**SUSTAINABLE VITICULTURE FOR NEW YORK VINEYARDS**

Late last year, the Finger Lakes Grape Program, Long Island grape program and Lake Erie Regional Grape Program wrote a grant to fund production and testing of a *Sustainable Viticulture Practices Workbook* for New York vineyards. The impetus for doing so was the enormous interest by industry groups and processors (Canandaigua Wine, National Grape Cooperative, the New York State Wine Grape Growers, and the Long Island Vineyard Technical Group) in doing so, as well as the example provided by several West Coast programs.

The grant was funded by the Northeast Center for Risk Management Education, and the majority of work on the project will take place between harvest and the 2006 growing season.

In this newsletter, we would like to describe what sustainable viticulture is, why it is of interest to so many in the industry, what’s in it for the grower, and what we are planning to develop for NY vineyards.

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SUSTAINABLE VITICULTURE: WHAT IS IT, WHY IS IT IMPORTANT, WHAT’S IN IT FOR MY FARM?

Timothy E. Martinson

Over the past several years, grape growers in Oregon, California, and Washington have adopted sustainable viticulture programs. Oregon’s LIVE (Low Input Viticulture and Enology) program, the Central Coast ‘Positive Points’ system, the Lodi-Woodbridge Sustainable Viticulture program and recent Washington state program all have a common goal: to document and promote the use of production practices that reduce environmental risk while maintaining or improving economic viability. In this article, I will address what is behind these programs, how they work, what are they hoping to accomplish, and what we plan on doing here in New York.

How is ‘Sustainable Agriculture’ defined? Sustainable agriculture is defined by the California programs as the use of production and business practices that are Environmentally sound, Economically viable, and socially Equitable. These areas are referred to as the “three E’s of Sustainability”. What this means is that growers and wineries strive to have their practices minimize environmental impacts, be affordable and enhance profitability of their vineyards and wineries, and to maintain standards with employees and suppliers that comply with applicable laws (e.g. Worker Protection Standard) and economic well-being. In most cases, the ‘sustainable’ practices are simply good viticulture and good business practices. Sustainable is not the same as organic. Although organic practices in general fall within the sustainable agriculture framework, sustainable agricultural programs are not focused exclusively on organic production methods.

Why were ‘Sustainable Viticulture’ programs developed? There are a variety of motivations that led grower groups in California and Oregon to develop sustainable viticulture programs. The first reason is that agriculture by its nature involves altering the environment, with some potentially negative impacts. Sustainable practices can help minimize these impacts. Paying attention to the details of how and when inputs are applied can reduce impacts on soil and water resources and also be good business practice.

The second motivator was that grapes and wine are grown amidst a large and increasingly vocal group of suburban neighbors who are very interested how agriculture in their neighborhoods affects them. They may perceive that grape production exposes them to health or nuisance risks, and want assurance that their home environment is safe. They need to be educated, and also persuaded that the industry in their midst is addressing environmental issues and not simply exploiting the land resource.

Finally, growers and vintners feel that adopting sustainable viticulture practices can improve wine quality and serve as a selling point for consumers. The Oregon LIVE (Low Input Viticulture and Enology) program certifies growers and wineries, and allows producers to use a ‘LIVE certified’ logo in their labeling and publicity. The Lodi-Woodbridge program has introduced, as a final step, a voluntary certification program called Lodi Rules for interested growers. These ‘eco-labeling’ efforts are designed to signal to consumers that the products they buy were produced with low environmental impact practices. This is important to a small, but rapidly growing, number of consumers.

