

# **RESEARCH PROGRESS REPORT**

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**TITLE: Wine Grape Cultivar Evaluations.**

**DATE:** July 1, 2006 to June 30, 2007

**DURATION:** One year of a multi-year request

**OBJECTIVES:** To evaluate a series of novel wine grape cultivars in the Eastern Piedmont of Virginia

**JUSTIFICATION/PRACTICAL IMPORTANCE:** The outcome and benefits of the cultivar evaluation at the Southern Piedmont Agricultural Research and Extension Center are expected to include several new (for the region) wine grape cultivars that can be recommended for the Eastern Piedmont, where spring frost, high heat, and abundant precipitation during the fruit maturation period are chronic threats to grape yields and fruit quality. Currently, we have very few cultivars that can be endorsed for this region of the state, yet many requests for such information are originating from this region, particularly as traditional agricultural products, such as tobacco, are becoming less profitable. Cultivars include NY73.0136.17, Vidal, Traminette, Norton, Tannat #1, Mourvedre, Viognier #1, Rousanne #1, Cabernet Sauvignon #7, Cabernet Sauvignon #337, Chardonnay #96, Tempranillo, Petit Manseng, Touriga Nacional, Tinta Cão, Aleatico, and Muscat blanc. Norton is ungrafted. All others are grafted either to C-3309, 5C, or 101-14 rootstocks. Plantings consist of three-vine plots.

In previous years of this study, the training system comparisons for Traminette, Viognier, and Cabernet franc have been evaluated. Training systems demonstrated differences in

aroma, flavor, and phenols. Timely transfer of knowledge to growers and vintners has been achieved through:

- Newsletters (*Enology Notes* electronic newsjournal)
- Seminars and shortcourses (including the American Society for Enology and Viticulture, eastern section meeting, 2004 and 2005, Virginia Growers Workshop 2005, and VVA technical meeting 2/2006)
- Winery Roundtable meetings
- Website postings on the Enology-Grape Chemistry website.

**PROGRESS TO DATE:** As of this writing, grapes are still being harvested and some fermentations are in progress.

*Fruit chemistry:* Berry weight, soluble solids, fermentable N, and pH were determined on fresh (non-frozen) berry samples. Titratable acidity was determined either on fresh juice, or on frozen juice samples. For reds, copigmented colors will be determined. Tartaric and malic acid concentration assays will be conducted by reverse-phase HPLC. Alcohol % (v/v), extract, and phenol polymerization will be determined as outlined by Zoecklein et al. (1999). Total, phenol-free, and anthocyanin-free glycosides will be determined as described by Zoecklein et al. (2000).

*Small-lot wine-making:* Small lots of wine were produced, with replicates from each cultivar, using standard micro-vinification procedures.

*Sensory evaluation:* Sensory analysis will be conducted on each wine lot at four and nine months post-fermentation, using duo-trio paired comparison analysis, as described in the original proposal.