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## ON THE VINE

BY BRIAN HALWEIL



## GRAPES WITHOUT PESTICIDES

*In Long Island wine country, a few vineyards rebel.*



**MATTITUCK**—In July, when Long Island's weather turned muggy and most vineyards drenched their vines with fungicides to ward off mildews and molds, Joe Macari misted his family vineyard in Mattituck with a cocktail of compost tea and pulverized silica.

The compost tea, a microbe-rich soup of manure and compost suspended in liquid, fertilizes the soil and introduces bacteria and fungi that compete with the crop pests. The silica gives the grape leaves a stiffer, more waxy surface. (A few years ago, golf courses found that putting raw silica on the links allowed earlier and shorter mowing with fewer fungal problems.)

That's not all that makes this 500-acre vineyard which stretches down to the Long Island Sound out of the ordinary. Instead of ammonium nitrate fertilizer, Mr. Macari relies on a herd of Texas Longhorn and Hereford cows and nearly 15 acres of compost piles filled with ground-up egg and oyster shells, seaweed, fish scraps, manure, and kitchen waste. All of this has allowed Mr. Macari to use just a small fraction of the chemicals of some Long Island vineyards.

"I'm not 100 percent organic and I'm not 100 percent biodynamic," he said. "But I can see the results in both," adding that they include more vigorous vines, fewer diseased fruit clusters and

fewer infestations. (Biodynamics is a belief in the power of the moon, sun, planets and other cosmic forces to influence crops. For instance, Mr. Macari cultivates his vineyard on "fruit" days according to a biodynamic celestial calendar.)

"This field was just sand a few years ago, and now look at the worm castings," he said, cradling a handful of dark, crumbly soil scooped from under a cabernet sauvignon vine.

While a recent report from a major California wine operation predicted that organic viticulture will soon become the standard in that state, most grape growers on Long Island—where the cool, damp climate invites fungus and other pests—continue to dismiss the notion of eliminating chemicals. Mr. Macari is one of a handful of Long Island vintners who have bucked the trend and are still pouring award-winning wines.

At Shinn Estate Vineyards, also in Mattituck, Barbara Shinn and David Page began to shed their pesticide spraying equipment one year after planting their 22-acre vineyard. "We didn't want to deal with the heavy-duty stuff," said Mrs. Shinn.

Instead, Mr. Page and Ms. Shinn, who own the restaurant Home

**Above:** What do these Texas Longhorns and Herefords have to do with making good wine? They contribute to the compost that helps to fertilize Macari Vineyard.



in New York City, are interested in nurturing the myriad bacteria, fungi, insects, and other organisms that make up the “soil food-web,” and that they say will ultimately help the vines.

“Diversity is the most important part of what you do,” Mr. Page said. “It leads to strength in the vineyard and quality in the final product.”

To further reduce the threat of disease, the couple planted five different varieties of merlot and three different cabernet francs as a hedge against infestations that single out any one type. Between their vines, they have sown a “meadow” of 25 species of clovers, grasses, buckwheat, radish and wild plants that they say enriches the soil. The couple drips liquefied fish through the vineyard’s irrigation system, a modern variation on the historical use of bunker for enriching Long Island’s farmfields. Now in their fifth season, they have reduced fungicide spraying by 75 to 80 percent, and have seen only isolated pest problems.

“We’re really excited that in a difficult environment like the east coast, we can make positive inroads,” said Matthew Ryan, a researcher with the Rodale Institute, an organic farming organization in Kutztown, Pennsylvania, who worked with Shinn Vineyard on a project funded by the Department of Agriculture to assess the use of compost teas.

On test plots throughout the Northeast, Rodale has found that compost tea increases grape yields, can virtually eliminate crown gall, and can cut powdery mildew incidence in half. (The teas were not as effective on two other common grapevine diseases, downy mildew and black rot.)

**“I just want to live someplace where the water is clean.”**

Some growers and wine experts argue that heavy chemical use can actually obscure terroir, those subtle, coveted flavors that grapes pick up from the soil and climate. “By using

chemicals, you tend to homogenize the taste,” said Rex Farr, who recently added several acres of merlot and cabernet franc to his certified organic vegetable fields at his farm in Calverton. “You’re wiping out the individuality of the land.”

More and more Long Island vineyards advertise themselves as practicing “sustainable viticulture,” a term which some critics say may indicate good intentions, even if it is poorly defined.

Alice Wise, viticulturist with Cornell Cooperative Extension in Riverhead, said that concerns about pesticides and fertilizers in the groundwater have prompted many Long Island vineyards to focus on “low impact” grape farming. She worked with growers to draft the Long Island Sustainable Viticulture Program guidelines, a rating system that will be released early next 10 to help farmers spray fewer herbicides and conserve irrigation water. Most recently, 14 wineries, including Shinn Estate, Palmer, and Paumanok, received grants from the Natural Resource Conservation Service to support the farms’ on-going efforts to control erosion, reduce prophylactic pesticide spraying, reduce fertilizer use, and adopt other sustain-

able farming practices over the next 10 years. “This grant means as much to us as any medal we have received for our wines,” said Gary Madden, general manager of Lieb Cellars in Mattituck, which uses no herbicides.

In fact, several growers have suggested that it’s in everyone’s best interest to use chemicals as a last resort, particularly to prevent pests from developing resistance. Roman Roth, the winemaker at Wölffer Estate Vineyard in Sagaponack, notes that there are many techniques a vineyard can use to reduce pest pressures, like “opening the canopy” through thinning to help dry the fruit and leaves. “If you have to bring out your big guns now and they don’t work,” said Mr. Roth. “What will you do with a big outbreak later?”

Still, Ms. Wise doesn’t think that completely abandoning pesticides is realistic. “Grapes are susceptible to fungal diseases,” she said. “And we will always need to use some sort of pesticide, whether it’s a horticultural oil that is organic or something that is not.”



**Above:** When David Page and Barbara Shinn stopped spraying herbicide, Mr. Page retrofitted a mower with auxiliary blades to mow between the vines.

Even Mr. Macari, whose goal is to eliminate chemical use entirely, runs up against certain limitations, if only to protect his family’s investment. “There’s over \$1 million worth of fruit here,” he said. “That’s \$3 million worth of wine. So it’s not all my decision.”

Mr. Macari’s deeper motivations are clear as he looks towards a kettle hole in front of his family’s home. The entire vineyard drains into the pond, rimmed with willows, cedars, and sumac, and teeming with turtles, frogs, and a chorus of birds. “I just want to live someplace where the water is clean,” he said. □