FINGER LAKES VINEYARD NOTES

NEWSLETTER NO. 3 **March 6, 2000**

IN THIS ISSUE...

CURRENT SITUATION

Timothy E. Martinson
Finger Lakes Grape Program

To date, winter has again treated us kindly in the Finger Lakes. Low temperatures in most areas occurred on January 18. Weather stations at Geneva, Friend, and Branchport reported -7.5º F on that date. An incomplete reading of temperature monitors shows lows on the N end of Seneca Lake ranging from -3 to -5ºF. In the Hector/Valois area, lows were in the -1 to +1º range. Across the lake at Glenora, lows hit -6ºF. On Keuka Lake, lows ranged from -7 at the north end to -11 at the south end.

As a result, I am hearing reports of minimal bud injury on cold-tender *vinifera* grapes at most sites. The range has been from 10 -25% - levels at which no or minimal adjustment in bud number should be necessary. The exception is a few sites that sustained visible drought injury (i.e. marginal leaf (freezing point for buds) in January at Geneva (courtesy of Bob Pool and Steve Lerch) indicated bud hardiness near normal for that time of the year, with the LT50 (temperature at which half of the buds froze) around -19 for Concord, and -11 to -13 F for many *vinifera* varieties.

Table 1.Cold Temperature exotherms in Mid January at Geneva

Variety	LT^{50}
Deg. F	
Concord	-19.3
Chardonnay	-13
Cab. Sauv.	-13
Cab. Franc	-11.2
Pinot noir	-11.2
Riesling	-19

Courtesy S. Lerch & B. Pool

Drought Injury Impact? A nagging concern is what effect last year's drought might have on this year's grapes. Petiole samples that came through my office showed levels of major nutrients (potassium, magnesium) 20-30% below the normal range. What set last year apart from other mid-season droughty years was that the dry weather started in April. Chances are that due to the dry weather there was less uptake of nitrogen as well as other nutrients. Most blocks recovered after fall rains, but growth was poor in others. Cane maturity is reported to be poor in some native and hybrid blocks. Combine the stress with heavy crops (Concord tonnage nationwide was the highest ever, with heavy crops in both western NY and the Finger Lakes), and its likely that stored nutrient and carbohydrate reserves are low in some cases. Vegetative and flower development early in the

growing season requires energy from stored carbohydrates from the previous year. One theory is that if vine carbohydrate reserves are low, flower development can be retarded, resulting in poor set, fewer clusters and lower yield. In studies of concord vines in Fredonia, Martin Goffinet saw much lower sucrose levels in canes from minimally-pruned vines that were defoliated, compared with non-defoliated vines. Dr. Goffinet hypothesizes that damage to flower clusters may occur if carbohydrate levels drop below a critical level.

What does this mean for Finger Lakes growers?

- **Check your buds.** Even though bud injury appears to be minimal, it is worthwhile with cold-sensitive varieties to know what level of injury you are dealing with. Cut buds and find out what your bud injury percentage is (instructions available through our office). Pay close attention to those blocks that were more severely stressed in 1999. They may have more injury. Injury may not be uniform throughout the vineyard. Compensate for bud injury when pruning.

- **Eliminate 'limiting' factors.** On most native blocks and some hybrid and *vinifera* blocks, soil application of boron, with additional foliar sprays at 6-10 in shoot growth and 14 days later will be beneficial, or at least not harmful. Boron is inexpensive, can prevent floral abnormalities, and result in better set. Be conservative in drought-stressed blocks with the number of buds you leave. You can't change the amount of carbohydrates stored in the vine, but you can limit the 'demand' on weak vines by limiting bud number.

- **Split nitrogen applications.** Dry weather may have left more residual nitrogen in the soil, and less was taken up by vines last year. Especially in blocks that may have carryover effects from drought injury, it may make sense to apply a portion of total N after bud burst, and delay the additional amount until after bloom, when you have a better handle on shoot growth and crop level. Overfertilization early could lead to excessive vigor in blocks with a lower-than expected crop.

- **Don't overreact.** I expect most sites to be in pretty good shape, so radical adjustments for most vineyards will not be necessary.

VITICULTURE 2000 MEETING ATTRACTS 400 GROWERS

Tim Martinson
Finger Lakes Grape Program

Grape growers from throughout New York, Pennsylvania, Ontario and 10 other states converged on Buffalo, NY for **Viticulture 2000**, held on February 18 and 19th at the Adam's Mark Hotel. This expanded program and trade show, held in place of the regional Lake Erie and Finger Lakes grape growers conventions, was organized with the active participation of growers and processors, the New York Wine and Grape Foundation, Lake Erie and Finger Lakes Cooperative Extension programs, and Cornell faculty from Geneva and Ithaca.

