Review of 2000 Growing Season

Timothy E. Martinson
Finger Lakes Grape Program

At the end of 1999, many of us wondered what the outlook would be for 2000. Following one of the driest years on record, and also a year in which many vineyards were carrying a heavy crop, expectations were that many vineyards would show carryover effects from the dual stress (crop and drought).

What set 1999 apart from other dry years was how early the soil dried out. Upper soil layers dried out in May and remained dry through early September. Predictable consequences of this would be reduced root growth (roots grow most actively through early July) and less uptake of nutrients. Petiole samples tested through our office last year confirmed this; overall levels of potash, magnesium, and calcium ran 20-30 percent lower than in most years. Given these circumstances, it would not have been surprising this year to see symptoms associated with low vine reserves, such as trunk injury, poor set, deficiency symptoms, reduced fruitfulness, and yields well below average.

Most growers escaped these problems, and tonnage in most places appears to be average to slightly below average. While several weather-related problems arose during the 2000 season (hail, rain, more rain, frost), many growers harvested a decent crop at prices comparable to those received last year.

Winter. Winter temperatures did not descend much below the -6°F recorded in Geneva in early January and a few days of -1°F in mid-February. It was another mild winter, and bud injury was minimal. Nonetheless, a few vineyards—both vinifera and Niagara—showed classic signs of trunk injury (weak early season growth, followed by collapse in late June and crown gall), and required trunk renewal.

Temperatures. The growing season started out slowly, with a long bud-swell period, but two 80°F days in early May brought grapes from bud break to the 3-inch stage in one week. After the past two years, temperatures felt cooler than average.

Figure 1. Monthly growing degree-days in 1999 and 2000, compared to the 15-year average. May was slightly warmer than average, while July was significantly...

VINEYARD BRIEFS

The growth and changes occurring in the Finger Lakes grape industry are exciting. Demand from major processors is stable, and the small winery segment is still growing at double digits. New growers are establishing operations. In short, the industry is going to look a lot different in 5 to 10 years.

The grape program has existed in its present form for the past 30 years. Our mission is to develop educational programs that meet the needs of grape growers in the Finger Lakes. As the industry changes, how should the grape program change to meet new needs? What skills and personnel do we need to have in place in the next five years to continue meeting your current and future needs?

I will be asking several of you to participate in meetings over the winter to answer these questions. With the guidance of the grape program advisory committee, I hope to gather representatives of all segments of the industry together to evaluate what the grape program does now, and what it should do in the future. We will then use your input to develop a plan that will serve as a roadmap for getting to where we will need to be in the future.

I welcome your opinions and ideas on future industry needs and look forward to discussing them with you.

HARVEST ISSUE
Data from previous years (Figure 1) show that temperatures were average in most months except July. July, however, was the third coldest in the last 106 years. Notably, there were only 7 days—well in June and August—where temperatures exceeded 85°F. Bloom occurred on schedule around June 15; veraison was delayed by about a week.

Rainfall. Rain was abundant this year. Above average rainfall (Figure 2) was concentrated in April, May and June, which all had more than 10 days with rainfall above 0.1 inch. May was the third and June the eighth rainiest months in the last 106 years. Wet conditions made it difficult to plant grapes—some new blocks went in as late as mid-July. Frequent rain also increased disease pressure, and made it difficult to maintain spray intervals.

Weather Disasters. Hail and early frost affected parts of the Finger Lakes. A severe hailstorm in mid-May damaged vineyards in the area extending West from Penn Yan to Branchport north of Rte 54A, and north of Dresden, from Ridge road to the lake. Damaged ranged from light (20-30 percent) to heavy (70-90 percent), with the worst injury concentrated along County House Road near Penn Yan. Two very heavy rainstorms in July dropped 4-5 inches of rain near Romulus and West of Penn Yan, causing some locally severe erosion. More recently, a cold front settled in on September 28, resulting in varying amounts of frost injury. Damage was heaviest at the South end of Seneca Lake, extending with less severity up to Glenora and Himrod on the West side, and Hector/Lodi on the East side. Lower elevation Keuka vineyards had little injury, and moderate (30-40 percent) injury was centered at middle and higher elevations, particularly around Branchport. There was none to slight injury north of Dresden and Lodi (Seneca Lake) and on the West side of Cayuga Lake.

