

# Enology Research

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# Enology Research, Department of Horticulture, Michigan State University - Executive Summary

When the grapes came in for harvesting they were analyzed immediately for soluble solids, titratable acidity and pH. The target Brix levels for the wines were as follows:

Wine Style	Target °Brix
Dry White	20 to 22°B
Dry Red	22 to 23°B
Sparkling	19.5 to 20.5°B

If incoming grapes were below these levels they were chaptalized either with Dextrose or Fructose to desired target levels. All fermentations went to desired completion. Once fermentations were completed all wines were racked three times. All wines were cold stabilized in a 4°C room at the time of the first racking.

## RED WINES

All red wine grapes were crushed and fermented with Pasteur Red yeast at the rate of 1gram per gallon. The musts had skin contact for ten days. All fermentations were completed to dryness. After ten days the wines were pressed and inoculated with malolactic bacteria, Christian Hansen Viniflora oenos at the rate of 0.025g/gal. All red wines completed MLF. The wines were racked three times. No oak in any form was used in their processing. Differences in % alcohol levels can be attributed to discrepancies in estimating must volume due to fermentation occurring on the skins.

## WHITE WINES

All white wines from the Southwest Michigan Research and Extension Center and from the Horticulture Training and Research Center were crushed and pressed. All white wines from the Northwest Michigan Horticulture Research Station were whole cluster pressed. There was no period of skin contact. All white wines were fermented with Cotes des Blancs yeast, usually to dryness. Some wines were left with residual sugar in the range of 1.0g/L up to 5.0g/L depending on the variety. Once fermentation was complete all white wines were racked and cold stabilized in a 4°C room. At the time of the second racking all white wines were fined with Bentonite at the rate of 10mL per gallon.

## SPARKLING WINES

All sparkling wines were whole cluster pressed and fermented with Premier Cuvee yeast. All fermentations went to complete dryness. Once fermentation was complete all white wines were racked and cold stabilized in a 4°C room. At the time of the second racking all sparkling wines were fined with Bentonite at the rate of 10mL per gallon.

The data tables provided give a general view of the wines produced from grapes harvested in 2001. There were 129 different batches of wine vinified and kept separate for program purposes.

That has been the historical key as we have seen the range of grape varieties expand for our state's wine producers. We have evaluated the influence of cultural practices in the vineyard and we have evaluated the influence of those cultural practices on subsequent wine quality. We gain nothing if we change practices and lose either quality or yield as a result. And by yield I do not mean tons/acre I mean dollars/acre of profit to the grower and dollars/case of wine produced to the wine producer.

A special benefit to the industry has been the initiation of the new Program of Enology and Viticulture at MSU. The dollars for that are coming from MSU and those support 2-students who are pursuing degrees and working on problems of importance to the Michigan grape growers and wine producers. Further, top students are selected to do "special problems". I see this as the means by which we can bring recognition for the quality of our wine research efforts on par with that of our viticulture research.

Importantly it is Michigan's industry that is the beneficiary of the effort. This effort is an example, along with dollar support from the Eastern Viticultural Consortium where we have been effective in leveraging the Council dollars and we could not have made these advances in the industry's behalf had that support not been there.

## **INDUSTRY TASTING**

On March 27, 2002 an industry tasting was held at the Plant & Soil science Conservatory here at MSU. Sparkling wine, Spartan Cellar blends, Frontenac, and student produced wines were tasted and discussed.