An audience of 400 appreciative growers, with strong representation from all production areas in NY (Lake Erie, Finger Lakes, Long Island, and the Hudson Valley) attended 10 different sessions featuring local and internationally known speakers from Australia, Washington, California, Pennsylvania, Michigan, and Ontario. They visited 70 exhibitor booths set up in the trade show. They attended two wine and grape juice receptions, and a banquet featuring industry awards and tributes to the recently deceased Nelson Shaulis and Marvin Sands, founder of Canandaigua Wine Company.

Friday morning's session, *Managing Vine Size: a key to yield and quality*, reviewed how cultural practices can influence vine growth and production. Bob Pool's talk on factors influencing vine size in New York set the stage for other presentations on pruning and canopy management (Richard Smart, Australia), water relations (Alan Lakso), nitrogen (Eric Hanson, Michigan State University), and vineyard mechanization (Justin Morris, University of Arkansas and Terry Bates, Cornell)

In the afternoon, there were two concurrent sessions. One focused on *Viticultural Practices and Wine Quality,* with talks on training systems (Richard Smart), crop control through thinning (Andy Reynolds, Brock University) and a panel discussion of cultural practices influencing wine quality in California (Jim Wolpert, UC Davis), Oregon (Mark Chien, Penn State Cooperative Extension) and Long Island (Alice Wise, Cornell Cooperative Extension). *Current issues in juice grape production* featured talks on precision agriculture techniques (Bob Wample, Washington State University), sprayer technology (Andrew Landers, Cornell) and foliar fertilization (Maria Dercacz, Univ. of Guelph).

The mid-afternoon session, *Markets for New York Grapes in the 21st Century,* started off with talks on global trends in markets for grapes (Barry Bedwell, Allied Grape Growers) and wine marketing (John Gillespie, Wine Market Council). Industry representatives Dave Moynihan of Canandaigua Wine Company, Patrick O'Donnell of National Grape Cooperative, and Dave Peterson of Swedish Hill Vineyards wrapped up the session with predictions on future market trends in the large winery, juice grape, and small winery segments of the New York industry. The session was organized by Jim Trezise of the NY Wine and Grape Foundation.

Saturday morning's session, *Roots and Rootstocks,* was organized by Phil Throop, and featured recent results from the joint Cornell/ Penn State root biology project in Fredonia. Dave Eissenstat, Penn State, who collaborates with Alan Lakso and Terry Bates of Cornell on this project, described the timing and average duration of Concord root growth during 1997 and 1998. Terry Bates showed data on relative growth of Concord roots over a range of soil pH. Peter Cousins, USDA Germplasm Repository in Geneva, outlined the origin and characteristics of *Vitis* species in commercially available rootstocks. Jim Wolpert, UC Davis, and Helen Fisher, Guelph University, commented on rootstock trials in California and Ontario. Dennis Rak, Double A Vineyards, closed the session with practical tips on caring for grafted vines.

Other Saturday sessions focussed on special topics. An informal breakfast session, organized by Tim Weigle, IPM, highlighted use of E-mail and the internet for information on vineyard management. In *Retirement and Management transfer of the farm,* organized by Barry Shaffer, speakers Jerry White, Cornell, Tom Waring, financial planner, and Gary Snider from Farm Credit emphasized the importance of assessing farm income potential, communication, and tax issues in intergenerational transfers of farms. *Labor in the 21st Century* featured talks on migrant labor issues by Brandon Mallory, farm labor consultant, Gail Dash of the NY Department of Labor, and Julie Suarez of the NY Farm Bureau. In *New Developments in Vineyard Establishment,* Alice Wise, CCE Suffolk County, discussed site preparation on Long Island, and Tom Zabadal, Michigan State University emphasized the importance of weed management in vineyard establishment. The session closed with three perspectives on the use of 'grow tubes' by Bob Wample (Washington), Tom Zabadal (Michigan) and Kevin Ker, a consultant from Ontario. *Niagara Grape Production* techniques were featured in the final breakout session,organized by Rich Erdle, National Grape Cooperative.

