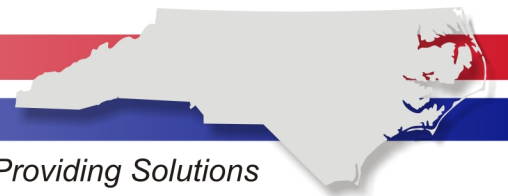
Paige Burns, Hort Agent
Richmond County



NC State University
A&T State University
**COOPERATIVE
EXTENSION**
Empowering People • Providing Solutions

Conversation with Dr. John Clark, UofA

- Interesting history of UofA and peach breeding in general
- 1980's: shift in program
- New focus: White, low acid, different flesh types, Bacterial Spot resistance
- Goal: more choices for growers, better for direct market



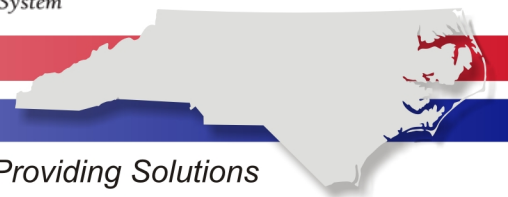
New Flesh types revealed

- Melting
- Non-melting – hold up better, cling
- Non-softening - “crispy”
- Slow-melting – something new!
 - stays on tree longer, holds firmer after picking, ultimately becomes melting
- Not sure “where” flesh types are coming from, genetically speaking



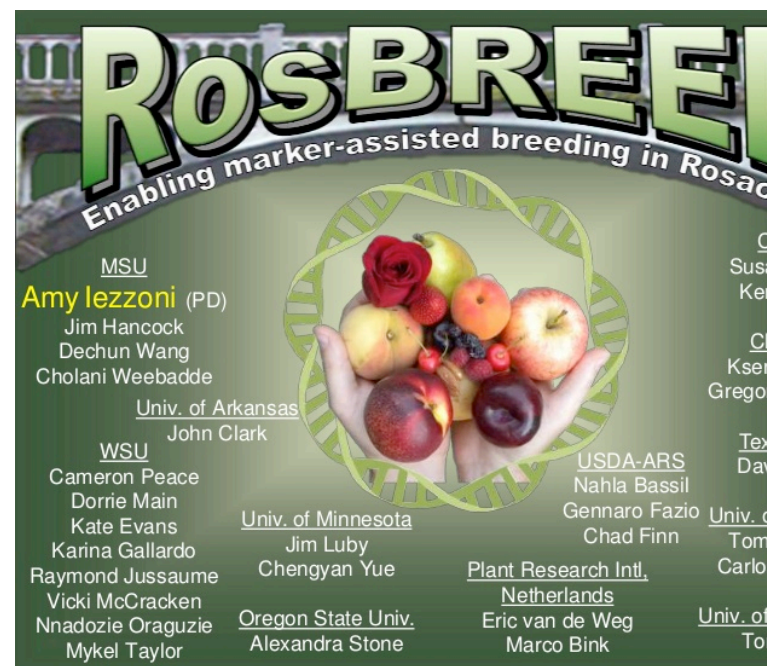
So What! Does Any of this Amount to Anything to Peach Growers?

- The biggest issue is *if more mature fruit can be achieved* and still be able to get it to the customer
- Since consumer frustrations with peaches often are based on unripe fruit being harvested, resulting in low quality and mealiness etc., it appears that flesh types that can allow more mature fruit harvested can have potential

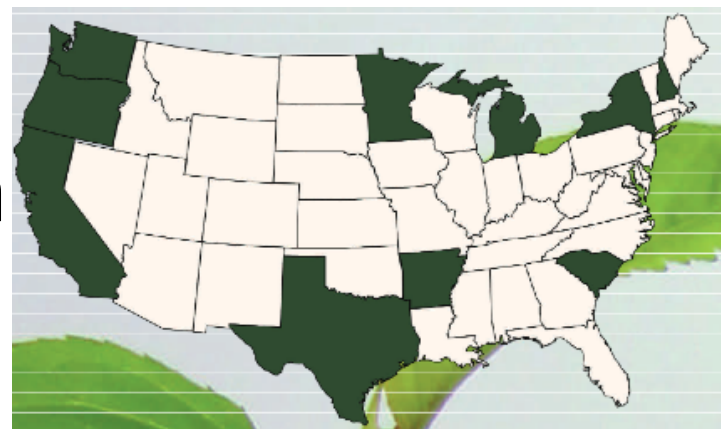


Enter RosBREED – DNA mapping

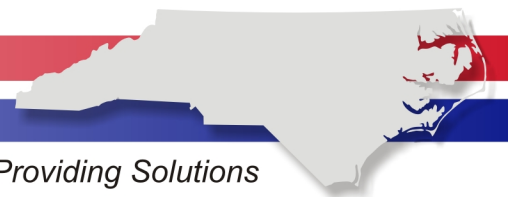
- Funded 2009; concluded 2013
- Multi-partner, to improve rosaceous crops through targeted genomics
- “Marker assisted breeding”
- Market based information used to determine desired traits



