

**Muscadine Breeding  
Patrick J. Conner  
University of Georgia  
Coastal Plain Experiment Station  
4604 Research Way  
Tifton, GA 31793**

**2007 Meeting of the SERA-14 Grape Exchange Group**

The UGA muscadine breeding program has been in a period of transition. I believe the last report made was by Mel Hall in 2003. Shortly thereafter Mel retired and I took over control of the muscadine breeding program. My primary responsibility is pecan breeding, but muscadine breeding fits in well with this project. My goal is to continue, and enlarge, UGA's muscadine breeding effort. We are primarily breeding grapes for the fresh market, but we are doing a few crosses for the wine and juice markets as well.

In the last few years, nearly all of the UGA muscadine germplasm has been moved from the Griffin Campus to the Tifton Campus where I am located. Tifton is also closer to most of the Georgia muscadine production, so it makes sense to do most of our evaluation here. In the future we expect to primarily use the Griffin Campus as a testing site for advanced selections, while the bulk of the material will be housed at Tifton.

The last two years we have had a muscadine field day at the Tifton Campus. This year's field day was held on August 16. Dr. Jim Dutcher gave a presentation on insects in muscadine orchards and then we had a picnic lunch in the vineyard. After lunch the group toured the muscadine cultivar trial vineyard. This trial contains nearly all the popular muscadine cultivars, both public releases and patented cultivars from Ison's Nursery. This trial primarily serves as a cultivar demonstration plot and as parental stock plants for the breeding program, but notes are taken on crop load and berry quality. The field day ended with an evaluation of the latest selections from the breeding program. This year we concentrated on evaluating large purple colored fresh-market selections.

The breeding program continued this year with eight controlled crosses producing about 1000 seeds. Each year we have been making between 6-10 controlled crosses producing 1000 to 4000 seed. We try to average planting about 2000 seedlings each year. The overall goal of the program is to produce new cultivars with large, high-quality berries and self-fertile flowers. Quality traits that have been focused on in the most recent crosses include dry stem scars, thin edible skins, even ripening, and early and late harvest dates.

We have made several selections from the crosses that Mel Hall made 2001 and 2002, and these have been propagated planted into a trial vineyard. We have also made some selections from our crosses made in 2004 and 2005. Currently we have been getting about 1/3 of our seedlings flowering in the second year, and nearly all of them flower in the 3<sup>rd</sup> year. At the field day this year, growers were very interested in seedling 5-1-31, from the cross 'Supreme' x 'Tara'. This selection has large purple berries and self-fertile flowers. Of particular interest was the small dry stem scar of this selection, making it particularly suitable for machine harvest. We have taken some cuttings from 5-1-31 this year and will take more

next summer in an effort to advance distribution and speed up the testing of this selection. In the next year or two we will have more selections that we wish to test in additional locations and may be calling on other researchers to help us in the evaluation of these selections.