

**DEFINING LONG ISLAND MERLOT:  
*Terroir, Taste and Complexity of Long Island's Signature Varietal***

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A report commissioned by the Long Island Merlot Alliance

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**Overview: Why Define the Taste and Aroma of Long Island Merlot?**

In 2009, the Long Island Merlot Alliance commissioned the research detailed in this report in order to establish the distinctive identity of the region's Merlot wines. It is the second installment of related research; the previous study having been conducted in 2008. Considering that premium wines have been made from this varietal on Long Island since 1976, to define them (as they often are) as "like Bordeaux but..." or "not like California's Merlot because..." has become misleading and irrelevant. Long Island Merlot has its own personality. This research seeks to define and articulate the defining characteristics of the region's signature variety and identify viticultural and oenological techniques that maximize Merlot's best qualities.

**Background: Formation of the Long Island Merlot Alliance**

In 2005, a group of five wine producers who believed in merlot's supremacy in the region organized the Long Island Merlot Alliance (LIMA). This non-profit trade association, now with seven members (Castello di Borghese, Clovis Point, McCall Wines, Pellegrini Vineyards, Raphael, Sherwood House Vineyards, and Wölffer Estate Vineyard) is dedicated to the advancement of quality in growing practices for merlot in the vineyard, and in the production of Merlot in the winery. Using two barrels of Merlot from each winery, they collaborate in making a jointly marketed blend of 100% Merlot, called "Merliance," in order to fund research and other Alliance initiatives.

First planted on Long Island in 1974<sup>1</sup>, merlot has become Long Island's most widely planted red grape variety, with approximately 700 acres, making up 30% of the overall vineyard acreage on Long Island. It thrives in the *terroir* of the East End of Long Island, where soils characterized by glacial terminal moraine provide a diverse, well-drained mineral array of pebbles and sand, allowing the vines' roots to spread deeply, which is especially important to the development of complexity in red wine. The vines have easy access here to natural rainfall (augmented as needed by minimal drip irrigation). Most importantly, proximity to the Atlantic Ocean's warm Gulf Stream promotes balanced, frost-free ripening from early May into November. Under wide-open skies, on the narrow land masses of both North and South Forks, the vines receive an unusual amount of sunlight for the East Coast; that light is accentuated by reflection from the sea, and from the quartz and mica components in the soil. Finally, the

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<sup>1</sup> At Hargrave Vineyard, Route 48, Cutchogue, NY, with certified virus-free, heat-treated plant material sourced by Oki Nurseries from the University of California at Davis mother block (later found to carry virus)

ambient temperature and humidity of this climate maximize the potential of this sunlight to allow for remarkably consistent, steady photosynthesis, unlike the start-stop ripening seen in hotter regions that rely on nighttime fog for cooling. For example, the temperature change in a 24-hour period during the growing season in the Napa Valley is often 50 degrees Fahrenheit, while the 24-hour variation on Long Island (as in Bordeaux) is closer to 20 degrees.

This ripening timetable is especially well-suited to the merlot grape. Harvest after harvest, it has proven more reliable than the other red *vitis vinifera* varieties planted in the region, including cabernet sauvignon, which ripens later and (when under-ripe) shows more aggressive, “green” tannins; pinot noir, which is highly susceptible to botrytis and bunch rot; and cabernet franc, which can be vegetal and have less body. More often than not, merlot is the dominant grape in a blend that includes some of these other varieties. Also, Merlot wine is often used in small percentages to soften and enrich other varietal wines of the region.

The history of the merlot grape supports its primacy on Long Island. Recent genetic research has revealed that cabernet franc (brought by Romans to Bordeaux in ancient times) is, in fact, one of merlot’s parents; the other is *magdeleine noire des Charentes*, a variety from Brittany, France. This new information substantiates the suitability of merlot for Long Island since Brittany, like Long Island, borders the Atlantic Ocean and is influenced by the Gulf Stream, but colder in winter than Bordeaux. We may suppose that *magdeleine noire* is thus the hardier parent, contributing, perhaps, to the more supple tannins found in merlot compared to its step-sister, cabernet sauvignon (a cross between cabernet franc and the pyrazine-containing, distinctly herbaceous, sauvignon blanc).

In 1988, recognizing the importance of merlot (and other Bordeaux varieties) to Long Island, the Long Island Wine Council sponsored a maritime viticulture conference, “Bringing Bordeaux to Long Island,” which greatly advanced the knowledge and understanding of production techniques suitable for these varieties and, based on input from visiting French professionals, led to an increased interest in merlot above all other red varieties. Personal alliances were formed between vintners on both sides of the Atlantic, resulting in further sharing of information, especially with Michel Rolland of Pomerol, Paul Pontalier of Margaux, and May Eliane de Lencquesaing of Pauillac. In 1990, another Long Island conference put the spotlight on merlot and further expanded Long Island winemakers’ knowledge, and national and international connections.

