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NEW YORK WINE & GRAPE FOUNDATION

Progress on Vineyard Site Selection

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Over the last few years our group has been working on vineyard site selection maps for viticulturists. We have compiled New York State maps of climate, soil and land use, and elevation at 1 km^2 resolution. These maps can be viewed on the world-wide-web at htttp:/ www.nysaes.cornell.edu/pp/faculty/seem/magarey. The maps serve as a good indication of regional suitability but they are less useful for making decisions at the loca -scale. We have learned that the construction of local-scale climate maps is a challenging problem.

A Difficult Problem

The climate maps in the New York State scale study were constructed from a spatial interpolation of National Weather Service (NWS) climatic data. A spatial interpolation is essentially a triangulation. For example, the temperature at a certain point is determined from the temperatures at weather stations surrounding the point. The influence of each weather station is dependent upon its distance to the point. Additionally, the interpolation procedures we employed in our state scale maps also included elevation. As elevation increases, the temperature usually decreases according to a specific lapse rate, which can be calculated from the data set.

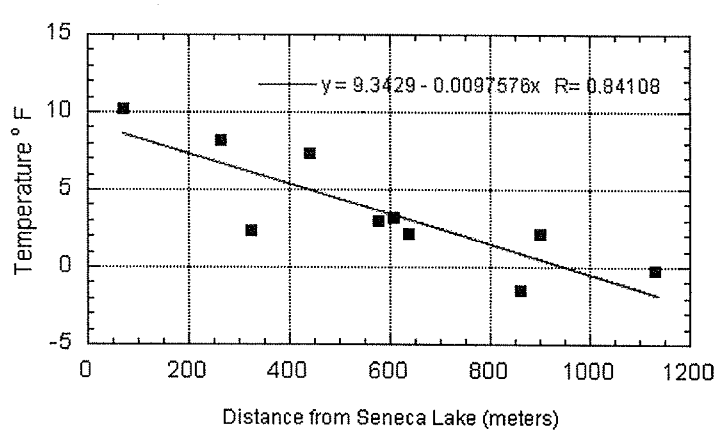

Figure 1. Influence of distance from Seneca Lake on the minimum temperature on January 1, 1998, for loggers on east and west sides of Seneca Lake.

In our new studies we wished to make interpolations at the 1 hectare (ha) scale (2.5 acres). The problem is that spatial interpolation becomes increasingly more difficult at finer resolutions. The first aspect of this problem is that, at the 1 ha scale, local features such as small water bodies, slope, aspect (direction of slope) and landform (shape of slope) all become important to the microclimate. Yet, in the current spatial interpolation procedures these features are ignored. The second aspect of this problem is that the weather station network density is low in comparison with the scale of the interpolations. Our approach to these problems has focused on three areas: 1) collection of local-scale temperature data; 2) improving the spatial interpolation procedures, and 3) construction of predictive models.

Collection of Local-Scale Temperature Data

We focussed on two data sets gathered at the local scale: 1) an elevation transect near Seneca Lake; and 2) a Finger Lakes vineyard survey. The elevation data set was collected with 11 temperature loggers ranging from 500 to 1300 ft above sea level. From October 1997 until the present, the data loggers along the transect have been recording temperature on the east and west shores of Seneca Lake. The transect includes six loggers at Jim Hazlitt's vineyard on the east side of Seneca and five at Glenora Farms on the west side.

The results from these studies have been useful for highlighting the importance of lake influences on microclimate. On January 1, 1998, the temperature was -2°F over 1 km from the lake but almost 11° F close to the lake (Figure 1). On April 27, 1998, when the temperatures were around freezing, there was a 6° F variation in temperature in this transect. A minimum temperature map for the Finger Lakes region on January 1, 1998, is shown in Figure 2. This map was produced by taking the minimum temperature from each of the 22 study sites and then interpolating it with respect to a 1 ha elevation database. Observations from these loggers have also been published in "Finger Lakes Vineyard Notes" by Tim Martinson. These loggers have been sited at vineyards near Seneca, Cayuga, Keuka and Canandaigua lakes. The map shows that the warmest temperatures are on the lower elevations, for example near the lakes. However, by comparing Figures 1 and 2 it can be seen that the spatial interpolation procedure underestimates the temperature near Seneca Lake. This year we plan to correct the interpolation procedure for the influence of water bodies. In the future, we hope to use satellite images to check the validity of our spatial interpolation procedures.