- \$14.4 million project
- “peaches identifiable by variety name”
 - Not “just peaches”
- Address consumer frustration with poor fruit quality
- Peach texture - key traits identified
 - Slow melting, non-softening, slow ripening, and stony hard

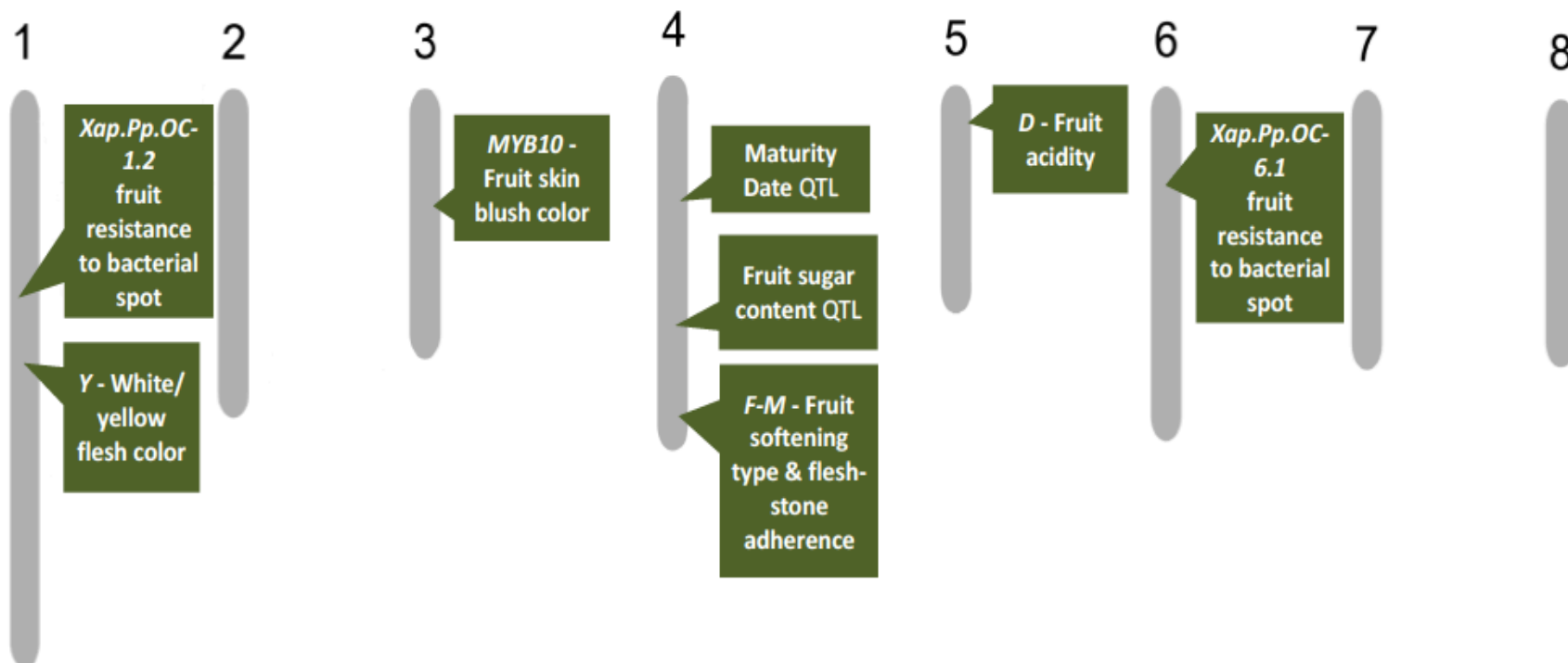


Partner states



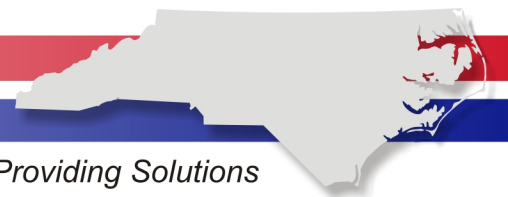


Peach — Eight peach chromosomes



So, An Academic Curiosity or Something More Important?

