

Red Winegrape Varieties for Long Island Vineyards

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Contemplation of winegrape varieties is a fascinating and challenging process. We offer this list of varieties as potential alternative to the red wine varieties widely planted in the eastern U.S. – Merlot, Cabernet Sauvignon, Cabernet Franc and Pinot Noir. Properly sited and well-managed, these four varieties are capable of producing high quality fruit. Some regions have highlighted one of these varieties, such as Merlot and Cabernet Franc on Long Island and Cabernet Franc in the Finger Lakes. However, many industry members have expressed an interest in diversifying their vineyards. Clearly, there is room for exploration and by doing so, businesses can distinguish themselves from a marketing and stylistic viewpoint.

The intent of this article is to introduce a selection of varieties that have potential for Long Island. This is by no means an exhaustive list. These suggestions merit further investigation by the winegrower. This could involve internet/print research, tasting wines from other regions and/or correspondence with fellow winegrowers. Even with a thoughtful approach, it is important to acknowledge that vine performance may vary due to site, soil type and management practices. Fruit quality and quantity will also vary from season to season. That said, a successful variety will be capable of quality fruit production despite seasonal variation in temperature and rainfall.

The most prominent features of each variety are discussed based on industry experience, observations and results from the winegrape variety trial at the Long Island Horticultural Research and Extension Center, Riverhead, NY (cited as 'LIHREC vineyard'). For detailed yield component data on varieties in the LIHREC vineyard, please visit <http://ccesuffolk.org/agriculture/grape-program/grape-research>. Distinguished wine writer Jancis Robinson and colleagues produced an excellent reference book 'Winegrapes' which is referenced throughout this article. Many thanks to helpful comments from viticulturist Mark Chien, formerly the Penn State grape specialist, currently working at Oregon State University.

Barbera

Widely grown in the Piedmont region of northwestern Italy and in California. A few producers in the east have had success with Barbera. In the LIHREC vineyard, vines are vigorous with leggy shoots, clusters are small to medium sized, berries are large. Barbera ripens late, has high Brix and high acids and often has some dehydration of berries. Cluster rots can be problematic in wet years. Wines are dense, rich, and dark with bright cherry fruit flavors (Robinson, et.al. p86).

Carménère

Historically one of the red grapes of Bordeaux though current acreage there is minimal. There are actually a few plantings of this late ripening (reportedly 3 weeks after Merlot) variety on both Long Island and in upstate NY. It is more famously grown in Chile and a few other unlikely regions such as

northeastern Italy. Apparently, Carménère arrived in many of these regions by mistake as growers thought they were planting Merlot. Wines are darkly colored and spicy with red fruit flavors and moderate tannins. The risk of unripe tannins and green flavors (methoxy-pyrazines) means this variety does best on warm sites and/or in warm years. Especially in cooler seasons, there can be issues with proper hardening of wood in part due to high vine vigor. Experiences with this variety on Long Island have been mixed.

Chambourcin

A hybrid (parentage is complex) once widely planted in France especially in the Loire region. There are still many acres but not designated in AOC areas. Though descriptions in the literature have varied somewhat, it is generally considered to be shallow rooted and therefore drought susceptible. It is cold hardy and therefore suitable for regions where winter injury might limit vinifera varieties. In Pennsylvania, growers address this by grafting onto 3309 or adding compost to boost the size of own-rooted vines. Adapted to VSP, good vineyard management yields deeply colored, intense black fruit flavors. Ripens late with Cabernet Sauvignon. Chambourcin is a parent of the hybrid Regent.

Chancellor

Large, compact clusters are sensitive to bunch rot. High productivity means overcropping can be an issue. Vines are very susceptible to downy mildew; however, copper (a common fungicide for control of downy mildew) can be phytotoxic to these vines. Capable of vinifera-like elegance, often blended with red vinifera for balance and flavor. Good cold hardiness. There are minor plantings primarily in the eastern U.S.

Concord

The backbone of the processing grape industry, Concord wine has a distinctive native flavor. Typical wines are sweet and often kosher though some is used for blending. Concord is perhaps the most famous variety native to eastern North America. It has some resistance to powdery and downy mildew, some susceptibility to black rot and phomopsis. Concord can be very productive, hence its utility as a processing grape. The procumbent growth habit makes it more suited to high wire training systems. Concord is sensitive to the fungicide sulfur. If interested in wines from native varieties, other suggestions include Diamond, Fredonia and Steuben.