Diseases and Insects. To start the season, extended budburst brought about the most extensive grape flea beetle (steely beetle) injury in several years, causing many growers by surprise. The rains that followed provided ideal conditions for disease development. Many blocks had severe powdery mildew lesions, and some growers found themselves with downy mildew on their clusters shortly before bloom. Most of the infected berries dried up and fell off after bloom and clusters were surprisingly clean after September. Cluster infections of powdery mildew were very evident where spray intervals weren’t maintained or coverage was poor, but total disasters were rare. That most

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2000 FINGER LAKES GRAPE PROGRAM ADVISORY COMMITTEE MEMBERS

The Finger Lakes Grape Program Advisory Committee is a group of 13 grower and industry representatives that provides guidance and direction in planning meetings and activities of the program. Current members are:

**Ontario County:**
- Rich Jerome, Naples
- Ralph Amberg, Clifton Springs

**Schuyler County:**
- Steve Bond, Hector
- Dave Stamp, Watkins Glen

**Seneca County:**
- Cameron Hosmer, Ovid
- Bill Dalrymple, Lodi

**Steuben County:**
- Jim Pizura, Pultney
- Keith Egresi, Pultney

**Yates County:**
- Jim Bedient, Branchport
- Jim Ritter, Dundee

**Processor representative:**
- Tom Collins, Canandaigua Wine Co.

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NYSAES • Geneva, NY
fruit has looked remarkably clean is a testament to careful management by most growers. Few skipped on fungicide this year.

Perhaps most surprising has been the relative lack of _botrytis_ bunch rot in many blocks with susceptible varieties. I attribute this to a shift in timing as well as availability of two new _botrytis_ fungicides: Vanguard and Elevate. Several growers put on bloom and bunch closure sprays in accordance with research showing that many latent infections start at bloom. Those who had previously waited until after veraison (traditional timing in NY), found themselves pleasantly surprised. Aggressive canopy management and leaf pulling also made a difference.

Although grape clusters were largely clean, few blocks escaped injury to foliage from downy and powdery mildew. By late August, shoots stripped clean of leaves by downy mildew were visible in some vineyards. Leaf symptoms could be found on the youngest leaves in most vineyards with sensitive varieties.

**Harvest.** Cool weather shifted harvest back to a more typical time frame; instead of opening in early August for Aurore harvest, Canandaigua opened on September 6. While the bulk of the harvest should be done by mid-October, harvest of late varieties will likely extend into November. For natives and hybrids, tonnage is average to slightly below average. A few areas with shallow soils (parts of the bluff) saw reduced yields this year, likely a carryover effect of the drought and possibly a "rain shadow" effect of late August storms that passed to the north and south of some areas.

**Natives & Hybrids.** Concodes are still being harvested, but tonnage appears to be within normal variation. Niagaraas ran heavy once again, with many in the 6-11 T/acre range. Catawbas, following heavy tonnage last year, are expected to be down significantly, as are some Delaware and a few Diamond blocks. For kosher wines, more Concord was harvested early at low brix this year to work around the Jewish holy days. Most other blocks successfully met processor's standards, with brix levels between 15.5° and 17°. Overall, cluster number was down slightly, but this was offset by large berry size. Yields for bulk hybrid varieties were variable, with some reds (notably Baco Noir) below average. Cayuga Whites are likely to run 6-8 T, with good quality.

**Vinifera.** With little bud injury, yields of vinifera will be in the normal range. Many vineyards, however, showed much more vegetative growth than last year, and berry size will be significantly larger for many varieties. Regrowth of secondary shoots following summer hedging reduced fruit exposure in some blocks, even following leaf removal. Some red varieties (particularly Cabernet Franc) showed uneven ripening within clusters following veraison. Pinot Noir surprisingly ripened evenly and well. Rot-sensitive varieties appeared to be much cleaner than in previous wet years. Although parts of September were overcast, several sunny, warmer days late in the month helped add flavors and maturity, but more heat units will be needed to fully ripen late varieties.