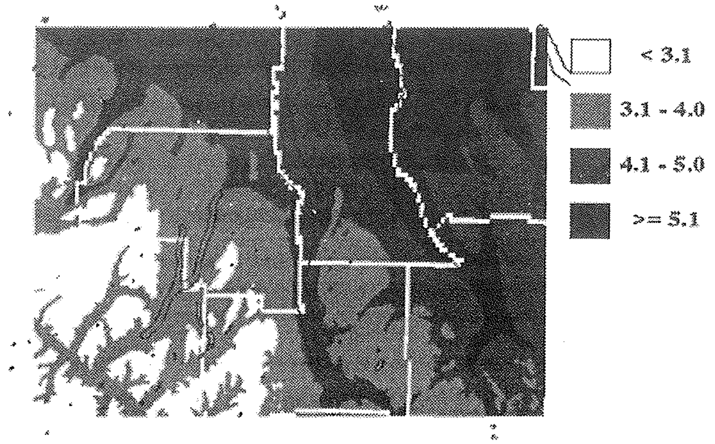

Figure 2.Observed minimum temperatures (°F) on Jan. 1, 1998, by spatial interpolation of a 22-logger network with 100m DEM. Note outlines of the Finger Lakes and county lines.

A Predictive Model of Local Temperature Variation

The second approach to this problem has been to build a predictive model of temperature variation. The model is being constructed from a simplified version of a complex atmospheric model system. The model is designed to simulate the local-scale processes that influence temperature variation, including both lake influences and cold air drainage. The advantage of this approach is that events of historical importance to viticulture can be recreated. All that is required to run the model is upper atmospheric data. These have been archived for over 30 years, so it presents an opportunity to run a simulation for almost any event in recent history. Once the model has been successfully validated, our plan is to create a minimum temperature map for the infamous 1980 "Christmas Eve massacre."

Conclusion

The construction of local-scale climatic maps is a difficult task. By using a combination of techniques, including atmospheric models, climate records, local temperature surveys and satellite images, it is hoped that these maps can be constructed. Our work is also focussing on fine-scale maps for other variables, such as soil and land use. One of the major problems is that many of the soil surveys have not yet been digitized. We are also hoping to develop techniques so that growers can interrogate these databases online with a home or office computer. Using the internet, it is possible for an individual to construct custom-made maps online or review all the known data about a specific location. The potential rewards for local-scale site selection technologies are great, but the challenges to their construction should not be underestimated.

Acknowledgements: *We thank the U.S.D.A. Viticulture Consortium for funding, Joe Russo and Jay Schlegal of ZedX for climatic data. John Zack of Meso Inc. is acknowledged for his expertise in atmospheric modeling.*

From the Editor

Martin Goffinet

The proper vineyard site for growing grapevines can be critical to the long term success of the grape grower. It is common for many of our existing vineyards to have at least some acreage on less than ideal sites. For those considering new sites for vines there is a need to gather as much information as possible about where goods sites are located and what criteria determine the overall rating of a given site. Our first research article is a follow-up of last year's discussion on prediction of vineyard site suitability by Magarey, et al. (GRN, Vol. 9, No. 1, June 1998). In this issue Magarey and his research group offer a discussion of their progress in defining vineyard site selection down to a 1 km^2 resolution, based on their analyses of geological and climatological databases.

Our second article deals with the issue of whether growers reap monetary benefit from irrigation of Concord and Niagara vines, considering the prices per ton usually associated with these varieties. Many growing seasons in the 1990s in New York have been dry, some to the point of being "very dry" or even "drought years," for example, 1991, '93, '95 and '98. This year might be another such year. The most recent (as of my writing this editorial) edition of the Finger Lakes Vineyard Update from Tim Martinso had this to say: "We are now officially in a 'drought' in the Finger Lakes, with little precipitation during May and June, to date. As grape canopies develop, vines will be more subject to water stress. Growers, particularly those with shallow or coarse soils, should be thinking about eliminating vegetation in row middles via post-emergent herbicides, or applying mulch if possible to conserve water." Certainly, the beneficial effect of supplemental irrigation on growth and yield of Concord and Niagara vines in such years can be dramatic, as shown by Alan Lakso in his physiology studies at the Viticulture Laboratory in Fredonia, NY. Nevertheless, a major concern is whether supplemental irrigation is cost effective for Concord and Niagara growers. In this issue Charles Cuykendall and Gerald White, from Conell's Department of Agricultural, Resource, and Managerial Economics, discuss the economics of drip irrigation for New York vineyards.