Corot Noir

A release from Cornell with complex parentage including Chancellor and some vinifera. While described as having moderate vigor, field experience suggests vigor is high. Vines have a procumbent growth habit, thus may not be suited to VSP. There is some resistance to disease. Yields in test plots have been very high; consequently, a grower might want to experiment with crop level. The tendency to produce crop on secondary shoots may necessitate a second round of cluster thinning, otherwise variability in cluster ripeness may taint wines. The advantage to Corot Noir reportedly is the lack of typical hybrid flavors and aromas.

Dolcetto

A long-time Piedmont variety though acreage has been decreasing (Robinson, p.302). Grown in the LIHREC vineyard but removed due to irregular performance. On Long Island, juice was darkly colored and low in acid. Clusters were very large; green berries often persisted. Dolcetto was sensitive to cluster rot in wet years. Wonderful Dolcetto wines are made in Italy but it appears to be an economically challenging variety for Long Island.

Dornfelder

A vinifera hybrid, over 20,000 acres of Dornfelder are currently cultivated in Germany (Robinson, p.307). Vines donated from the late great Cornell viticulturists Bob Pool and Gary Howard have grown in the LIHREC vineyard since 1993. Dornfelder vines are vigorous with long internodes and large leaves. Clusters and berries are large, thus crop level often must be adjusted. However, yields are consistent and easily reach 3-4 tons/acre each season. Dark fruit flavors are variously described as grapey, musty or barnyard with soft tannins. It is harvested before Merlot. Dornfelder is produced as a nouveau wine in Pennsylvania as well as a blending component, adding color and mid-palate weight to varieties such as Pinot Noir. Given the consistency in cropping and quality, it is surprising that there is not more acreage of this variety in the east.

Lagrein

According to Robinson, this variety is grown in Trentino-Alto Adige in northern Italy (Robinson, p. 527-8). Wines have berry fruit flavors, moderate tannins and can be rustic. A few regions in California grow it as well. Issues with fruit set in some seasons and late ripening merits some caution for eastern growers. There are a few small plantings on Long Island.

Lemberger

Also called Limberger and Blaufränkisch, though there are many more synonyms. Grown in Austria, parts of Hungary and Germany. In the U.S., there are minor plantings in Washington State, the Finger Lakes (has some cold hardiness) and on Long Island. In the LIHREC vineyard, Lemberger has very erect shoots that almost position themselves. Canes are somewhat brittle, making the tying of canes to the fruiting wire a delicate operation. It is a reliable cropper thus attention to cluster thinning is necessary. A long hang time is necessary for green flavors to abate. Medium to large clusters with pronounced black pepper flavors, high acidity in cooler seasons and edginess on the palate. With good viticulture and patience, fruit quality can be quite good.

Malbec

Known as Cot in Bordeaux, it is used in blends to add color and tannin. In the warm, dry climate of Argentina, rich dark wines with black fruit and soft tannins are produced. Malbec is also grown in Australia, New Zealand and South Africa. In the LIHREC vineyard, clusters are small with medium to large berries. Set can be variable though newer clones are reportedly more reliable croppers. Both in Bordeaux and on Long Island, the canopy (leaves) of some Malbec clones develops a distinctive reddening around veraison that ranges from slight to profound. Casual observations on Long Island indicate that the reddening is more pronounced if vines are drought or nutrient stressed. Malbec is thin-skinned and thus prone to cluster rots. Harvest takes place around or after Merlot depending on fruit integrity. Generally used for blending with an occasional varietal Malbec from North Fork wineries. Malbec can be somewhat of a challenge in the vineyard but is capable of high quality fruit.

Marquette

A true hybrid with complicated parentage of V.vinifera, V.riparia, other Vitis x Ravat 262. Frontenac and Pinot Noir are part of its lineage. Marquette hails from a Minnesota breeding program and thus was bred for cold hardiness. Planted in 2008 in the LIHREC vineyard, Marquette was the first to break bud, earlier than vinifera. Unfortunately, this rendered it susceptible to spring frost several times. Due to a

procumbent growth habit, Marquette was more productive when trained to the high wire vs. low wire VSP training. Vines are vigorous, requiring careful attention to canopy management and fertilization. Marquette is more tolerant of fungal disease than most vinifera, and thus requires fewer fungicides. It ripens early (Labor Day or shortly thereafter) with high sugars and moderate acids, good color and pronounced tannins. Early maturing reds like Marquette are bird magnets, requiring protective netting at or even before veraison.