**Wine Quality.** Despite the cooler season, early and mid-season varieties have obtained adequate maturity, and ripe flavors in the vineyard. Acid levels will be higher than in recent years, and winemakers will have to adjust them more than they did in '98 and '99. The cool, extended ripening period is expected to benefit Riesling and Gewürztraminer. Cool nights and slow ripening promote retention of the volatile flavor compounds that make up the varietal character of these grapes. Some late reds (Cabernet Sauvignon, Cabernet Franc, Merlot), may be harvested at lower sugar levels than normal in some blocks. With berry size larger due to ample moisture, flavors are likely to be less intense than in the past two vintages. Winemakers are reporting good maturity, little rot, and concentrated flavors for Pinot Noir.

**2001 Outlook.** Bud fruitfulness and crop potential depends in part upon sunlight and temperature during bloom. Because bloom was cooler and rainier than average, I would expect buds to be less fruitful and crop potential to be moderately lower for the 2001 season.
MARKETING

2000 Grape Price Summary

Timothy E. Marvinson

After posting substantial gains over the past several years, grape prices remained stable in 2000, with modest increases and decreases for specific varieties. Although supply for many varieties remains tight, some of the prices appear to have hit a ceiling beyond which buyers are resistant to pay more.

The accompanying table summarizes changes in prices offered by processors from 1999 to 2000. These figures were compiled from individual price lists supplied to our office by area processors and wineries and listed in Finger Lakes Vineyard Notes #9. From these 19 processors, we calculated high, low and average prices. Please note that these averages are not adjusted by tonnage, and that true average prices are likely lower than indicated. Prices paid by large processors are generally at the lower end of the ranges indicated. Also note that some varieties, particularly those of limited acreage, are only purchased by a few processors. The number of wineries listing a price are indicated in the right-hand column. This gives an indication of the amount of information that averages were based upon.

The trend for paying different prices for grapes of different quality levels continues. While we made an effort to include some of the different categories, it is impossible to list them all, or to list price differentials based on brix levels. Larger processors have developed differential pricing to shift harvest timing for major varieties while small wineries are paying premiums for hand-harvested, organic, post-veraison thinning, or use of specified training systems.

Native Varieties. Prices for Concord and Niagara declined slightly following the large 1999 crop, while bulk Delaware and Elvira were unchanged. Differential pricing was used for early-harvested Concord and Catawba, with early Concord priced lower, and early Catawba higher than ripe Concord and Catawba. This pricing reflected the expected late ripening crop, timing of the kosher harvest, and lower Catawba crop. Gains for natives with minor acreage were modest, with Diamond and Isabella increasing modestly. Range was $200 - 350/ton.

Hybrids. Average prices for red hybrids, which had shown 10-15 percent gains in previous years, rose by about 2 percent overall. Higher prices at the low end increased, reflecting continued strong demand by large processors for some varieties. Prices ranged from $300 to $800. White hybrids remained the same (Cayuga White) or declined slightly (Seyval, Vignoles, Aurore), ranging from 225 (Aurore) to 550 (Vignoles). One lower 'high end' price for traminette accounted for the apparently lower price for this new variety.

Vinifera. Prices for reds, ranging from 1000 to 1850 per ton, increased by about 2 percent. Continued strong demand makes it unlikely that much was sold at the low end of the range. Prices for whites remained almost unchanged. Despite continued short supply of Riesling, there appears to be some resistance to further price increases, in part because wineries like to keep the price around $10 per bottle.

Our thanks to the following processors and wineries that provided copies of their price lists for inclusion in this report.

