Project Title: Wine Cultivar and Clonal Evaluation

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Students in Horticulture: For berry counts, fruit composition as brix, pH, and titratable acidity.

Objectives: a) To collect, plant, train, prune, culture and harvest grapevine varieties and advanced breeding selections (New York and Minnesota) and thus determine the adaptation of the selection under Michigan's climate and soils; b) To plant such materials in the heart of the two grape production regions (SWMREC, near Benton Harbor, and NWHES, near Sutton's Bay); c) To couple the viticultural performance data with the wine quality assessment data made possible by that proposal's support and define a selections potential for Michigan vintners.

Results: Detailed results are not possible in 2-pages since we collect detailed information on the following: yield; cluster number; cluster weight; berry weight; berries/cluster; brix; pH; and T A - for every vine, in every plot, in every year. This year's report contains 60 Tables based on 53 varieties, clones or advanced selections. As there are 4 locations where data are collected there are some repetitions as industry standard varieties are grown for comparison.

Specific Findings of Note:
a) Most wine grape varieties under test did not respond to the 2002 spring freeze episodes with damage similar to that of juice varieties Concord and Niagara. This was primarily a result of: 1) delayed onset ofbud growth for most; and 2) the capacity of early varieties like Marechal Foch to produce fruitful shoots from non-count positions.

b) Berries/cluster and berry weight are important factors for Pinot noir and vary considembly among clones (53-81 and 1,35-1.93 respectively) as the former is related to cluster compactness and the latter to skin area/unit fruit weight (color).

c) A number of varieties evaluated have been eliminated and pulled based on poor performance in either the vineyard or the cellar. Among these are: Muller- Thurgau, Ortega, Scheurebe and 7- Pinot noir clones were discarded (see 2003 Proposal).

d) We got small quantity but good quality yields from Viognier, Syrah and Mourvedre (we must crop Mourvedre carefully as it produces huge clusters, ~ 0.51b each in 2002) at SWMREC.

e) We harvested excellent yields of advanced selection NY65.403.1. NY62.122.1 was good in the NW Station, and the new, grafted vines at SWMREC have filled the trellis this year .The floral Muscat character of these2-varieties makes them interesting in our region. Dr. Reisch of Comell has proposed naming these soon.

f) Traminette at both SWMREC and NWHRS were very productive (8.7 and 7 .3T/ A, respectively). The wine quality remains very similar to Gewurztraminer in either off-dry or Alsacian styles.

g) Chardonnay clones UCD 14 &15 @ SWMREC continue to be productive and produce very excellent wines.

h) Frontenac @ HTRC has shown itself to be a very cold hardy vine with consistent productivity (7.7 T/A in 2002) with excellent fruit composition values (24 brix, pH -3.52, and TA -8.8). The T A in 2002 was quite low based on our other experiences where it is commonly over 12g/1, even at high sugar. The most attractive characteristic is the depth of color and the presence of good, "soft" tannins. Part of this may result from the small berry weight (1.1 g).

i) Clones of Cabernet Sauvignon have served their usefulness as a clonal trial. None are consistently of a quality standard to allow the production of outstanding wines due to the excessive levels of the herbaceous aroma and flavor resulting from methoxypyrazines. We have some ideas for vineyard and cellar approaches to ameliorate the problem (for Merlot and Cabernet Franc as well) as noted in the 2003-04 proposals. These clones will be part of that newly proposed effort.

j) These trials also perform an important role not intended by the funding agencies. It is an integral component in the teaching effort within the Program of Viticulture and Enology. This is not a 1-way street. Students responsible for assisting in the teaching also perform research relevant to the industry. Daniel Wampfler and his effort on methoxypyrazine quantification is the best example of this. These trials, at no additional cost and in many cases reduced cost, also help educate the next generation of Michigan's grape and wine producers.

k) There is much more in the 60 Tables of data amassed. We encourage interested individuals to contact us based on the list below. There will be a small copying charge of 7-cents/page. None of the groupings listed below is more than 7-pages and contains a summary of data for the life of the trial.

Tables List:

SWMREC
1. Production of hybrid varieties and selections
2. Production of vinifera varieties -
3. Production of Cabernet Sauvignon clones
4. Production of Chardonnay clones
5. Production of Pinot noir clones
6. Production of Pinot noir sparkling wine clones
7. Production of Chardonnay sparkling wine clones

MWHRS (6-pages each)
1. Production of vinifera varieties
2. Production of hybrid varieties and selections

Communications: We have published a variety bulletin, a report on Pinot noir clones and a paper on factors involved in variety choice in the last 3-years. We have also given 4-presentations (invited) on the topic of variety choice. As this effort is tied closely to our wine production efforts, the annual industry wine evaluation is a valuable event. A collection of the Spring Frost Data for 2002 is available upon request. It includes an assessment of shootless count nodes and % primary and % secondary bud mortality for different locations and includes 58 cultivars and clones. The impact of Training on frost damage to Cabernet Franc @ SWMREC is also presented. The total data set is available for $0.50.

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