Early comments from attendees indicated that participants appreciated the wide variety of sessions and topics, the trade show, the chance to interact personally with local and international speakers, and the balance between juice grape and wine grape presentations. Most would like to see this 'joint meeting' format repeated in 3 to 5 years.

Success of the program resulted from unprecedented involvement and cooperation of growers, the New York Wine and Grape Foundation, Geneva and Ithaca faculty, and the Lake Erie and Finger Lakes Cornell Cooperative extension grape programs. Major financial support came from the New York Wine and Grape Foundation, Canandaigua Wine Company, and the Nelson Shaulis Fund for the Advancement of Viticulture.

Grape Berry Moth Management Using 3M Canada's Sprayable Pheromone

Tim Weigle

Lake Erie and Finger Lakes Grape Program

This article is the first in a series which I will use to keep you abreast of our effort involving the Food Quality Protection Act. Much has been done by the entire grape 'team' which involves faculty and staff from Cornell and Penn State, extension team members, processor representatives, and individual growers who are willing to provide a portion of their vineyards, and their time, to work with us. A project en-

titled "Addressing the Food Quality Protection Act in Lake Erie Region Vineyards" was funded by the NYS IPM Program with additional funding and product provided by 3M Canada the examination a new sprayable pheromone product which has received both Federal and New York registration.

Introduction. It is important that we examine these types of alternatives in the face of the restriction we have seen thus far to our insecticide options due to the FQPA, identification of resistance in leafhoppers and possibly grape berry moth to Sevin, and the desire of buyers of bulk juice to see little or no pesticide residue in the juice they buy. Carbaryl (Sevin) is the most widely used insecticide in New York State vineyards and has been targeted by the Consumers Union of US Inc. as a "high-risk" insecticide because residues have been found in over 5 percent of harvest samples tested in recent years. While there are some alternatives to Sevin, the chemical options will be limited. A new sprayable pheromone product developed by 3M Canada has been researched in Michigan and Ontario, Canada with mixed results. This product was expected to gain EPA approval by late February and this project was conducted to begin examining its effectiveness before being recommended for use in New York State.

Work was done in the Lake Erie Region with pheromone products for grape berry moth in the early 90s. However, the pheromone product at that time (Isomate-GBM®) came packaged as a twist tie (similar to those used with garbage bags - only much larger) and required an extensive amount of labor cost to disperse through a vineyard. At the time, the cost for Isomate-GBM® was much more expensive than a typical insecticide program even before the labor costs were added. The use of Isomate-GBM® was never adopted by growers due to the expense of the product, the expense of applying the product, and the results of implementation projects showing blocks treated with an insecticide program had significantly better grape berry moth control.

3M Canada's sprayable pheromone holds much more promise as it fits into a grower's current method of applying pesticides. The sprayable pheromone is poured directly into the tank and appears to be compatible with the fungicides used by growers participating in this project. The pheromone for this project was provided free of charge to participants and is not yet in farm supply stores in New York State so an economic analysis will need to be accomplished in the future.

Methods. Four growers provided 6 vineyard blocks for demonstration of the sprayable pheromone. High risk vineyard sites with a history of late season grape berry moth damage were used for this project. The protocol provided by the company calls for the entire vineyard to be treated with pheromone twice per generation of grape berry moth. This could have resulted in 6 applications of pheromone applied. In this project we examined the feasibility of applying the pheromone product in the same manner as a conventional insecticide. Vineyards which traditionally received only a border spray with insecticide for grape berry moth, received only a border spray of the first 6-8 rows with the pheromone product. Only one application of pheromone was applied for each generation to match the traditional insecticide program.

In one of the vineyard blocks an insecticide was applied for grape berry moth with the first post bloom spray and was followed with pheromone applications aimed at the second and third generations of this pest. This was to test the potential of this product in reducing the amount of late season grape berry damage that is becoming more evident with our traditional insecticide programs. After years of trying to determine when the ideal time to spray for second and third generation berry moth, all we have is the knowledge that the further you go into the season the more spread out the various growth stages become. When we survey in August it is not unusual to find a wide range of larval stages, making it difficult to time a single insecticide application which will be effective.

Results. We were unable to collect spray records for the pheromone and conventional treatments at one of the vineyard sites. This vineyard has not been included in this report as a fair evaluation could not be made without spray records to indicate timing of application and rate applied. The conventional treatment at this site compared favorably with the other conventional blocks in the project. However, damage in the pheromone block at this site was well above that seen in the other blocks with pheromone applied, with an average of 57.5% damaged berries.