Finally, as I do in each summer's issue, I give an update of grape-related research projects that are funded by the New York Wine and Grape Foundation through matching money contributed by the grape industry in New York State and by the industry in northwest Pennsylvania. Significant research funds are also provided by the USDA Viticulture Consortium, Eastern Region and, where applicable to our area's research projects, they are included in the list. Projects recommended for funding for 1999–2000 are summarized in the table on the following pages. In addition, the Wine & Grape Foundation supports Cornell's Wine Analytical Lab, the annual Wine Industry Workshop, and provides funds for the production of this publication, "Grape Research News."

Grape-related research projects recommended for funding for 1999–2000 by the New York Wine and Grape Foundation via matching money contributed by the New York–Pennsylvania grape industry and by the USDA Viticulture Consortium, Eastern Region.

Principle Investigators	Department/Organization	Project
Viticulture		
Terence Bates	Horticultural Sciences, NYSAES, Geneva	Effect of pruning on yield and quality of Concords
T. Bates, Alan Lakso	Horticultural Sciences, NYSAES, Geneva	The response of Concord grapevines to soil pH
Thomas Burr	Plant Pathology, NYSAES, Geneva	Management of grape crown gall by cultural and biological means
Ling-Mei Chang	Biology Department, SUNY, Geneseo	Genetic engineering for disease resistance
Leroy Creasy	Fruit & Vegetable Science, Cornell, Ithaca	Control and application of resveratrol in grapes, juice and wine
Gregory English-Loeb	Entomology, NYSAES, Geneva	Biology and impact of the plant bug *Lygocoris inconspicuous* on labrusca grapes
G. English-Loeb, David Gadoury, Wayne Wilcox, Robert Seam	Entomology, Plant Pathology, NYSAES, Geneva	Biological control of grape powdery mildew using tydied mites
D. Gadoury, R. Seem, W. Wilcox Martin Goffinet	Plant Pathology, Horticultural Sciences, NYSAES, Geneva	Development of practical models for use in the management of grape powdery mildew; resistance to powdery mildew in grape berries
D. Gadoury, R. Seem, W. Wilcox Thomas Henick-Kling	Plant Pathology, Food Sciences & Technology, NYSAES, Geneva	An intergrated approach to management of grape powdery mildew; impact of powdery mildew on juice and wine quality
Martin Goffinet	Horticultural Sciences, NYSAES, Geneva	Flower "malady" and poor fruit set of grapevines with respect to training system, crop load, shoot growth, and cane carbohydrate reserves
Julie kikkert, Bruce Reisch	Horticultural Sciences, NYSAES, Geneva	Development of embryogenic tissue cultures of Concord grapevine suitable for genetic engineering
Alan Lakso	Horticultural Sciences, NYSAES, Geneva	Adaptation and validation of a simplified dry matter production model for grapevines
A. Lakso, David Eissenstat, T. Bates, M. Goffinet	Horticultural Sciences, NYSAES, Geneva; Dept. Horticulture, Penn State Univ.	Environmental and cultural factors regulating grape root growth and distribution in the Northeast vineyards
A. Lakso, T. Bates	Horticultural Sciences, NYSAES, Geneva	Concord grape rooting responses to wet and dry soils
Andrew Landers, W. Wilcox	Agricultural & Biological Engineering, Cornell, Ithaca; Plant Pathology, NYSAES	Evaluation of a controlled droplet sprayer to control disease and insects on grapes in New York
Wendy McFadden-Smith	University of Guelph, Guelph, Ontario	Reduced pesticide use and improved control of grapevine fungal diseases through trellis design, canopy management and improved spray application efficiency