Mencia

Grown in Spain and Portugal though descriptions of its performance in the two countries varies. Gaining popularity in the U.S. on both the west coast and in the east. Generally considered to be aromatic, mid-ripening and capable of good quality fruit (Robinson, p.625). Planted in the LIHREC vineyard in 2019.



Marquette

Mourvedre

Described by Robinson as a 'heat-loving dark-skinned variety' (Robinson, p.646). Sometimes known as Mataro, grown in southern France, Spain, Australia, California and Virginia. Breaks bud late (in Virginia, it is later than Cabernet Sauvignon) and ripens late possibly making it more difficult to ripen in cooler regions of the east. Known for high tannins, thick skins and its lack of susceptibility to cluster rot. When ripe, flavors are described as meaty, jammy, black fruit, and an herbal quality referred to as 'animale' by the French. Acreage is reportedly rising in southern France.

Noiret

A Cornell hybrid with complex parentage, Noiret is becoming more popular in upstate NY. It offers some resistance to powdery mildew and black rot though downy mildew can be problematic. Foliage is sensitive to Pristine. Sulfur sensitivity is mentioned as a possibility though at least one grower did not find this to be the case. Vines are very vigorous, thus the use of VSP can lead to excessive shading. There is a tendency to produce crop on secondary shoots, necessitating a second cluster thinning pass to minimize variability in cluster ripeness. Noiret's big selling point is its distinct lack of hybrid foxiness. Blackberry and raspberry flavors, a slight peppery finish and mint aromas are mentioned by its Cornell breeders, Dr. Bruce Reisch and colleagues (Reisch, et.al, 2006). Tannins are more refined and acids more moderate than many hybrids, leading some to liken Noiret to Syrah.

Norton

Grown in Missouri and Virginia since the mid-1800's, Norton is the oldest native variety in commercial cultivation. Plantings can now be found in other mid-Atlantic states as well. Due to its native grape heritage, Norton is relatively resistant to fungal diseases. For those more attuned to upright vinifera growth habits, Norton's procumbent growth, high vigor and small clusters with long peduncles (cluster stems) make for some management challenges. Divided high-wire canopies are used in Virginia and elsewhere it is grown commercially, thus accommodating the downward growth habit. Norton is late ripening, and was usually the last to be picked in the LIHREC vineyard. The vines were removed due to consistently low crops and poor ripening, though that may have been exacerbated by the VSP training. Skilled winemaking is needed to address the pectiny fruit and high acids. Wines are inky dark and spicy with red fruit and coffee flavors. Chrysalis and Horton in Virginia and Stone Hill in Missouri have produced worthy versions of Norton. Some feel the wines improve with age.

Petit Verdot

Petit Verdot vines are distinctive with slender shoots and small leaves. Small to medium size clusters are loose, berries are small and thick skinned, thus resistant to cluster rot. In some years poor set is an issue. Sometimes millerandage occurs, small green berries that persist but fail to develop. Petit Verdot is very late ripening with high Brix, moderate acids, and prominent tannins, sometimes described as rustic. It brings deep color and body to red blends and has become somewhat of a favorite of Long Island winemakers. Also popular in California and Australia.

Pinotage

Grown in the LIHREC vineyard in the 1990's, clusters were small with small, thick-skinned berries. Vines were removed due to lack of grower interest. Interestingly, it has been planted recently on Long Island. Usually associated with South Africa, opinions of the wine quality potential of Pinotage are wide ranging. Robinson notes that wines are dark, firm and spicy but can have some distinctly off aromas under certain conditions (Robinson, p. 826).

Refosco

Known as Mondeuse Noire in France's Savoie region and Refosco in northern Italy. With good canopy management and moderate crop, wines can be full of color with flavors as plum and almond (Robinson, p.880). These potentially powerful wines have lots of tannin and acid, so that good site selection on Long Island would be important to achieve full ripeness.

Regent

A German hybrid with Chambourcin and Müller-Thurgau in its lineage. There are >5000 acres in Germany (Robinson, p. 881). Planted in 2017 in the Cornell research vineyard, vines have been shy bearers. Though resistant to the mildews, phomopsis is problematic. Black rot presumably is a concern though this has not been seen on Long Island. Fruit quality has been described as ranging from mediocre to very good. We should be able to form our own opinions within a few years.

