

BREEDING MUSCADINE GRAPES: A NEW INITIATIVE AT THE UNIVERSITY OF ARKANSAS

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Breeding Muscadines – Where is the Inspiration?

- ▣ Muscadines are increasingly an important crop in Arkansas (more than table grapes)
- ▣ There appears to be much potential to improve further (limited breeding done for a number of years)
- ▣ The UA Fruit Research Station is on the upper edge of adaptation, thus cold hardiness can be selected for (in theory)
- ▣ First crop worked on by JRC, and an interest in contributing something to help growers before time is up!

Muscadine Breeding Progress in the Last 30 years

- ▣ Cultivars released
 - 34 total
 - ▣ 23 in 1980s
 - ▣ 9 in 1990s
 - ▣ 4 from 2000 through 2009
- ▣ It is impressive the limited genetic base and parents of these varieties! At least 24 have Fry as a parent or grandparent!



The Arkansas Program

- ▣ Idea first put in motion in 2005
 - Open-pollinated seeds collected from a number of varieties and seedlings grown
- ▣ Crossing among varieties
 - Began in 2006
 - Continued in 2007, 2008, 2009 (Ark. selections used in 2009)
 - Several thousand seedlings in field plantings now
 - 31 selections made through 2009
 - Cooperation underway with Dr Patrick Conner at the Univ of Ga

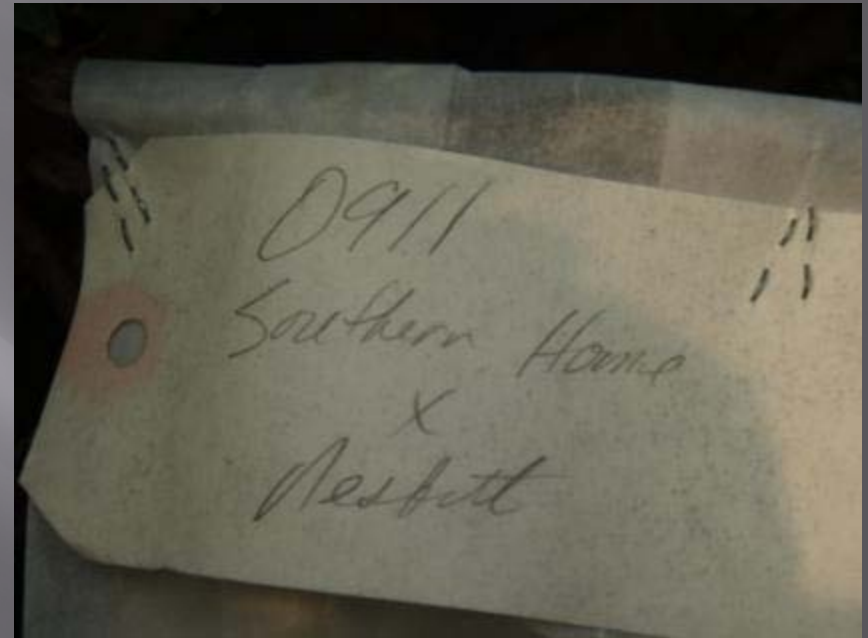


The Arkansas Program

- ▣ Major objectives
 - Large fruit size
 - *Crisper texture*
 - Excellent flavor
 - *Edible skin*
 - Dry stem scar
 - *Perfect (self-fruitful) flowers*
 - Productivity
 - *Winter hardiness*
 - Disease resistance
 - *Processing? Limited crossing initiated and how to evaluate?*

A Few Program Views

- ▣ Controlled hybridizations



A Few Program Views

- ▣ Seedlings growing at Fruit Research Station greenhouse from controlled crosses
- ▣ 4000 plus seedlings in field with more to be planted in 2010



A Few Program Views

- ▣ Selections made and established



A Few Program Views

▣ The first Selections

AM-1 (Tara Open
Pollinated)



AM-2 (Nesbitt Open
Pollinated)

Plus some very nice
Supreme x Tara selections

A Bright Idea Gone Bad: Hardy Wild Vine Seedlings



Disease Resistance NOT in Wild Vines....



Other Challenges



The Outlook

- ▣ Will take some time to get to the variety release stage
- ▣ But with the efforts of UGA, NC State, Fla A&M, Mississippi USDA-ARS, the future is improving for muscadine grapes!



Whoops! Not a Muscadine!



Some Mighty Fine Seedless Grape Selections



Arkansas Fruit Breeding- More Good Things Coming!



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