### **Taste and Aroma Profile Trials**

Among LIMA’s research interests is the identification of defining taste and aroma characteristics of Long Island Merlot through controlled “blind” tastings, followed by physical and chemical analyses of the wines deemed by the tasters as most typical and desirable for the region. At the same time (in other research), yield and leaf-pulling trials attempt to hone in on viticultural practices that will achieve these desired factors.

Beginning in the summer of 2008, a series of tastings held by LIMA members resulted in a list of descriptors for Merlot that were used with greatest frequency. Words that would describe non-fruit elements, such as oak-related “vanilla,” “cedar,” “charcoal” were deliberately excluded from the list. (See Appendix A: Frequency of Descriptors List.)

In 2009, the tastings continued again, using these descriptors, and adding impressions of alcoholic strength and quantity of oak since these components often affect the ability of the taster to discern other aroma and flavor characteristics.

After the first two tastings in 2009, a hedonic score was added, on a scale of 1-3, with 1 signifying “dislike,” 2 “acceptable,” and 3 “like very much.” Although hedonics are not, strictly speaking, appropriate to analysis aimed at defining aromatic profiles, the group wanted to have a way to judge which components most people preferred, so that efforts could be made in the vineyards and wineries to emphasize them.

The 2009 series of nine “blind” tastings (all identifying details of the wines withheld from participants) were held biweekly at the same time of day (beginning at 10 a.m.) and same location (Pellegrini Vineyards). They were attended by members of the Alliance and a few guest professionals. A total of 19 tasters participated, seven of whom participated in five or more tastings.

The 2009 tastings were structured to explore, first, whether there were detectable flavor and aroma variations across various vintages of Long Island Merlot. Subsequent tastings added comparisons with wines that were made predominantly from Merlot from several other wine regions. Because many wines from California were used during the 2008 tastings, and found to be so “big” (high in alcohol, with ripe or over-ripe fruit and aggressive oak on the nose and palate), that they distorted the tasters’ ability to assess the Long Island entries, very few California (or other, similar warm climate) wines were used in the 2009 series. Most of the non-Long Island wines used in 2009 were from Bordeaux, especially St. Emilion and Pomerol—both regions producing wines in which Merlot predominates. For the tastings, it was virtually impossible to find commercially made wines that are 100% Merlot, so wines meeting the labeling standard of at least 75% Merlot were used. These wines had an average retail price of \$30 (the mean price of higher-tier Long Island merlots); actual prices ranged from about \$9 to \$50.

Every tasting was conducted in three flights of four wines, so that each session evaluated twelve wines. Often, wines would be duplicated within a tasting, or reintroduced at another session, to check the consistency of tasters’ responses. Each taster recorded the three most prominent components perceived from the Aroma Standards list, ranking them from least to most intense on a scale of 1-5. They also rated their impressions of alcohol intensity (1-5) and oak (0-3).

Most tasters participated in two organoleptic training sessions using aromas extracted from items on the aroma and flavor components list, made from locally sourced ingredients macerated in a fairly neutral Merlot wine.

After each tasting flight, participants shared their scores verbally, often with additional explanatory comments, followed by the revelation of each wine, its region and vintage. Although each wine elicited a range of descriptors, often these descriptors were closely related (e.g., cherry or cherry jam; thyme or anise; cassis or blackberry). Much of the discussion following each tasting revealed factors important to the wines, other than the flavor descriptors. The way the wines evolved or opened up during the course of the tasting, and from vintage to

vintage as they aged, demonstrated a dynamic quality to the Long Island wines that could not be quantified, but that was considered by the tasters to be significant.

### **2009 Results: What Defines Long Island Merlot Today?**

Data collected from the 2009 tastings reveal that Merlot from all regions shared five descriptors most frequently. Cherry (including black cherry and black cherry jam) was, overwhelmingly, the most used descriptor, followed by (in order) tobacco, blueberry, mushroom and cassis (with cassis appearing slightly more often than mushroom in Long Island wines alone). Because of the congruence of these flavor/aroma profiles, we cannot, based on these tastings, claim that any one of them distinguishes Long Island Merlot.

In summary comments, winemaker Richard Olsen-Harbich noted, “Many of the wines we tasted from St. Emillion and Pomerol were often mistaken for Long Island by the group.” However, despite the similarity to other well-regarded regional examples, Olsen-Harbich felt that the strongest correlations between Long Island Merlots and their descriptors come from plants indigenous to the East End, especially blueberry, blackberry, red raspberry, strawberry, cherry, plum, cranberry and violets. For him, the list of defining elements should be expanded to include our native beach plum, sassafras and chamomile, plus beach stones, cedar, and mineral salts—all common to Long Island’s *terroir*.