Principle Investigators	Department/Organization	Project
Jan Nyrop	Entomology, NYSAES, Geneva	Biological control of spider mites in Northeast vineyards
Robert Pool	Horticultural Sciences, NYSAES, Geneva	Testing rootstocks and production methods of *Vitis vinifera* for commercial production in New York
R. Pool, T. Henick-Kling	Horticultural Sciences, Food Science & Technology, NYSAES, Geneva	Evaluating adaptation and wine quality of promising grape clones and varieties under commercial conditions of the Northeast
B. Reisch, T. Henick-Kling	Horticultural Sciences, Food Science & Technology, NYSAES, Geneva	Evaluation of new wine grape varieties with improved cold tolerance and disease resistance
Michael Saunders	Entomology, Penn State University	Investigating occurrence of races and induction of diapause in the grape berry moth for treatment decisions
Warren Stilies	Fruit and Vegetable Science, Cornell, Ithaca	Nutrient distributions and relationships to fruit-set and yield of grapes
Philip Throop, W. Stiles,	Cornell Cooperative extension; Fruit & Veg. Sci., Cornell, Ithaca; Horticultural Sciences, NYSAES, Genev	Nutritional factors affecting yield of grapes
James Travis, J. Halbrendt, E. Stewart, R. Crassweller	Plant Pathology, Penn State University	Increase yield and grape quality through the identification and management of root pathogens
J. Travis	Plant Pathology, Penn State University	the role of black rot of grape foliar lesions as sources of secondary inoculum for fruit infections
W. Wilcox, D. Gadoury, R. Seem	Plant Pathology, NYSAES, Geneva	Sustaining effective and efficient programs for control of grapevine powdery mildew
W. Wilcox, R. Seem, D. Gadoury	Plant Pathology, NYSAES, Geneva	Biology, epidemiology & control of *Botrytis*
W. Wilcox, D. Gadoury, R. Seem	Plant Pathology, NYSAES, Geneva	Optimizing control strategies for black rot; Management of grape berry moth with *Trichogramma*
Processing/Enology:		
T. Henick-Kling	Food Science & Technology, NYSAES, Geneva	Wine Analytical Laboratory and New York Wine Data Bank
Leslie Weston	Floriculture & Ornamental Horticulture, Cornell, Ithaca	Enhancing the quality and marketability of Pinot noir wine products in New York State through carefull evaluation of viticultural, enological and marketing practices
T. Henick-Kling	Food Science & Technology, NYSAES, Geneva	Yeasts and lactic acid bacteria in New York wines
T. Henick-Kling	Food Science & Technology, NYSAES, Geneva	Wine Industry Workshop — 2000
Wine & Health:		
Ling-Mei Chang	Biology Department, SUNY, Geneseo	Effect of resveratrol on atherogenesis
Chang Lee	Food Sciences & Technology, NYSAES, Geneva	Antioxidant and anticancer activity of phytochemicals in *Vitis labruscana* grapes

Economics of Drip Irrigation for Grape Vineyards in New York State

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Introduction. Many New York fruit growers face the economic decisions required to expand acreage and/or replant existing vineyards. The investments required to establish and develop a vineyard often exceeds $4,000 per acre with little to no economic return for the first two-to-three years. The additional investment of around $550 to $1,150 per acre for drip irrigation must be considered since it is crucial that the investment in the planting system yields the fastest possible returns. The benefits of irrigation may include: better vine survival, earlier fruit production, greater yields, more efficient distribution of nutrients, less plant stress, reduced yield variability and improved fruit quality. Of course, in wet years irrigation may have no effects or even a negative effect.

The objective of this study was to gather information from growers, experiment stations, published reports, and plant scientists to establish a methodology for educators and growers to evaluate the economics of irrigation. Drip irrigation was chosen because of the often limited on-farm water supply and the need to minimize the wetting of the leaf surfaces in order to minimize the spread of plant diseases. Drip irrigation is the application of water through small emitters directly onto or below the soil surface, usually at or near the plant to be irrigated.

Methodology. A total of eight on-farm visits were made by the authors where specific data were gathered on micro-irrigation investments and operating costs. Since the farms did not have a non-irrigated control plot where water was not applied under similar soils, varieties, and management practices, the authors selected and used yield data from replicated, multi-year micro-irrigation projects as published from the Lake Erie Regional Center for Grape Research and Extension, Fredonia, NY. We analyzed the Niagara and Concord varieties. To supplement the various investment data received from on-farm interviews, the authors contacted various local micro-irrigation suppliers and asked them to design a typical system for establishment of a new ten-acre vineyard.

The typical investments for various systems were determined, then the operating and fixed costs were assigned. The yield response to micro-irrigation, as reported from controlled experiments, was converted to dollars per acre; then, the net present value was determined using net present value analysis methods.