Results during the 1999 growing season were very encouraging for the use of pheromones to manage grape berry moth populations. Looking at all blocks, the conventional program of growers led to an

average of 10.13% damaged berries where the pheromone blocks showed 10.72% damaged berries. Growers participating in the project provided positive feedback about the use of this pheromone product. One grower stated he was very impressed with the product and could see where we will need to be using it more in the future as the FQPA is more fully implemented. Another grower commented that while it appeared the pheromone looked as good as the insecticide treatments, 1999 seemed to be an odd year for grape berry moth as there did not appear to be as much pressure as usual. Keep in mind that this is one years worth of data and we have reduced the number of pheromone applications along with the treated area with respects to trials conducted in other regions. While these results are encouraging, repeated years of good results are necessary before this product is recommended as a substitute for a conventional program aimed at grape berry moth.

With that in mind, the promising results of the 1999 season, combined with the threat of more insecticide options being lost due to the FQPA, indicate that this product could provide another tool in a vineyard operations pest management strategy in the future. An second year of this project is being developed for implementation during the 2000 growing season.

JUICE GRAPE BENCHMARKS

Barry Shaffer
Lake Erie Regional Grape Program

Using information from 7 years of growers' records used in the Lake Erie Grape Farm Cost Survey, I've developed some benchmarks using a "traffic signals" style. Red is a warning range, yellow is a mid-range value, and green values being good and above. These benchmarks will be useful for Labrusca growers. These benchmarks should be combined with other financial statements and ratio analysis for a complete picture of the business. Yearly numbers and a 3-5 year rolling average should be used and compared. A farm with primarily greens and yellows should be stronger than a farm with primarily yellows and reds.

Indicator	**Performance**	
Income/acre	<$1200	Red
	$1200-1500	Yellow
	>$1500	Green
Schedule F cost per acre	>$1600	Red
	$1200-1600	Yellow
	<$1200	Green
Tons per acre	<5	Red
	5-7	Yellow
	>7	Green
Tons per worker eq.	<180	Red
	180-250	Yellow
	>250	Green
Acres per worker eq.	<30	Red
	30-40	Yellow
	>40	Green
Paid labor per acre	>$400	Red
	$250-400	Yellow
	<$250	Green
Interest/acre	>$200	Red
	$100-200	Yellow
	<$100	Green

WINERIES CONTRIBUTE TO GRAPE PRODUCTION RESEARCH FUND

Timothy E. Martinson

The NY Grape Production Research Fund, Inc. is an organization that provides funding and support for viticultural research in New York. The bulk of this funding has come from larger processors. This year marks the first time that small wineries are contributing to this fund. An organizational effort by Dave Peterson of Swedish Hill Vineyards and Mark Wagner of Lamareaux Landings Wine Cellars resulted in 12 wineries becoming fund members, with more contributions pending. "With the growth of premium wineries, we felt it was time the industry supported research that will be critical to our future growth", said Peterson.

"We are excited about the participation of small wineries in the fund," stated Dr. Bob Seem, Associate Director of the New York State Agricultural Experiment Station in Geneva. "It will strengthen our ability to address the needs of this growing sector of the

grape industry, and give small wineries a stronger voice in setting priorities for future research projects".

The fund, along with the Lake Erie Regional Grape Fund, helped support 27 research projects in 1999. Funds are supplemented by a 30-50% match from the New York Wine and Grape Foundation. Additional funding in recent years has come through the USDA-sponsored Viticulture Consortium, which places higher priority on projects supported by local matching funds. Summaries of projects supported in 1999 are available through the Wine and Grape Foundation (315-536-7442). For more information about contributing to or joining the fund, please contact Dave Peterson at 315-549-8326 or Mark Wagner at 607-582-6011.

VARIETY BULLETINS AVAILABLE ON WEB

Bruce Reisch
Dept. Horticultural Sciences

Bulletin 233 (Wine and Juice Grape Varieties for Cool Climates) and Bulletin 234 (Table Grape Varieties for Cool Climates)are now available on the web. They will be updated shortly to include information about the post-publication releases, Traminette, Marquis and Frontenac.

