

USDA-ARS Small Fruit Research Station Grape Research Activities
Poplarville, Mississippi
Dr. Steve Springer

Enlargement of the muscadine grape vineyard at the McNeil, MS site.

This will serve the following purposes:

- 1) muscadine grape repository for old and new public and private muscadine grape cultivars;
- 2) replicated cultivar evaluations;
- 3) collection of new wild germplasm,
- 4) identification of sources of fruit quality traits and resistance to insect and disease pests.
- 5) conducting studies on the effects of PGR's on muscadine grape cultivars

Production Research

Data are being analyzed for completion of a 3-year performance evaluation of muscadine grape cultivars.

Breeding Efforts:

Following several years of performance testing, CD8-67, a selection obtained from the U. of FL muscadine grape breeding program, has been identified as a potential new fresh market cultivar. Notable characteristics include vigorous growth, high yield potential, excellent leaf and fruit disease resistance, purple skin, female flowers, large berry size, high dry scar percentage, and high soluble solids content. Soluble solids content tends to be high, before full ripeness, a trait which may allow for firm-fruit harvest and increased tolerance to handling and shipping. Testing locations are being sought to evaluate adaptation throughout the region.

Results of Studies with PGR's:

Results of studies evaluating combinations of GA₃ (pre-bloom) and CPPU (6-8) mm berries demonstrated that fruit set and size of 'Fry Seedless' were increased over that obtained with no growth regulators or with GA₃ alone. Seedless fruit have also been through utilization of these materials on unpollinated flower clusters of 'Sweet Jenny'. However, berry size and fruit set were significantly less than that obtained through normal pollination.

Post-harvest Physiology

Studies are being conducted to evaluate the effects of storage time on ellagic acid content of muscadine grape skins.