How do ‘Sustainable Viticulture’ programs work? Most programs use a workbook, with sections on soil management, fertility management, pest and pesticide management, and viticulture. Each section presents a series of questions related to specific practices. Each question presents 3 to 4 alternatives that describe a specific practice, and growers choose the one that most closely matches their practice. (See figure for example) It is important to note that there are no ‘right’ and ‘wrong’ answers. The workbook is not a test, but rather an educational tool to evaluate your own vineyard. After completing the workbook, the grower reviews the range of practices and develops an action plan to address the issues identified through the workbook. Workbooks are designed for ‘self-assessment’, but often a farm advisor or consultant works with individual growers or small groups to complete the workbook and develop an action plan.
Has anything similar been done in New York? New York State Department of Agriculture and Markets has adopted a voluntary approach called Agricultural Environmental Management (AEM) to reduce non-point source water pollution and other environmental impacts associated with agriculture (see accompanying article). We developed AEM worksheets for vineyards, and over 50 Finger Lakes vineyards have completed them. Alice Wise has worked with the Long Island industry to develop a draft sustainable viticulture workbook. We will use those two as the core for the more inclusive NY Sustainable Viticulture workbook.

What is happening in New York? Several industry organizations and processors have expressed interest in moving forward with a New York sustainable viticulture program, including National Grape Cooperative, Canandaigua Wine, the New York State Winegrape Growers, the Long Island Vineyard Technical Group, and individual wineries in the Finger Lakes. Late last year, the Risk Management Education Grants Program was identified as a potential source of funding for developing a statewide workbook. A one-year grant to develop and test a sustainable viticulture workbook was funded. We will be working this winter to produce a draft workbook, to be tested with a small group of growers by next spring.

Who will write the workbook? We have put together a steering group, with representatives of the 3 grape extension programs (Lake Erie, Finger Lakes, and Long Island), the New York State Soil and Water Conservation Committee, and industry representatives from Canandaigua Wine Company, National Grape Cooperative, New York State Wine Grape Growers, two Finger Lakes wineries, and Alice Wise’s Long Island vineyard advisory committee). This group will use the draft Long Island workbook, written by Alice Wise, as a guide for producing a more inclusive NY state workbook.

Why not just use the Long Island guide? Grape production is diverse in New York, and the specific issues and practices will vary according to region. For example, sandy Long Island soils don’t often require drainage, but are routinely irrigated. Canopy management for botrytis is not going to be a concern for Concord growers. The challenge will be to identify issues and formats that will make the workbook useful for Juice grape growers in Westfield, hybrid producers in Branchport, and vinifera growers statewide.
What happens after the workbook is finished?
We will work with processors and grower organizations to encourage its voluntary use by grape growers throughout the state.

What’s in it for the grower? First and foremost, the workbook will be an educational tool that will allow growers to understand what practices they are doing well, and where there is room for making changes that will improve the efficiency and lower environmental impact. It will help growers make informed decisions about how they farm. Based on our previous experience with the Keuka Lake watershed project and the AEM worksheets, I expect that growers will find that they score well in many of the categories. For example, use of cover crops, mulching, and soil conservation structures such as diversion ditches is routine in the Finger Lakes.

Minimizing inputs may save money. For example, many Concord growers have cut back the quantity of nitrogen applied to their vineyards, with no impact on production. Three hundred lb/acre of ammonium nitrate used to be ‘standard’. I’m hearing 200 or 150 lb/acre more commonly now. As fuel and fertilizer costs rise sharply, the incentive to avoid overuse of inputs will become greater.

Completion of the workbook may be the key for participating in cost-sharing programs through State and Federal programs. The USDA, through the Farm Services Agency and Natural Resources Conservation Service, has provided cost-sharing in the past for dealing with erosion problems, for mulching, and even for adopting Integrated Pest Management (IPM) practices. If a particular item is identified in the action plan, you may be able to secure funding to offset the cost of implementing the practice. For example, Keuka and Seneca Lake growers who completed the AEM worksheets received 75% cost sharing for improving pesticide mixing and storage on their farms. Over 20 such facilities have been constructed at a low cost to growers.

Documenting and publicizing industry commitment to using sustainable practices will help head off conflicts with neighbors. As more housing is built in rural areas, being perceived as environmentally responsible will head off regulatory problems and provide evidence of good faith efforts to minimize impacts on others.

Finally, assessing and improving sustainability of your vineyard practices may be a key to increasing demand for your products, whether they be juice, wine, or table grapes. It won’t get you $50 per ton more for your grapes today, but will help the industry as a whole to maintain existing markets or develop new ‘niche’ markets over the long term. A few examples:

- SYSCO, a major food service supplier to restaurants and institutional buyers, has decided to make use of sustainable production practices a major factor in deciding whom they will buy from.