- I believe:
 - these flesh types can expand options for harvest maturity and product diversification, and can expand the genetic basis in flesh types in ongoing breeding programs
 - The molecular component can increase efficiency in breeding
- Progress, ***that makes a difference to the grower and consumer, can be achieved!***



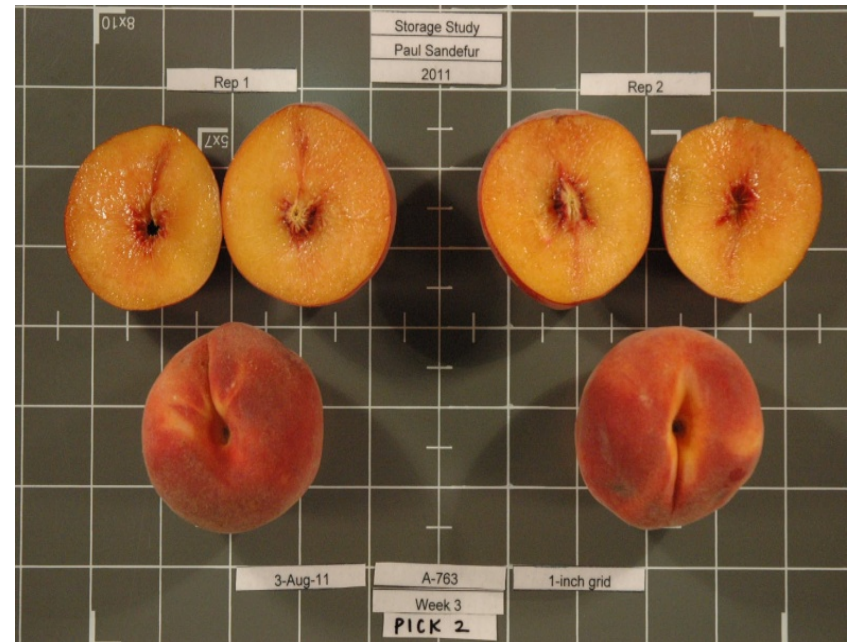
New Peach Variety- Souvenirs



- Souvenirs:
released 2012
 - Yellow
 - slow-melting
 - low-acid
 - High skin color
 - Freestone
 - Winblo parent

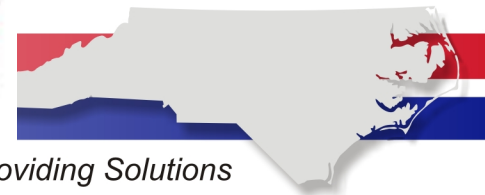


Souvenirs Stored 0 (L) and 3 (R) Weeks



Where to get these?

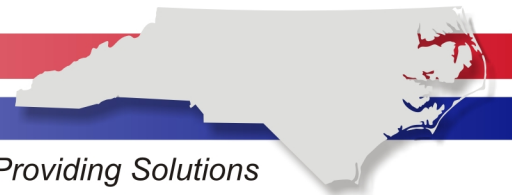
- Cumberland Valley Nurseries, Inc.
PO Box 471
McMinnville, TN 37111-0471
Phone: 800-492-0022
Fax: 931-668-7251
fruitrus@blomand.net



The West Coast



- Dave Wilson Nursery and Zaiger Genetics
 - “In the Fruit Tasting Seminars conducted by Dave Wilson Nursery, we have noticed that young people prefer fruit that is firm rather than soft-ripe. With their higher sugar-to-acid balance when firm-ripe, the new low acid peach and nectarine varieties developed by the Zaigers are ideal for today's marketplace.”
- Adams Nursery in Pennsylvania sells; purchase directly from Dave Wilson



Conversation with Stacy Anderson, Dave Wilson Nursery

- Works exclusively with Zaiger genetics
- Shift over past 5-6 years: return to the “classic” peach
 - Yellow, high acid
 - Flavor the priority.
 - High sugars 15-17 Brix
- Still a market for white, low acid, but targeted
- Don't select for Bacterial Spot resistance



South Carolina



- Clemson's peach breeding program
 - Dr. Ksenija Gasic
 - RosBREED
- Focus on improved disease resistance
 - Brown rot, bacterial spot
- Resistance to environmental stress
 - Drought tolerance, late spring frost
- Specialty crop block grant for breeding