Investment in Drip Irrigation. The variables that determine the irrigation system, power source and ultimately the amount of capital investment include: a) water source; distance from desired use, elevation differential, availability, b) acres to be irrigated and frequency of application, c) type of crop and soil, d) existing equipment on the farm.

Some reasonable investment estimates can be determined from systems on neighboring farms with similar conditions and from companies who sell and design irrigation supplies.

Local irrigation suppliers estimated typical investment amounts for drip irrigation of grape vineyards of $550 per acre for a 10-acre tape system to $1,150 per acre for a pressure compensating tube system. These investment costs per acre are only typical guidelines.

Yield Response. Drought in vineyards will reduce vine productivity if water becomes limited. In the Northeast historically, there are years with severely limiting water conditions, perhaps two or three years out of ten. Also, vines of some vineyard systems, such as minimal-pruned vines, have increased demand for water. The use of drip irrigation can meet the additional needs of certain varieties and cultural practices in New York State in dry years.

Table 1 shows the effect on yields of Niagara grapes from vines established and grown under drip irrigation practices compared to similar plots without irrigation at the Lake Erie Regional Center for Grape Research and Extension in Fredonia. In each year except 1997, there was a positive effect due to the drip irrigation. In 1996, the irrigated vines produced 5.4 tons per acre more than the non-irrigated vines. The very heavy 18.5 ton/acre crop in 1996 caused a negative effect of 2.0 tons per acre the following year with irrigation, although 9.8 tons/acre is still above the commercial average yields for Niagaras.

In a similar drip irrigation experiment on mature Concords at the same research facility in Fredonia, the results were different. In a report of continuing research for 1996 by Lakso et al., researchers reported that drip irrigation does not pay with either balance-pruned or 80-node-pruned Concord systems. However, as reported in Table 2, irrigated, established Concords with minimal pruning averaged a 1.1 ton per acre increase in yield over non-irrigated vines from 1990 to 1996. Yields of non-irrigated vines exceed those of irrigated vines by 0.8 tons per acre in 1993 and 0.4 tons in 1995. Lakso et al. reported that the primary effect of irrigation on minimal-pruned vines was to reduce variability

Table 1. Effect of drip irrigation on annual yields of establishing and growing Niagara vineyards†

	Tons Per Acre by Year								
Treatment	1990	1991	1992	1993	1994	1995	1996	1997	Accum/Yr.*
No Irrigation	0	0	4.6	7.7	7.1	11.1	13.1	11.8	9.2
W/Irrigation	0	0	10.0	9.0	11.9	12.5	18.5	9.8	12.0

*Significantly different at the 5 percent level.
†Vines were planted in 1990 and were balance-pruned at 20+20 (20 buds/lb. pruning weight). Vineyard floor management was residual herbicides under the row and bloom treatment of row middles with glyphosate.

among plots with different soil-water-holding capacities. The net revenue from micro-irrigation over the seven years was $257 per acre. This additional revenue is not enough to purchase or pay back either a tape or tube system, but on a new planting of Concords, with droughty soils, the analysis may very well be cost effective.

Economics of Drip Irrigation — New Plantings. A partial budget of additional receipts and estimated additional costs was used in Table 3 to construct a net present value analysis at a 10 % discount factor for the Niagara variety. For the pressure compensating tube system, the present value method shows a value of $451 after an initial investment of $1,150 per acre. The analysis indicates that in present value terms, a grower could spend $1,601 per acre for the pressure compensating tube system and break even.

In the eighth year, the yield of the irrigated plots was 2 tons/acre less than the yield of the non-irrigated plots. This was due to over cropping the previous year, when the irrigated plots produced 5.4 tons per acre more than did non-irrigated plots. The negative receipts and appropriate costs were charged against the irrigation system.

The net present value, based upon the yield response comparing the two irrigation systems, tube and tape, is $451 to $771 at a 10% discount factor. In this study the internal rate of return would be 18% for the tube irrigation system and 31% for the tape system. These returns are far above the cost of capital for most farms: one would conclude that either investment is economical. Based upon the positive values, it would pay to make the investment, but projected yields, lower product prices, higher costs, or shorter equipment life may reduce the net present value available for investment projections. Thus, one would conclude, careful and complete analysis is very important. Your analysis on your farm with your given set of acres, labor, risk tolerance, the level of the land and water availability will determine whether you should establish or add drip irrigation to your operations.