The wine grape bulletin is at:
http://www.nysaes.cornell.edu/hort/faculty/reisch/bulletin/wine/

The address for the table grape bulletin is:
http://www.nysaes.cornell.edu/hort/faculty/reisch/bulletin/table/

TOUR OF BURGUNDY WITH PASCAL DURAND

MAY 20-27, 2000

Professor Pascal Durand, University of Dijon, is again offering a tour of Burgundy for growers and winemakers from the Finger Lakes. The tour will accommodate 20 persons. Travel arrangements are being made by Dr. Leslie Weston of Cornell. We will be contacting those who have already expressed interest, and making travel arrangements shortly. Estimated cost will be $1500-2000 plus airfare. Please call our office (315 – 536-5134) if you are interested in participating in this tour.

Description. The 7 day tour of Burgundy offers an unique opportunity to visit most of the prestigious vineyards of Burgundy, to taste some of the most well appreciated wines of Pinot noir and Chardonnay and to meet with upgrade winemakers, extension viticulturists and enologists of Experiment station at Beaune and faculty of the Vine and Wine Institute Jules Guyot of the University of Burgundy.

An optional post tour day will offer the opportunity to visit the mountainous vineyard of Jura and taste some cool climate varieties as Savagnin, Poulsard, and also Chardonnay and Pinot. An additional two day post tour to the vineyard of Alsace around Colmar, with a tour to the main vineyards and wineries is proposed for the ending weekend.

Proposed Agenda

Saturday May 20: Leave NY
- Sunday May 21: Arrive Paris; Brief tour of Paris, lunch on the river Seine, travel to Chablis

- Monday May 22:
9:00am: At BIVB Chablis, introduction to Burgundy and Chablis wine
11:00am: Tour of William Fevre
12:00am: lunch with winemakers
2:00pm: Tour of Laroche + vineyards
5:00pm: Way to Beaune and night

- Tuesday May 23:
9:00am: At BIVB extension station at Beaune, introduction to Cote de Nuit
and Cote de Beaune vineyards, presentation of experimental results and tastings
12:00am: welcome and lunch with BIVB/winery
2:00pm: tour of Louis Latour vineyard and winery
5:00pm: tasting at Hospices de Beaune cellar
7:00pm: visit to the old Hospices de Beaune hospital (optional)
Night at Beaune

- Wednesday May 24:
9:00am: tour of BIVB experiment vineyard at Mont Battois
11:00am: tour of Hautes Cotes de Nuit vineyard and wineries
12:00am: lunch with winemakers of Hautes Cotes
2:00pm: tour at Morey St Denis (Domaine Dujac or other)
5:00pm: tour at Pommard
Night at Beaune

- Thursday May 25:
7:30am: leave for Macon
9:00am: At BIVB Macon, presentation of Macon vineyard and wines
11:00am: tour at Pouilly Fuisse and St Veran
13:00am: lunch at Macon
4:00pm: tour at Puligny Montrachet

7:00pm: Diner and night at Dijon

- Friday May 26:
9:00am: At IUVV: tour and presentation of research
11:30am: tour of the vineyard and tasting at Vosne Romanee + visit to Clos de Vougeot
Afternoon: On your own for shopping downtown Dijon + (tour at Toison d'Or Carrefour). Final diner. End of the Burgundy main tour.
Night at Dijon

- Saturday May 27:

Option 1: Return to Paris on TGV train; arrive airport at 8:30AM; flight home

Option2:
7:30am: Day tour to Jura vineyard
Night at Dijon

Additional tour of Alsace (option): - Sunday May 28 and Monday May 29:

Two day tour to Alsace, with Sunday night at Colmar or Ribeauville
Monday night at Dijon

UPCOMING EVENTS

March 29-30, 2000. *29th New York Wine Industry Workshop 2000*. Geneva, NY. Program and registration form is included with this newsletter Contact Thomas Henick-Kling 315-787-2277.

March 31, 2000. *Grand opening of the Cornell Vinification and Brewing Technology Laboratory* and *Vinification and Brewing Technology Gala Dinner and Wine Auction.* Geneva, NY. 315-277-2277, or *http://www.nysaes.cornell.edu/fst/vb/*

May 20-27, 2000. *Tour of Burgundy, hosted by Pascal Durand* . See Announcement in this newsletter.

NEWSLETTER NO. 3
MARCH 6, 2000

FINGER LAKES VINEYARD NOTES
is published monthly by
Cornell Cooperative Extension
Finger Lakes Grape Program
in Ontario, Schuyler, Seneca, Steuben, and Yates Counties
County Office Building
110 Court Street • Penn Yan, NY 14527-1130
Comments may be directed to:

Area Extension Educator
Finger Lakes Grape Program
315-536-5134 or tem2@cornell.edu