SUSTAINABLE VITICULTURE STEERING COMMITTEE MEMBERS

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Tom Davenport, National Grape Cooperative, Westfield, NY
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John Santos, Hazlitt 1852 Vineyards, Hector, NY
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Jeff TenEyck, NYS Soil and Water Conservation Committee, Groton, NY
Lester Travis, NYS Soil and Water Conservation Committee, Himrod, NY
Alice Wise, Cornell Cooperative Extension of Suffolk County, Riverhead, NY
Tim Weigle, NYS IPM Program and Lake Erie Regional Grape Program, Fredonia, NY
Timothy E. Martinson, Finger Lakes Grape Program, Penn Yan, NY
National Grape Cooperative has a pilot Organic Concord juice program that they hope to expand in the future.

California wine producers will be increasingly promoting the ‘California Code of Sustainable Winegrowing Practices’ to help market their industry and products.

Over the next several months, you’ll be hearing more about sustainable agriculture at processor meetings and grower conventions. We would like your participation and input into making a sustainable viticulture workbook and program for New York that helps us all minimize environmental impact, reduce or not increase costs, and demonstrate to consumers and neighbors that the industry is being proactive in dealing with environmental issues.

NEW YORK STATE’S AGRICULTURAL ENVIRONMENTAL MANAGEMENT (AEM) PROGRAM: HELPING GROWERS DOCUMENT AND ENHANCE ENVIRONMENTAL STEWARDSHIP

Agricultural Environmental Management (AEM) is a voluntary and confidential program established to help farmers across New York State protect and enhance soil, water, and related natural resources, while maintaining the viability of their farming operation. Established by the New York State Soil & Water Conservation Committee and codified into law in August 2000, AEM is locally-led and implemented by farmers through a county based partnership of Soil and Water Conservation Districts, Cornell Cooperative Extension, USDA agencies, and local agriculturally related organizations.

Grape growers have been active participants in the AEM program, particularly in three Finger Lakes watersheds, and more than 9,000 farmers are involved in AEM statewide. AEM participants are eligible to apply for state and federal cost share funding to implement conservation practices that address high risk concerns. Over the past ten years, more than $30 million in state funds have been awarded to help implement conservation practices on farms.

AEM utilizes a tiered approach to assess the current state of natural resource management and environmental stewardship on all types and sizes of farm operations. During the assessment process a short questionnaire and associated worksheets are completed by the grower and a resource professional from the local Conservation District or Cooperative Extension. The worksheets indicate the level of risk certain activities may present to the environment, provide for documentation of sound environmental practices, and suggest how risk can be reduced on certain practices.

Once a farm assessment is completed, the grower may decide to continue the process by working with public or private resource professionals to develop an “action plan” that addresses environmental concerns and opportunities. The plan also determines how and when components will be implemented. Funding and technical assistance are available to help implement the action plan, and provide a mechanism to evaluate its progress and effectiveness. Implementing the plan, maintaining applied practices, evaluating effectiveness, and making adjustments to improve efficiency and environmental quality is a progressive, continuous process.

Many growers in the Finger Lakes region recognize the close tie of their industry with the quality of lake water and the surrounding landscape. Over the past ten years, a comprehensive watershed management program has been developed to enhance the economic and environmental health of Seneca, Keuka, and Canandaigua Lakes. For each watershed, several potential pollution sources including agriculture were studied and remedial recommendations were made. AEM is being actively implemented in all three watersheds to address agricultural sources of pollution and document sound environmental practices on the part of watershed farmers.

Keuka Lake was an original pilot to test the concepts of the AEM program. A part of the pilot project was to develop AEM Tier 2 Worksheets for vineyards. Tim Martinson, Area Viticulture Extension Specialist for the Finger Lakes Grape Pro-
gram, led the effort to develop four worksheets, including Vineyard Site Characteristics, Soil Erosion & Vineyard Floor Management, Nutrient Management for Vineyards, and Pesticide Management. These worksheets have been adopted into the AEM program and are now used in vineyards across the state.