The descriptors “green stemmy,” “canned green bean,” and “anise” were found in wines from every region, though they appeared more frequently in the Long Island wines. It is possible that these elements come more from blending elements (especially Cabernet Sauvignon, which contains herbaceous pyrazines, as noted above) than from Merlot itself. While in some cases these descriptors are considered to be negative, as part of a larger descriptive profile, they did not always result in lower hedonic scores. Rather, they may be considered elements that make a wine more interesting. In fact, this may prove the common observation that unblended Merlot can be boring. As winemaker John Leo pointed out, “With bottle age, they may become less negative and more ‘complexing’ agents.”

Also, in the discussions that followed the tastings, it became clear that the recent trend to make wines that critics reward as “fruit bombs” manifested itself in many wines from other regions, but not from Long Island, where the fruit was more restrained. For example, “prune,” a descriptor of over-ripe fruit, appeared significantly less frequently in Long Island wines. Long Island wines tasted were dry, while some wines from other regions were perceived to have some residual sugar (which often accentuates the perception of fruitiness).

Participants in the LIMA blind tastings often noted that Long Island wines were “balanced,” as validated by their scores for oak and alcohol, and also by comments about the wines’ acidity, tannin and fruitiness. As Olsen-Harbich said, “There was a definite theme to the Long Island wines—the good ones were balanced and yes, in comparison to the bigger wines we tasted, I do believe that balance trumps bigness. The words that come to mind are, ‘elegant, classic, smooth, rich, delicate, expressive.’”

Often, during the tastings, as participants revisited wines they had already scored, they would remark on how much the Long Island wines changed, usually for the better, in the glass, even over a 10- or 15-minute period. Sometimes the descriptors changed; more often,

impressions that were initially negative became positive. There is a subtle interplay of fruit, tannin, minerality and fermentation effects resulting from this *terroir* that makes the wines dynamic. As winemaker Roman Roth said, “The best wines Long Island merlot makes...do open up in the glass and don’t reveal everything in the first sniff. The play between the fruit, reductive and herbal notes, oak and acidity at low alcohol is what makes these wines special.”

### **Implications for Viticulture and Winemaking**

The winemakers in the tasting group considered the results of the blind tasting and subsequent discussions in terms of how they might have practical applications. For example, the final tasting included wines from field trial of merlot vines that had been either reduced in crop size or had their fruit exposed via leaf pulling. Although there were not enough tasters present to yield conclusive results, these wines did reveal unique profiles, possibly attributable to their treatment in the vineyard. We must save comments on viticulture for further studies.

Roth (who participated in eight out of nine tastings, more than any other participant) summarized his personal observations: “The challenge to make great Merlot on Long Island is to find the perfect balance between reductive characters, fine herbal notes, tannins, acidity, oak and fruit. This is complicated by the big differences from one year to the next (cool versus hot).”

He explained that wine may be reductive (showing less fruit and more fermentation aromas) when it has been subjected to nutrient deficiencies, drought stress, high fungus pressure or deprived of oxygen during fermentation. If Long Island’s winemakers want more fruit expression, they should be on the lookout for these conditions, do more rigorous analysis of the fruit, and consider some techniques commonly used in other regions, including micro-oxygenation (to soften tannins) and reverse osmosis (to concentrate the wines).

That said, many of the winemakers applaud these reductive qualities and do not want to emulate a more “international” style of Merlot. Olsen-Harbich believes “our wines need less rigorous handling than, say, the West Coast or even France.” Roth said, “I believe that we should not change a whole lot from our current styles as this is what makes us unique in the global wine market. However we do need to fine-tune and adjust to the different reductive intensities from year to year.”

Winemaker John Leo said, “First and foremost we should be trying to coax our grapes (merlot, cabernet franc and everything else) to ultimate ripeness and waiting to harvest until we find that year’s peak of flavor. Then we should ferment to accentuate the positives of the grapes, choose oak and other vessels based on the year’s flavors, and later blend to offer the best combination of flavors the vintage can provide.”

Emphasizing the need to blend for complexity, Leo said, “100% Merlot can be very nice... but I have never yet found a 100% merlot that wasn’t tastier and more satisfying blended with other worthy wine.”

Winery owner Anne Marie Borghese echoed Leo, saying, “I think it is more important to blend in other varietals for a fuller, more complex flavor rather than making the wines less complex so that they can be consumed the day they’re purchased.”

She appealed to the winemakers to respect the wines’ ability to age gracefully, saying, “The fact that Long Island Merlot needs time to develop once it has been bottled should not

drive our winemakers to create wine that is ready to drink upon release. We as an industry should help educate consumers to slow down and allow the wine to age to its full potential.”