Savannah Conference:

Grower survey for Specialty Crop Block Grant

- Reflects understanding of new customer interests (health,taste)
- Beyond fruit size, appearance
- Goal to identify varieties with taste, sugar content to serve as parent stock

Anonymous Peach Grower Questionnaire

PLEASE FILL ONE PER FARM

Traditionally, fruit size and overall appearance were main attributes influencing industry and consumer acceptance of the new varieties. Lately, consumers have become increasingly health conscious and are basing their purchasing decision on effect of food for their overall health. In addition, taste and flavor of food is in high demand within both industry and consumers. Growers and retailers want to ensure recurring consumers with high quality, health beneficial great tasting food choices. Therefore, to answer industry's and consumer's demand for healthier, better tasting high quality peach varieties we need to identify parental stocks with desirable traits and genetic information about inheritance of fruit quality, health promoting compounds and other important characteristics to make development of improved varieties successful. (Specialty Crop Block Grant Program Agreement 12-25-B-1 695)

1. Please rank the cultivars listed below on overall taste and perceived sugar content. **Use a scale from 1 to 5 (1-6)** with 1 representing the best taste and highest sugar content. Please omit any cultivars that have not been grown on your farm.

Early-Season Varieties	Taste	Sugar	Additional Comments on Flavor
Rich May aka (Flavorich)			
Carored			
Juneprince			
Springprince			
Rubyprince			
Mid-Season Varieties	Taste	Sugar	Additional Comments on Flavor
Caroking			
Coronet N			
Fireprince			
Harvester			
Blazeprince			
Late-Season Varieties	Taste	Sugar	Additional Comments on Flavor
Scarletprince			
Redglobe			
Summergold			
Julyprince			
O'Henry			
Flameprince			

2. Where is your Farm located? (e.g. county, state), _____

3. Are the peaches grown on your farm primarily (> 50%) (Circle one)

(A) for your own retail market and/or for basket or other roadside market sales? or
(B) packed and shipped wholesale for the retail market chains?



Possible Outcomes

- Breeders are identifying consumer preferences
- New technology allows faster development
- Focus on “product diversification: to develop multiple markets
 - Identify areas of potential customer expansion: Asian/Hispanic cultures prefer low acid
 - Some customers prefer firmer fruit

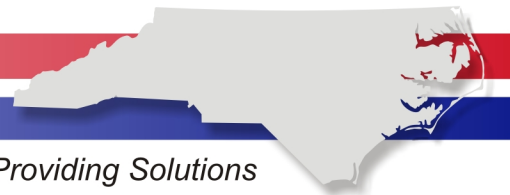


The Blueberry Example

- “America doubles blueberry consumption” *FreshPlaza: Global Fresh Produce and Banana News*, 05/062013
- The Blueberry Council
 - 2012 numbers showing a 5 percent year-over-year increase
 - North Carolina, other Southern States lead the way
- Factors: adaptive plant varieties, named a “superfood” (research, marketing), perceived health benefits

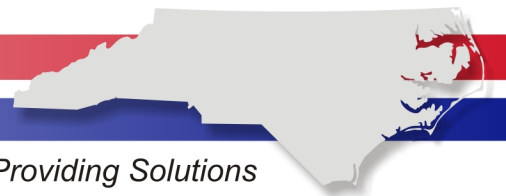


- Dr. Clark “I eat a peach to get the taste of blueberries out of my mouth”.
- Reliable fruit quality the key to expanded, reliable sales?
- Research on health benefits?
 - “Peaches inhibit breast cancer metastasis in mice” *ScienceDaily*, March 25, 2014



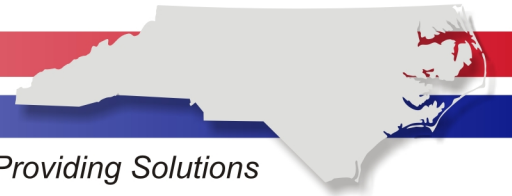
Potential for new varieties

- Peaches not “convenient” fruit
 - Flat consumption
- Fruit consumption
 - Apples: 16 lbs/capita
 - Bananas: 24 lbs
 - Peach: 4.5 lbs
- One of the “Dirty Dozen”
 - Focus on disease resistance



Great potential to grow the peach market

- New varieties can:
 - Target specific consumer tastes, improve diversity
 - Capitalize on health and taste interests of consumers
 - Deliver reliable, premium fruit quality
 - Provide disease resistance



Thank You!