Table 2. Effect of drip irrigation on annual yields of mature minimal-pruned Concord vineyards

	Tons Per Acre by Year							
Treatment	1990	1991	1992	1993	1994	1995	1996	Accum/Yr.*
No Irrigation	10.7	12.4	10.1	10.9	12.2	11.8	12.6	11.5
W/ Irrigation	11.4	14.6	11.4	10.1	14.0	11.4	15.3	12.6

*Significantly different at the 5 percent level.

Summary and Implications. Interviews of grape growers, research associates, suppliers and published research were obtained to provide data on the adaptation and results of micro-irrigation of vineyards. All growers reported positive results with micro-irrigation, but they were unable to quantify their costs and benefits. They reported that the consequences of too little water availability in drought years easily offset the investment and operating costs of a micro-irrigation system.

Our analysis showed that both pressure compensating tubing (15 year projected life) or 15 mil tape (7 year projected life) would be profitable investments in establishing Niagara vineyards. The tape reached a discounted payback in the fifth year and the tubing in the seventh year after the investment. Furthermore, we found that the break-even yield increase necessary for irrigation (using pressure compensating tubing) was 2.2 tons to 3.6 tons per acre for prices of \$240 down to \$160 per ton. The break-even yield increase for the tape system was 1.4 to 2.3 ton per acre dependent upon market price as previously stated. These yield increases are attainable in some vineyards, especially where soils are limiting because they are shallow, sandy, or subject to poor nutrition.

The greatest probability that irrigation systems will be beneficial should occur in vineyards on shallow soils with low water holding capacity, with permanent cover crops, and with young establishing vines. This would be especially beneficial to own-rooted Niagaras, or with mature, heavily-cropped systems like minimal pruning or Geneva Double Curtain. Conversely, lightly cropped single curtain and heavily pruned vines on heavier deeper soils will need less water and may show less response from irrigation.

While some growers have installed the pressure compensating tubing, the less expensive tape system has a place in farm situations where the area to be planted is level and where capital is limited. Much of the benefit from drip irrigation is often realized in the first five years of a new planting (Niagara's continued to show benefits after 5 years), and the tape system

Table 3. Net present value of installation of drip irrigation (tube) on Niagara vineyard establishment (1 acre).

Year	Increase in Yield Tons/Acre	$ Additional Receipts[1]	$ Additional Costs[2]	$ Net Revenue	10 % Discount	NPV $	Cumul. NPV $
0	(Initial Investment)				1.000	-1,150	-1,150
1	X	X	138	-138	9091	-125	-1,275
2	X	X	138	-138	8264	-114	-1,389
3	5.4	1,296	338	958	7513	720	-669
4	1.3	312	186	126	6830	86	-583
5	4.8	1,152	316	836	6209	519	-64
6	1.4	336	190	146	5645	82	18
7	5.4	1,296	338	958	5132	492	510
8	-2.0	-480	64	-544	4665	-254	256
8	(Salvage Value for Pump and Tubing $418				4665	195	451
Totals	16.3	3,912	1,708	2.204		451	

[1]Calculated on $240 net receipts per ton.
[2]Includes operating costs of $138/acre and harvest and hauling costs at $37 per ton.

permits the attainment of these early benefits for much less investment.

Growers will continually face increased investment costs in additional and reestablished vineyards. To mitigate the economic risk of drought and to get more rapid production they will be likely to adopt micro-irrigation. Growers who have existing irrigation systems will continue to add more zones of irrigation dependent upon their available water supply.

This analysis provides a methodology to make an informed estimate about combining your specific set of resources in your farm. Many times the irrigation investment decision is driven by risk reduction, alternative investments, debt capacity, and (most importantly) water availability. The reduction in water requirements with micro-irrigation systems compared to overhead irrigation, which wets the total area, has made micro-irrigation an economic and an environmentally friendly alternative. All of the progressive farmers surveyed were convinced that micro-irrigation pays on their farms, but they had little data to prove their assumption. This analysis has proved the economic rationale for the investment in micro-irrigation for Niagara, but not for the Concord cultivar.