### **Implications for Future Research**

Having participated alongside the LIMA tasters throughout this study, this researcher sees a number of ways this work could be expanded and enriched:

- **Chemical analysis:** LIMA has expressed interest in conducting chemical analysis of Long Island Merlot (particularly those considered favorable, as determined by the hedonic scores) in comparison with Merlot from other regions, using gas liquid chromatography. The wines chosen must be unblended samples. This analysis could reveal the chemical makeup of wines considered to be the best representations of Long Island Merlot and therefore, conceivably, enable their replication.
- **Untrained palates:** It would be useful to conduct “focus group” studies of Merlot wines using consumers rather than wine-industry professionals. Understanding what consumers respond to could be useful to the marketing of Long Island Merlot.
- **Expanded language:** The vocabulary used to describe these wines should include more plants indigenous to eastern Long Island, to explore the idea that the flavors and aromas present truly are a reflection of their *terroir*. There also should be some way to express (if not to measure) the balance and dynamic quality of these wines. Perhaps one key to identifying and comparing these qualities would be to use evocative metaphors (not just one-word descriptors) to describe the wines, e.g., “California Merlot is a marching band while Long Island Merlot is chamber music.”
- **Viticulture considerations:** The field trials should be continued, looking at crop and leaf reduction, as well as vine nutrition, stress reduction and “hang time.” Tasting the wines produced by these trials is highly instructive regarding the effect of viticultural techniques on flavor and aroma, and overall quality.
- **Vinification considerations:** In the wineries, experimentation with more oxidative winemaking, and, where appropriate, other technological interventions would help winemakers decide whether the best Merlot is truly made in the vineyard, or in the cellar. In my view, stylistic experimentation and expression is part of the art of winemaking and ongoing “soul-searching” of any vintner and even whole regions.

### **Conclusion**

In 2008-2009, the Long Island Merlot Alliance undertook an extensive comparative study of wines made predominantly from merlot grapes. Their goal was to identify the distinctive qualities of Long Island Merlot, and to define their unique profile distinct from the Merlots of other regions around the world. This research also was intended to set the stage for the creation of guidelines for viticulture and winemaking that would raise the standard for these wines.

A series of blind tastings with industry members showed that the region’s wines are largely consistent with Merlots from other regions, at similar price points. Often, the tasters did not accurately distinguish Long Island Merlots from others, and the descriptors chosen for all

the wines did not significantly differentiate them. Despite the lack of statistical significance, the tastings did inspire the participants to recognize that certain descriptors like “green stemmy” that may be considered negative often contribute to a wine’s complexity in a positive way, and lead to positive ranking over more monolithic wines.

This appreciation for complex, balanced and “reductive” wines (those with more restrained fruit characteristics), as opposed to more fruit-forward, simple wines, lends itself to an examination of techniques that will optimize secondary wine characteristics, with the understanding that continued education of consumers to respect the ageability of the wines is essential.

Some participants noted an aromatic affinity between Long Island Merlot and indigenous plants such as beach plum, sassafras and chamomile, returning to the original concept that Long Island Merlot is, indeed, an expression of its native *terroir*.

Appendix A: Frequency of Descriptors Used in LIMA Tastings, 2009

| <b>OVERALL TASTING</b>  | <b>LONG ISLAND ONLY</b>           |                         |    |
|-------------------------|-----------------------------------|-------------------------|----|
|                         | <b>From 5/11, 5/21, and 9/17*</b> |                         |    |
| Cherry (incl. jams)     | 291                               | Cherry (incl. jams)     | 98 |
| Tobacco                 | 233                               | Tobacco                 | 89 |
| Blueberry (incl. jams)  | 160                               | Blueberry (incl. jams)  | 66 |
| Mushroom                | 156                               | Cassis                  | 54 |
| Cassis                  | 148                               | Mushroom                | 50 |
| Violet                  | 120                               | Cranberry               | 48 |
| Prune                   | 117                               | Strawberry (incl. jams) | 41 |
| Cranberry               | 114                               | Anise                   | 40 |
| Blackberry              | 112                               | Violet                  | 37 |
| Strawberry (incl. jams) | 110                               | Mint                    | 33 |
| Canned black olive      | 106                               | Canned green bean       | 33 |
| Anise                   | 104                               | Green stemmy            | 32 |
| Mint                    | 97                                | Thyme                   | 32 |
| Thyme                   | 91                                | Blackberry              | 30 |
| Canned green bean       | 91                                | Prune                   | 30 |
| Black cherry jam        | 89                                | Canned black olive      | 27 |
| Bell pepper             | 74                                | Raspberry               | 26 |
| Raspberry               | 74                                | Black cherry jam        | 23 |
| Green stemmy            | 52                                | Bell pepper             | 15 |
| Black pepper            | 25                                | Black pepper            | 8  |