A variety of AEM watershed planning efforts continue in Keuka, Seneca, and Canandaigua Lake Watersheds. As a result, a number of state and federal grants have been received to support water quality improvement projects on farms. A few of the projects specific to grape production are nutrient management planning, agrichemical mixing facilities, vineyard erosion control practices, including mulching, and winery waste water management.

Over 50 grape producers have participated in AEM, developing conservation plans for their operations. Agricultural agency staff work with the grower to prepare a plan that is practical and workable while addressing environmental concerns and maintaining economic viability. AEM farmer advisory committees in the three watersheds have adopted a “Lake Friendly Farmer” sign to recognize farms that have developed and are implementing a conservation plan and are being environmentally responsible.

Grape growers across New York and the Lake Erie region of Pennsylvania will soon have the opportunity to participate in the Sustainable Viticulture Practices Program, which will enhance and build upon the efforts of AEM. Using AEM as a cornerstone, the Sustainable Viticulture Practices Program will expand AEM for the grape grower and take a more comprehensive look at environmental, economic, and social aspects of grape production seeking to improve documentation of environmental and social responsibility.

The AEM Program has been endorsed by several farm organizations and governmental agencies including: NY Farm Bureau, NY Wine & Grape Foundation, NY State Grange, NYS Soil & Water Conservation Committee, and the NYS Departments of Environmental Conservation, Health, State, and Agriculture & Markets. The AEM program is progressive public policy creating a win-win opportunity for farmers, our communities and our environment.

INTRODUCTION - LONG ISLAND DRAFT
SUSTAINABLE VITICULTURE WORKBOOK

Alice V. Wise
Cornell Cooperative Extension of Suffolk County

[Ed. Note - The following article is excerpted from the Long Island Sustainable Viticulture Workbook draft, and outlines goals for the program there. - TEM]

Long Island’s wine industry celebrated its 30th birthday in early 2003. Thanks to the committed ownership and talented technical personnel, the industry has thrived on the East End of Long Island. Vineyards and wineries help maintain precious open space and employ thousands of full time and seasonal positions. Along with marine recreational activities and farm stands, wineries are a key component of Suffolk County’s tourist based economy.

Just under 3,000 acres of grapes are planted. Local vineyards range in size from several acres to 600 acres. The forgiving maritime climate allows growers to focus exclusively on the more winter-sensitive vinifera varieties. There is entrepreneurial experimentation with at least 20 different varieties. Merlot, Cabernet Sauvignon, Cabernet Franc, Chardonnay and Sauvignon Blanc have shown to provide more consistency in both quality and quantity of fruit than other selections.

The definition of “sustainable” is wide ranging and varies by region and commodity. For the purposes of these guidelines, we have chosen to focus on three broad areas: 1) encouraging practices which have the lowest environmental impact; 2) encouraging practices which maintain or improve soil health; and 3) helping growers be good stewards of the land. The Island’s sensitive ecological nature means that farming practices in the 21st century must be well planned and thoughtful.

These guidelines are patterned after a number of programs: The New York State Agricultural Envi-
ronmental Management guidelines (AEM), the Long Island Agricultural Stewardship Program, Oregon LIVE (Low Input Viticulture and Enology), Central Coast (CA) Positive Points System and last but not least, the Lodi-Woodbridge Winegrape Commission’s Winegrowers Workbook. We are indebted to these programs for exploring the breadth of issues surrounding sustainability.

No matter the region, programs such as these must adhere to a similar set of principles: 1) guidelines must be simple and easy to follow; 2) recommended practices must be reasonable to implement; 3) the program must maintain/improve fruit quality/quantity; 4) the cost of any practice must be included in the definition of sustainability – it is not sustainable to go out of business; and 5) recommended practices must work. Everything within reason.

