Growing Wine Grapes in Michigan

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Similar to the cool climates of Europe such as Austria, Germany and Burgundy, wines produced in Michigan are found to be aromatic, clean, crisp, and often balanced with impressive varietal character. The considerations for establishing a grape vineyard for the production of wine in Michigan must be fully explored. Selecting wine grape varieties will be impacted by the site and financial investment. Those who invest in such a venture should undertake significant investigation in site suitability prior to purchasing plants from reputable nurseries. While market pricing, demand for certain varieties by wineries and personal wine preferences of the grower may direct growers to plant specific varieties, it is important to carefully consider the varieties that are best suited for sites. Growers in Michigan have experienced success in experimenting in what will grow successfully in different regions of the state, but the consequences of a poor decision can be financially devastating.

There are many factors which must be considered in selecting wine grape varieties. The most important factors in the decision making process are climate and topography of a prospective site. Other factors include slope-aspect and soil conditions. Michigan has a cool-cold climate with growing seasons that limit fruit ripening (growing season length averaging between 165 days in northwest Michigan and 180 days in southwest Michigan). Additionally, low temperature injury can damage or kill vines over winter. The topography of a site associated with elevation differential with respect to surrounding terrain can be critical to success when growing tender varieties in Michigan. Michigan is a leader in the Midwest and the East in fruit and, specifically, grape production due primarily to its geography regarding proximity to the Lake Michigan shoreline.

The state can grow the many tender fruit crops that adjacent Midwestern states can’t. In fact, Michigan finds it possible to not only grow such tender crops such as sweet cherries, apricots, and tart cherries, but also Vitis vinifera grape varieties which are typically susceptible to winter injury. It is possible to grow these varieties in less favorable climatic conditions (inland from the Lake Michigan shore-line), providing vines are protected using techniques such as burying vines and critical components (canes and trunks) prior to winter under soil or mulch in order to reduce chances of mortality due to midwinter low temperatures (Zabadal, et. al., 2007). That process includes removal of the soil or mulch by winter’s end.

Descriptions of Grape Varieties (Most Cold Hardy to Least)

1. **Super Hardy (SH):** varieties derived from breeding programs in Minnesota and Wisconsin (Frontenac, LaCrescent, St. Croix, Louise Swenson, etc. are suited to many sites throughout the Upper and Lower Peninsula)

2. **American (A) Hybrids:** traditional varieties of native American species such as Catawba, Norton, Delaware, Niagara, and Concord, used for wine and juice production.
3. **French – American Hybrids (FAH)**: crosses between Vinifera and American varieties made in France (early 1900s’) such as Vidal and Foch, etc. and more contemporary breeding programs in America such as Cayuga White and Traminette, etc.) and Germany such as Regent. These varieties typically have more cold hardiness and disease resistance than Vinifera varieties.

4. **Vinifera (V)**: Greatest growth and interest in Michigan. Within the *Vitis vinifera* varieties group, the more cold hardy varieties have gained the most success in survival and fruit production (Riesling, Cabernet Franc, etc.). Many of the more cold tender varieties in this group, struggle to survive in the long term.

The long history of tree fruit growing in Michigan and an analysis of the macro- and meso-climate can help determine and suggest variety selection. Commercial tree fruit production often requires sites with well drained soils, infrequent spring frosts and adequate elevation differential. An elevation differential of 15 feet or more in a specific site can be critical and have a positive impact on survival. Apple and pear trees are more cold hardy and least limited by site, while successful peach, sour and sweet cherry production must have exceptional sites in close proximity to the Lake Michigan or Lake Huron shoreline. In evaluating regions based on climate and proximity to the Lake Michigan shoreline, areas with low elevation found in association with watersheds such as the river systems of Manistee, Grand, Muskegon, White, Pere Marquette, etc., are limited to cold hardy American and Super Hardy varieties.

**The Michigan Grape Growing Map**

The attached map of Michigan delineates wine grape growing regions associated with establishment of commercial wine grape varieties. The map is authored by Ron Perry, Paolo Sabbatini and James Burns, Department of Horticulture, Michigan State University. Delineations in mapping are based primarily on low midwinter temperature data (Pollyea, Kurtz and Aichele, retrieved Aug 15, 2011 from http://www.grapes.msu.edu/climateWinter.htm) and historical experiences and research (variety trials) related to grape and fruit growing in the state. Note that wineries and vineyards exist in many areas of Michigan, within and outside of the described zones depicted in this map. Visit [www.michiganwines.com](http://www.michiganwines.com) for map of winery locations.

The Michigan Grape and Wine Industry Council sponsored research on vineyard / variety selection from 2005 to 2010 to assist in identifying the areas of Michigan best suited to growing wine grapes. The results of these studies can be found on the Council’s website. [http://www.michiganwines.com/docs/Research](http://www.michiganwines.com/docs/Research)

**References**


Suitability of Regions in Michigan for Wine Grape Production

Growing Regions

- **SH**: Super Hardy Hybrids
- **A**: American
- **FAH**: French-American Hybrids
- **V**: Vitis

The areas noted on the map indicate regions that have potential for producing wine grapes of the specific variety groups with a high probability of producing marketable wines using standard vineyard management practices for a typical Michigan growing season. Data considered in creating this graphic include: climate (length of growing season, minimum winter temperatures), topography, prior fruit growing history of the region and soil conditions.

*Variety Groups
- **SH** = Super Hardy Hybrids
- **A** = American
- **FAH** = French-American Hybrids
- **V** = Vitis


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