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## ON THE VINE

BY MICHELLE MYERS

### HELPING HANDS

*The big impact of a small vineyard.*



RIVERHEAD—This vineyard nestled among research greenhouses and antiquated farm buildings in Riverhead might have some of the smallest acreage under vines on the North Fork. But it may also be the most significant to the collective Long Island wine industry.

“Some winegrowers have said you only have two acres and you don’t know what we are dealing with,” said viticulturalist Alice Wise, who, along with program assistant, Libby Tarleton, lovingly tends this plot of gnarled vines on the grounds of Cornell Cooperative Extension. “That’s wrong. We do. We get bird damage, we get deer predation, we have the same pests. We’re in effect running a mini-business. We have labor costs, we have materials costs. It’s not handed to us. If we lose our crop, it’s a lot of effort and money down the tubes as it would be in the industry.”

In fact, the formidable team of Wise and Tarleton is single-mindedly devoted to recreating the conditions found on other East End vineyards, in an effort to improve the way our young wine region grows grapes. And so these two unsung heroes work behind the scenes, sometimes visiting a vineyard manager who wants a second opinion on a sticky problem and sometimes providing advice and support for a research project that several growers have in mind.

In this sense, Wise and Tarleton are paying homage to one of the oldest institutions in American agriculture—the army of county extension officials who would visit nearby farms to “extend” the educational resources and latest research findings of the Department of Agriculture or agricultural universities to rural areas. Since the resource allocation of Cornell Cooperative Extension has, in some ways, not caught up to the recent growth in Long Island grape acreage, Wise and Tarleton are our army.

“The traditional extension agents, way back when, kind of tooled around and visited growers,” said Wise. “Now everyone is busy, so it’s more or less they call me or I call them. All growers do their own



Viticulturalist Alice Wise, left, and Libby Tarleton remove bird netting at Cornell’s research vineyard.

research. But one of the reasons we exist is to help with those issues that aren’t obvious or easy to solve.”

For instance, this past summer, Wise saw some unusual stunted

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vines at one vineyard that baffled the grower. She suspected it was a plant virus, which would allow the vines to produce fruit, but might limit the fruit's ripeness or long-term production. After taking extensive photos, Wise conferred with experts at Cornell's Ithaca campus as well as grape-growing colleagues throughout the Northeast. She is now zeroing in on the culprit disease as well as a strategy to treat it.

Wise and Tarleton cultivate 25 different wine-grape varieties and make wine from the most promising selections to provide a glimpse of what might prove commercially feasible. (This wine is primarily for research purposes, although it might be enjoyed by researchers at Cornell; some of the vineyard's grapes are sold to Long Island wineries.) With the cost of planting a vineyard reaching up to \$15,000 an acre, this sort of evaluation provides vineyard owners with essential guidance. "Our aim is to help growers produce quality fruit as economically as possible," says Wise. "And we try things out to see if innovations are feasible," adds Tarleton. Approximately two-thirds of the vineyard is devoted to the evaluation of wine-grape varieties and clones (sub-varieties that have slowly mutated over the years).

The wine-grape program is part of a 70-acre farm that dates back to 1922, when the Long Island Vegetable Research Farm was established to further the study of soil fertility and disease and insect control for cauliflower, potatoes and the area's other traditional crops. Vinifera-grape research started here in 1974, prompted by the pioneering farmers who had begun to plant European varieties of the crop. In subsequent years, the region's grape acreage ballooned, so a research support specialist responsible for grapes was added in the mid-'80s. The viticulture position transferred to the Cornell Cooperative Extension in 1990. And, although neither Wise, who has a degree in pomology, nor Tarleton, a biologist, envisioned a life working with grapes, they have happily embraced the calling. Said Tarleton, "It's physically challenging and we work outside."

Growing grapes on Long Island has its distinct problems: a riot of rots and mildews caused by our damp, humid climate, for instance, or a scourge of deer and other suburban pests. Wise and Tarleton have evaluated which fungicides are most effective, and how to prune and trellis vines to maximize exposure to the sun.

The team works alongside multiple horticultural specialists at Cornell, such as plant pathologists, entomologists and vegetable specialists who act as a bridge between the faculty and staff of Cornell's Departments of Horticulture and Plant Pathology and the agricultural industry of Long Island.

"We can learn a lot from other growers," said Wise. "Take potatoes. We've gained a lot from research here into potato pests." Wise is talking about the potato leafhopper, *empasca fabae*, an annual visitor to local vineyards that can scar the grape plant and compromise its ability to ripen fruit.

This year the team has been much involved in evaluating bird netting to combat one of the region's newest and most insidious pests.

Long Island's setting on an Atlantic coast flyway means the pressure is particularly severe, and vineyard managers have already learned that auditory and visual scare devices—from shotgun blasts to recordings of hawk sounds—are largely ineffective. Moreover, these birds, including starlings, finches and robins, have apparently now figured out how to feed through the wide-mesh netting used to drape the vines

since the 1980s, since some vineyards are seeing 50 percent or more damage.

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So Wise and Tarleton have set up netting trials on several vineyards, and are working with manufacturers to develop finer-meshed nets. "The fine mesh is expensive and some types of fine netting shade too much of the vine," said Wise. Overall, though, she thinks at least some of the fine-meshed nets look promising. She is also evaluating options for deer fencing, since the fencing to which more and more vineyards have had to resort is eating into more and more of the bottom line.

Cornell's research is driven by the needs and desires of the farmers in their area. In the case of Wise and Tarleton, they take their cues from local growers who serve on several advisory committees. "There's no way that I could function on a personal level or that the program could function without the help of vineyard managers," Wise said. "We constantly trade information. It's a challenge to grow grapes on Long Island. And we can survive it by helping each other."

In recent years, concerns about pesticides and fertilizer in the groundwater have prompted many Long Island vineyards to focus on "low impact" grape farming. Wise and Tarleton have conducted evaluations of organic fertilizers in cooperation with two local vineyards, and they have also helped develop the Long Island Sustainable Viticulture program guidelines, a rating system to help growers spray fewer herbicides, conserve irrigation water and generally rate their management practices from an environmental standpoint.

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." In fact, this year Wise conducted trials showing that horticultural oil, a nontoxic substance, provided great protection against powdery mildew, a common grape disease, without inhibiting ripening as some critics have feared.

Given the money and other resources, Wise would like to devote part of her vineyard to organic or reduced-chemical management, so that she can do "side-by-side" comparisons of yield, cost and pest losses. "In any region, there's always room for more work." □