This program consists of a set of guidelines that allows an individual grower to self-rate his/her vineyard management practices. Based on results, an action plan is developed so that strategies can be devised for improvements in management practices. The program is voluntary and does not assess penalties. It is currently in draft form to encourage feedback from participants. With a larger group providing input, adjustments in the guidelines will be completed at a later time. Ultimately, future decisions on the direction of this program may include making participation more stringent, hiring a firm to conduct grower interviews/inspections, including wine evaluation, promoting participation via an acknowledgement on wine labels and so on.

The goals of program are many and will likely evolve alongside the guidelines: 1) provide a resource for growers; 2) encourage growers to critically examine their practices; 3) encourage adoption of low impact practices; 4) provide incentives and cost sharing for certain practices.

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IS SUSTAINABLE VITICULTURE THE FUTURE? WHAT IS IT, WHERE DID IT COME FROM AND HOW TO WE GET SOME?

Dr. Clifford P. Ohmart, Research/IPM Director Lodi-Woodbridge Winegrape Commission

[The next two articles present an example of how the Lodi-Woodbridge Wine Commission set up their sustainable viticulture program. These articles are reprinted from the proceedings of the 2005 Finger Lakes Grape Growers Convention - TEM]

What is sustainable viticulture and where did it come from? I see three major challenges to practicing sustainable viticulture: 1) Defining it, 2) Measuring it (i.e. once you’ve defined it how do you know you are doing it), 3) Getting winegrowers to implement it. Sustainable viticulture means many things to many people and it is misunderstood by a lot of them. This misunderstanding is particularly well illustrated in comments I heard from two different people. One was from winegrower explaining why his grower group was not interested in participating in California’s Code of Sustainable Wine-growing Workbook program. He said “We are way past sustainability”. A second was from a wine writer/seller in the San Francisco Bay area that wrote “sustainable viticulture is for those growers not ready to make the full commitment to organic farming”. Wow, do those two misunderstand the concept of sustainable viticulture!

In order to understand what sustainable viticulture is it is helpful to review the history of sustainable agriculture and organic farming. One historical review points out that sustainable agriculture was practiced by many rural communities in England for hundreds of years and revolved around being self sufficient in food production, concerned with land stewardship, and long-term community stability. In the 1920’s, 30’s and 40’s some English and other European agronomists and farmers became concerned over the effects of synthetic fertilizers on soil quality. In 1924 Rudolf Steiner suggested that only biologically derived materials (‘living materials’) should be used as inputs on the farm. In the 1960’s the Green Revolution promoted the use of high yielding plant varieties that in order to perform op-
timally required high off-farm inputs like fuel and synthetic fertilizers and pesticides. This movement increased the concern over the effects of non-biological off-farm inputs on environmental quality. The question was asked “Can we sustain this type of ‘industrial’ agriculture”. The organic movement and sustainable agriculture movement as we understand them today evolved out of these concerns and have common roots.

The California wine industry uses the three E’s of sustainability to frame its definition of sustainable winegrowing. To be sustainable California winegrowing must be economically viable, environmentally sound and socially equitable.

Why do California winegrowers practice sustainable winegrowing? There are many reasons why one should consider using sustainable practices in their vineyards (and wineries). First of all, because farming, by its very nature, has a negative impact on the environment. That is because the environment is altered to practice it. Therefore sustainable practices minimize farming’s footprint on the environment. Secondly, it is good business. Sustainable viticulture is about optimizing whatever is done in the vineyard, which is another way of describing good business practices. Sustainable viticulture may help a grower comply with local, state or national regulatory requirements. Furthermore, California is becoming more urbanized greatly increasing the ag/urban interface. Farm labor issues are becoming more and more challenging. Another reason is that it may help winegrowers add value to their grapes and wine. Finally, at least in Lodi, practicing sustainable viticulture produces better wine. My experience has been that growers are brought to sustainable viticulture for many different reasons, but after practicing it for a while, if asked why they do it they will say “Because it is the right thing to do”.

Why have California winegrowers devoted so much time, money and energy in their sustainable viticulture programs? For all of the reasons mentioned in the previous paragraph and some will be expanded upon in my presentation.