Sangiovese

Sangiovese reportedly has a wide variety of clones, both large and small berried, that produce a wide range of wine styles and wine quality. In Tuscany, it is blended with both red and white varieties. In the Long Island research vineyard, clusters are very large as are berries. Cluster thinning must be done early and thoughtfully to promote ripening of this late variety. Our limited experience is that Sangiovese is thin-skinned and therefore somewhat prone to cluster rot, particularly *Botrytis*. Wine descriptions vary but firm acidity and earthy, cherry, raspberry flavor are commonly mentioned. This variety should be well-contemplated and researched prior to planting.



Regent

Saperavi

A winter hardy Georgian (eastern Europe) variety, this variety produces dark wines with some acidity. There are several plantings in the Finger Lakes. Planted in the LIHREC vineyard in 2015, vines have struggled and fruit set has been less than optimal.



Saperavi

Syrah

One of the star varieties of the Rhône where wines are intense and spicy with lots of tannin. The Australians refer to this variety as Shiraz, making volumes of fruit-driven wine for both local consumption and export. California Syrahs are promoted by the trade group the Rhône Rangers. In the eastern U.S., Syrah delivers peppery, sometimes smoky black fruit flavors and is blended with many varieties. In the vineyard, timely and well-executed canopy management is necessary to tame the leggy shoots. Berry set can be disrupted by poor bloom-time weather. Otherwise, clusters are elegant, long and cylindrical. As fruit ripens, berry shrivel is common. Like Merlot and Sangiovese, *Botrytis* can be an issue if harvest is wet. With proper care in the vineyard and winery, Syrah wines can be delicious, mouth filling and unique.

Tannat

Grown in southwest France and Uruguay, with smaller plantings in California, Virginia and even on Long Island, vines tend to be vigorous with large, late ripening clusters. Tannat is grown for its intense color and copious amounts of alcohol and tannin, useful in blends. Planted in the LIHREC vineyard in 2020, those interested in planting this variety might first consult with colleagues in Virginia where it is successfully grown.

Tempranillo

Widely planted in the Rioja region of Spain, Argentina and other warm regions such as California, this thick skinned is known for low alcohol and low acid. Musts apparently can suffer from high pH. Breaks bud after but ripens before Grenache, a variety that was very late ripening in the Long Island research vineyard. Given that Tempranillo thrives in warmer climates, its suitability for cooler areas in the east remains a question.

Teroldego

Another northern Italian variety, variously described as having moderate tannin, good acidity, richness and spiciness. Many mention it as a very good local wine meant to be drunk relatively young.

Zweigelt

From the cross Blaufränkisch (Lemberger) x St Laurent. Zweigelt is the most widely grown red in Austria, known for winter hardiness and productivity. Ripens before Merlot and Blaufränkisch. Clusters are large, careful cluster thinning is required to avoid overcropping. Zweigelt starts veraison early, making it very attractive to hungry birds. Early netting is essential to avoid damage that may worsen cluster rot. Zweigelt and Pinot Noir are the earliest ripening red vinifera in the LIHREC vineyard. This variety produces a range of wine styles from early drinking and lighter to darkly colored, full bodied long-lived wines.

The following is a list of reds removed from the Long Island research vineyard along with the reason for removal.

1. Gamay – Fruit was not distinctive, high rot susceptibility. There were better choices.
2. Primitivo (Zinfandel) – Late ripening, rot susceptible, large clusters with uneven ripening.
3. Petite Sirah – Late ripening, gigantic clusters with some of the larger clusters having 500-600 berries. This resulted in grossly uneven ripening.
4. Grenache – Medium to large clusters that never fully ripened. Poor wood ripening on canes, forcing us to maintain 3-4 trunks/vine with spur pruning.
5. Nebbiolo – Planted in the LIHREC vineyard in the 1990's vigorous vines had leggy shoots and fruit that never fully ripened. The literature emphasizes the late ripening aspect of this variety. With proper research into appropriate clones, perhaps worthy of a small trial on the warmest sites on Long Island.

References

Reisch, B., Luce, R., Bordon, B., Henick-Kling, T. 2006. Noiret grape, NY Food and Life Sciences bulletin 160. <http://www.hort.cornell.edu/reisch/grapegenetics/bulletin/Noiret.pdf>

Reisch, B., Luce, R., Bordon, B., Henick-Kling, T. 2006. Corot Noir grape, NY Food and Life Sciences bulletin 159. http://www.hort.cornell.edu/reisch/grapegenetics/bulletin/Corot_noir.pdf

Robinson, J. Harding, J. and Vouillamoz, J., 2012. Wine Grape Varieties. Wine Grapes - A complete guide to 1,368 vine varieties, including their origins and flavours. Harper Collins, New York, NY, 10022.

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