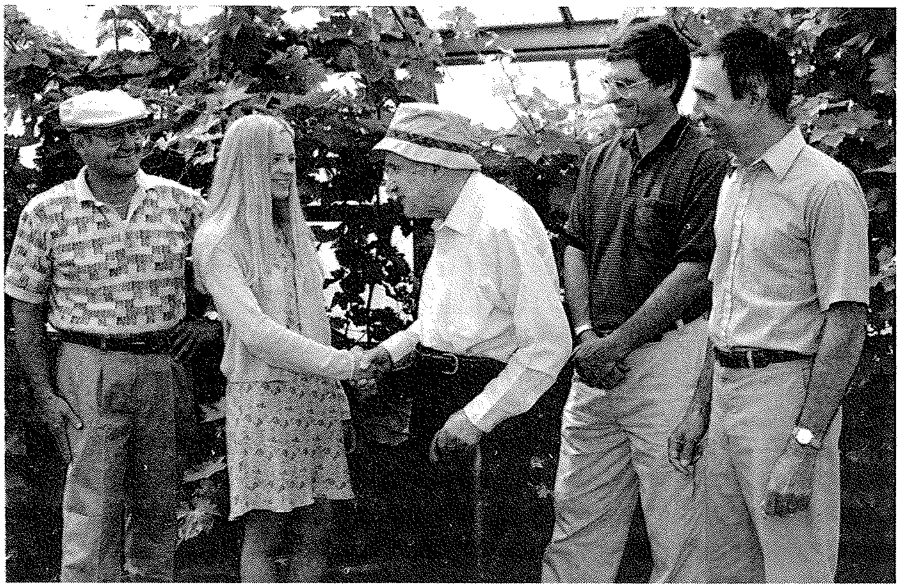
Acknowledgments. *We thank Barry E. Shaffer, Area Viticulture Extension Educator (Business Management) at Fredonia, NY; Alan N. Lakso, Professor, Horticultural Sciences, Geneva NY; and Richard M. Dunst, Research Support Specialist III, Taschenburg Laboratory, Fredonia, NY, for assistance, data and co-authorship of the research bulletin that is forthcoming. The economic work was supported through Hatch Project No. 536, USDA. The vineyard trials were supported by the New York Wine & Grape Foundation and the New York Grape Production Research Fund.*

MEETINGS & EVENTS

14–17 July 1999. The 24th Annual Meeting of the Eastern Section of the American Society for Enology & Viticulture (ASEV/ES), in conjunction with a 3-day International Symposium — "Oak from Forest to Glass: Practical Management of Oak and Wine." The Marriott at St. Louis Airport, St. Louis, MO. The 3-day symposium takes place on 14–16 July, and it will provide a forum for researchers, wine makers and suppliers who will discuss subjects from oak production to its use and influence on wine making. Scheduled are a tour of an oak forest and barrel manufacturing facility. A trade show, in conjunction with ASEV/ES occurs on 16 July. On 17 July, the Annual Meeting of the ASEV/ES takes place. In addition to the business meeting, ASEV/ES events include technical sessions with research topics in viticulture and enology, a student paper competition, and an awards banquet. For more information, contact Dr. Ellen Harkness, ASEV/ES Treasurer, Dept. of Food Science, Smith Hall, Purdue University, West Lafayette, IN 47907-1160. Phone: 765-494-6704, Fax: 765-494-7953, e-mail: harkness@foodsci.purdue.edu

16–20 January 2000. Fifth International Symposium on Cool Climate Viticulture and Enology. Melbourne Convention Center, Melbourne, Australia. This symposium will include plenary sessions, workshops, and tours of key Australian cool climate production areas. For additional information visit the Web site at http://www.icms.com.au/coolclimate/ or contact : Symposium Secretariat, ICMS Pty. Ltd., 84 Queensbridge Street, Southbank, VICTORIA 3006, AUSTRALIA. Telephone: +61 3 9682 0244, Fax: +61 9682 0288, e-mail: coolclimate@icms.com.au

People in the News



Professor Nelson J. Shaulis (center) congratulates Sarah C. Fallon, 1999 recipient of the Nelson J. Shaulis award. Also on hand for the event were (from left to right), John Brahm III, Alan Lakso, and Martin Goffinet. Photo : Rob Way

Sarah C. Fallon, from Tully, NY, is the 1999 recipient of the Nelson J. Shaulis Advancement of Viticulture Award. She was the honored guest in the Horticultural Sciences department at the Experiment Station on Tuesday, June 15 when she visited with viticulturists and enologists involved in grape and wine research at the Station, and met the distinguished Dr. Shaulis.