How does one ‘get some’ (sustainable winegrowing)? In my opinion, the way to successfully imple-
LWWC’s sustainable viticulture program officially began when a consultant was hired in 1992 to help establish a regional IPM program. He initiated the program by organizing a series of grower meetings, bimonthly newsletters, and setting up several research trials on the effects of various management practices on leafhopper and spider mite populations.

In 1995 LWWC was awarded a Biologically Integrated Farming Systems Grant (BIFS) from the University of California. The purpose of the grant was to select a series of vineyards as demonstration sites where growers and their pest control advisors could implement specific sustainable farming strategies and observe the results. These sites were also the focus of field days where all LWWC members were invited to attend and see for themselves the results of these specific practices. Forty-five growers joined the BIFS program and 70 vineyards, totaling 2300 acres, were designated as BIFS vineyards. A state of the art relational database and data collection system was developed for the program and was used to record weekly pest monitoring of all vineyards, complete pesticide use, and any other practices carried out in the vineyards, such as mowing, disking, pruning, etc. Each year LWWC staff, using the BIFS database, summarizes all the pest monitoring, pesticide use, and other practices and shares the results with all the growers in the program. In this manner growers and pest control advisors have learned from each other’s experiences as to what works and what does not. The BIFS program is ongoing so we have 8 years of data from these 70 vineyards.

LWWC carried out a district-wide grower survey in 1998 to assess the quality of its area-wide IPM program, grower attitudes and perceptions of IPM, and how LWWC’s program has affected specific farming practices. Over 300 growers completed the survey, a response rate of 47%. The survey results showed that LWWC growers have a very high regard for LWWC’s educational programs and most growers had embraced the principles of IPM and were implementing IPM practices in their vineyards. It was also clear the growers were ready to address other important sustainable farming issues besides just pest management. A grower committee was therefore formed to draft a self-assessment work-

book that Lodi growers could use in their sustainable viticulture program. In 2000 LWWC published the Lodi Winegrower’s Workbook: A self-assessment of integrated farming practices. The workbook accomplishes many things, the most important being helping the grower identify specific practices they are doing in their vineyard that are sustainable, identifying specific practices being done that are not sustainable and can be improved upon, and help the grower write an action plan to address these problem areas. The workbook also contains educational information that can be used in writing and carrying out action plans. The workbook addresses all aspects of farming, including ecosystem management, human resources, soil management, water management, viticulture and vineyard establishment, as well as pest management. In the first two years of the workbook program 265 growers farming 63,000 acres of vineyards attended a workbook workshop and filled out the workbook. Over 400 growers have now attended a workbook workshop and filled out the workbook. A database was created and the evaluations of over 200 vineyards have been entered, providing a very detailed view of the farming practices being implemented in Lodi vineyards.

After 4 years of using the workbook many LWWC growers were wondering if they could add value to their grapes and Lodi wines by marketing them as produced using sustainable farming practices. Over the last year and a half a committee of growers, wine makers, pest control advisors, and University staff have been drafting sustainable farming standards and a pesticide impact model that will be used in a sustainable winegrowing certification program. The standards are about to undergo a peer review by experts in each of the 6 areas of emphasis, which are ecosystem management, human resources, soil management, water management, viticulture and vineyard establishment, and pest management. LWWC is in dialogue with Protected Harvest to endorse the standards and have them be the third party certifier for the program. For a vineyard to be certified on an annual basis, a set of farming practices points must be exceeded and a threshold of pesticide impact units must not be exceeded. The name of the program is Lodi
Rules for Sustainable Winegrowing. It will be unveiled to LWWC growers in February 2005.

A second district-wide grower survey was carried out in 2003 as a follow-up to the one in 1998 and over 300 growers completed the survey, achieving a 43% response rate. Grower opinions and support of LWWC’s programs were even higher than in 1998 and implementation of sustainable practices had also increased. LWWC’s sustainable viticulture program has been highly successful in the eyes of its grower members, as well as in the views of other California winegrowing regions. It has maintained a high level of participation by grower members and has brought about a high level of implementation of sustainable farming practices.

NEXT ISSUE of Finger Lakes Vineyard notes will be the annual Harvest Issue. Expect it in your mailbox by early November. -TEM

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