

Grape Cultivar Selection in New England

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As with site selection, vineyard owners pretty much have one shot at getting it right, so this is another important decision to make before a vineyard is even planted, and it requires a similar amount of due diligence. Selecting cultivars (or varieties) to be planted can be a complicated matter since it often involves competing forces and emotions, such as, “should I plant the grapes that I like to drink” or the natural tension between the varieties with the best viticultural potential for the site, or the greatest marketability for the area (often different varieties fulfill each of these needs). In any case, it is best to evaluate the potential for both, and then decide what to plant. Visit local wineries and vineyards and find out what they grow, make and sell successfully, this data will be very helpful. But there are always pioneers or outlaws that break local convention and try oddball varieties, consider Petit Manseng in Virginia, or Gruner Veltliner in Pennsylvania, both have become very successful and have experienced wider adoption.

In New England, the limitations on cultivar selection are mostly enforced by the climate, which is cold in the winter, and potentially humid and wet in the summer. Since a dead vine does not favor anyone, cold hardiness ranks high among desirable characteristics. The adoption of cold hardy hybrid varieties from the University of Minnesota’s grape breeding program, along with varieties created by a private grape breeder in Wisconsin named Elmer Swenson, along with new and traditional inter-specific hybrid varieties developed in the past and more recently by the grape breeding program at Cornell University, have transformed the wine industry in New England and opened the door to economically sustainable wine growing in the region. Though they have been around for almost two decades, they are still experimental in nature, as growers, wine makers, and researchers continue to experiment with the best way to nurture fine wine from them.

Vinifera snobbism is rife in the wine consumer world, and even in the wine industry, but in rural areas where the palate is more broad and accommodating, it appears that non-familiar names of wines like Marquette and La Crescent are accepted. No one will mistake these wines for a Pinot Noir from Burgundy or a Riesling from the Mosel, but if well made they deliver a fine wine experience to a large segment of wine consumers. And as the wine industry in New England grows, these names will become more familiar and accepted.

During the site evaluation process it is possible to get a 30-year site climate history that will reveal the cold temperature and length of growing season history of the site using interpolated climate data. These critical indices will guide the choice of cultivars. If winter temperatures regularly dip below 0°F and the growing season is in the 150-day range, then the new hybrids are well worth considering. Knowing the approximate heat summation, measured in growing degree days (base 50°F) can be very helpful to guide your cultivar selection.

Consumer considerations include preferences such as dry or sweet (or anywhere in-between), red or white, native varieties with their distinctive “foxy” aromas and flavors, acid and alcohol levels, and, of course, prices. Consider the saying that wine consumers, “talk dry but drink (and buy) sweet.” In rural areas, sweet wine sales will dominate.

Wine making can be a challenge because variable weather conditions within and between vintages can result in uneven grape and wine quality. Most hybrids are known for their high acid, which makes it difficult to produce a balanced wine. Blending, and other cellar treatments, can temper wine acidity, but it’s best to achieve it in the vineyard. A knowledgeable and well-trained wine maker is definitely an asset in a cool to cold climate region.

Hybrid cultivars usually offer greater disease resistance and need to be sprayed less than their *vinifera* cousins. This and other features, makes their cultivation easier and less expensive. They thrive on high wire trellis systems which are less expensive to install and maintain, once the vines are mature. The yields are generally higher than *vinifera* varieties but the prices they command are lower. Most hybrids do not need to be grafted onto phylloxera-resistant rootstocks which make the vines much cheaper to buy. However, hybrids like Traminette and Chardonel, that have some *vinifera* parentage, should be grafted just to be safe.

Can *vinifera* succeed in New England? It’s all about temperature and season. Along the coast of Connecticut and Massachusetts wineries like Newport Vineyards, Sakonnet Vineyards, and Westport Rivers Winery produce excellent wines from European varieties but all of these wine growers will tell you what a challenge it is each year. Further north, the focus must be on more cold hardy cultivars such as Chardonnay, Riesling, Rkatsiteli, and Cabernet Franc. If any of these varieties is selected, the best clones must also be considered. *Vinifera* vines must be grafted onto rootstocks, and the choice of rootstock is extremely important and should not be taken for granted. A low vigor stock like *Riparia Gloire* can help to push fruit ripening, allowing for an earlier harvest and more time for a vine to store insulating carbohydrates before the leaves fall and winter arrives. Rootstocks indirectly impart other potentially valuable characteristics to a vine including tolerance to nematodes, drought, soil alkalinity and acidity, wet soils, and possibly crown gall.

In addition to length of growing season needs, the time of bud break and harvest is important relative to spring and fall frost events. It is very difficult to manage around frost hazards, especially on an inadequate site. If vines and/or fruit are frosted, then both yield and quality are in jeopardy, so mid to late bud break varieties with short growing season requirements are highly desirable.

There are many lists of suitable grape cultivars that can be found in the reference resources at the end of this article. But it is best to make choices based on information gathered in the field, by looking at vineyards, talking to growers and wine makers and tasting their wines. Of course, try to pick the best practitioners for reliable information and examples. It is prudent to mix cultivars based on the risk assessment of the site, i.e. a colder site has a greater proportion of native and cold hardy hybrids while warmer sites will contain some *vinifera*.

Since Eastern wine growers do not have the ability to field graft like vineyards in warm, arid regions, there is a greater demand that the initial cultivar selection be the correct one to go the distance (20-30 years of a productive vine's life). This places great demands on the vineyard owner to make the right choice. A lot depends on the kind of wine being made, e.g. a sweet, native wine like Concord or Niagara will have different requirements than a dry Chardonnay or Cabernet Franc. The conditions and methods that allow each type of wine to succeed must be carefully created in the vineyard, and then extended into the cellar. New England is still very much in its pioneer phase of development, so there is a lot of experimenting and guessing going on. Until its unique terroir is really understood and mapped, wine growers will rely on a healthy measure of intuition, knowledge and luck to succeed.

Cultivar, clone and rootstock selection resources:

- Wolf, T., et al. *The Wine Grape Production Guide for Eastern North America*.
- Chien, Mark. *A Practical Guide to Developing a Commercial Wine Vineyard*. Available as a PDF document on the Pennsylvania Wine Grape Network Website (new grape grower section).
- Plocher, Tom, and Parke, Bob. *Northern Winework: Growing Grapes and Making Wine in a Cold Climate*.
- Smiley, Lisa. *Cold Climate Cultivars: A Review of Cold Climate Grape Cultivars*. <http://viticulture.hort.iastate.edu/cultivars/cultivars.html>