"For me, the main attraction of the Shaulis award is the combination of scientific research with the opportunity to delve into the vast grape industry in the Finger Lakes," said Fallon, who is a sophomore in agricultural and biological engineering at Cornell University. "I feel very honored to have received it." Although the scholarship is not always awarded annually, Fallon joins seven other recipients who have been able to pursue summer research projects with the funds, which this summer amounted to $2,500. After completing her B.S. degree at Cornell, Fallon hopes to continue her education by pursuing an advanced degree in viticulture or enology at the University of California at Davis.

The Nelson J. Shaulis award was established in 1978 in honor of the then retiring Nelson Shaulis. The award funds the work of a viticulture student and allows them to work directly with Cornell grape research and extension faculty on an independent research project.

The goal of the award is to encourage students to enter the field of viticulture as a career by involving them in viticultural research," said John H. Brahm III, of Arbor Hill Winery, in Naples, who is chairman of the N.J. Shaulis Advancement of Viticulture Award Committee. The award is administered by the New York Grape Production Research Fund.

This summer, Fallon will be working with Alan Lakso and Martin Goffinet to study the physiological differences between vinifera and American-type grapes. She will also travel to other grape research sites aroud the state, particularly the Vineyard Research Laboratory at Fredonia.

Shaulis cautioned Sarah about becoming too much of a specialist too soon, and advised Goffinet and Lakso to "spend some time introducing her to the riches of the viticulture literature in the Geneva Library." He also advised Fallon to investigate "Geneva's many headed structure for grape research," suggesting she become familiar with work being done in food science, enology, plant science, and agricultural engineering.

Shaulis is considered by many to be one of the fathers of modern viticulure and has received many awards in his highly distinguished career. The emeritus professor was most recently honored at the Finger Lakes Grape Growers Conference on March 6, 1999, when he received a plaque of signatures from his colleagues and friends in recognition of his contributions to the New York grape industry over the years.

L. McCandless

Help Keep NEW YORK GRAPES The Best of the Bunch!™

This newsletter and the extensive grape research it is based on are made possible by funding from the **New York Wine & Grape Foundation.** The Foundation's budget depends totally on private sector contributions which are matched by the State of New York. And now extensive cuts in State funding have made these private sector contributions more vital than ever.

If the Foundation's research and promotional programs are to continue, we need your support through modest dues - a rate schedule and membership application are below. (Wineries and juice manufactures have already made finacial contributions of up to $15,000 each to support the effort.) Please join your neighbors and industry associates in forging a more productive and profitable future. **(join using this form and we'll send you a "Best of the Bunch!" T-Shirt.)**

APPLICATION FOR GRAPE GROWER MEMBERSHIP

New York Wine & Grape Foundation

*Please **print** all information legibly*

NAME
NAME OF VINEYARD (if applicable)
STREET, P.O. OR R.D. ADDRESS
COUNTY
CITY (Town) ZIP
TELEPHONE ( )
TOTAL GRAPE ACERAGE (Optional) ACRES

ANNUAL DUES (Circle appropriate amount)

Dues (circle)	Acres (circle)
$25	0-30
$50	31-60
$100	Over 60

After completing this form, please send it and a check for the appropriate amount payable to the **New York Wine & Grape Foundation**, 350 Elm St., Penn Yan, NY 14527. **THANK YOU!**

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Question: ______________________________

Gratitude is expressed to those organizations whose support makes possible ongoing and valuable research activities for the benefit of the State's grape industry. Major funding is providedby the **New York State Wine & Grape Foundation; the Grape Production Research Fund, Inc.; the J.M. Kaplan Vineyard Research Program, and the USDA Viticulture Consortium**

New York Wine & Grape Foundation
350 Elm Street
Penn Yan, NY 14527

Bulk Rate
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Got A Question? We are trying to address the many questions from grape growersand processors that come to Cornell's grape research community. We invite you to write to us at Grape Research News to bring to our attention any questions you have about grapes. We will see to it that those questions are answered by someone knowegable in the area of your concern. **Save yourself a long distance phone call. Put it in writing on the back of form below, and send it to us.**

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Name
Address

PLACE
STAMP
HERE

Mail to:
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Department of Horticultural Sciences
New York State Argicultural Experiment Station
Geneva, NY 14456