- Anthony Road Wine Company
- Bully Hill Winery
- Canandaigua Wine Company
- Chateau Lafayette Reneau
- Cliffstar, Inc.
- Dr. Konstantin Frank Vinifera Wine Cellars
- Eagle Crest Winery
- Fall Bright Winemakers Shop
- Fox Run Vineyards
- Fulkerson's Winery and Juice Plant
- Glenora Wine Cellars
- Hazlitt 1852 Vineyards
- Heron Hill Winery
- Hunt Country Vineyards
- King Ferry Winery
- Lakeshore Winery
- Lakewood Vineyards
- Lucas Vineyards
- Royal Kedem/ Springledge Farms
- Swedish Hill Vineyards
- Wiemer's Winery

Vertical shoot positioned Cabernet Franc vineyard near Valois. Prices stabilized across all grape categories in 2000.
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2001 Agricultural Outlook: Grape and Wine Situation At Harvest

Jerry White
Department of Agricultural, Resource, and Managerial Economics

Grape Production. The national grape crop was expected to be 7.4 million tons. It realized, this would be slightly above the record crop of 1997, and nearly 20 percent higher than the average crop of the last five years. California, which accounts for over 90 percent of U.S. production, is up about 21 percent from last year. Washington State expects a big increase from its short crop last year. Pennsylvania’s crop is down considerably, while Michigan expects increased production. The big story nationally is large supplies as grapes from new plantings in California come into bearing.

New York’s grape crop was estimated at 168 thousand tons, down 18 percent from last year’s record crop and 34 percent above the short crop of 1997. The state’s grape crop will be near the five-year average production.

The Big Picture - The US Market. Although final figures for 2000 are not yet available, it appears that wine consumption in the US will show growth of about 6 percent. Growth in imports (which comprise about 12 percent of the US market) will probably exceed 10 percent, while the growth in consumption of domestic wine will be just over five percent. Performance is being driven by increased table wine consumption (Figure 1), which now accounts for 88 percent of wine consumed in the US. In the previous five years, wine consumption grew at the rate of 3.8 percent a year. Sparkling wine and champagne experienced a modest growth rate in 1997 and 1998, but end of the year millennium celebrations caused sobering consumption in 1999. (A question for wine statisticians: if the cork on a bottle of champagne was popped at 11:58 p.m. on December 31, 1999, poured into a glass at 12:05 p.m., and was drunk between 12:00 midnight and 12:05 p.m. on January 1, 2000, should consumption be recorded in 1999 or in 2000?) Anyway, counting this as 1999 consumption resulted in soaring increases in US sparkling wine for ’99, especially that made by the méthode champenoise, which increased by over 30 percent from the previous year.

End of the millennium celebrations, coupled with a strong economy, meant that consumers were willing to spend more for wine and other products that have prestige value. In addition to the strong growth in fruit flavored varietals, the market for wines priced at $10 and over remains strong. In fact, there is now a growing demand for wines priced at $25 and over a bottle, although this is still a miniscule percentage of the total volume sold. If the US economy remains strong, wine priced at these ultra premium levels can offer an opportunity for wineries in New York who can attain the highest level of quality for selected varietals (e.g. Pinot Noir), and have a well-conceived marketing plan.

Retail wine price increases moderated in 1999 following the big California vintage of ’97. I expect to see relatively small increases in retail wine prices for the remainder of 2000 and for next year as the impact of large plantings in California are felt, especially for wine in the so-called “popular” price class of $4.26 - $5.75 per 750 ml. bottle class. Nevertheless, total retail wine sales for the US, which reached $18.1 billion in ’99, should approach $20 billion by the end of 2000 (Figure 2). With total wine consumption growing at more than six percent, and consumers on average buying higher-priced wines, this should provide a healthy seven to nine percent boost to retail sales.

Exports have been an exceedingly bright story for the US industry. Growth in exports has more than doubled in the last five years, and now total 75 million gallons for a value of $548 million in 1999. Imports are also increasing, and totaled 113 million gallons. The value of imports is $2.2 billion, much more than exports, because of relatively high-valued imports from France, Italy, and Australia. California exports account for over 95 percent of total US exports and about 15 percent of total California wine shipments. New York State probably exports more than three percent of its total shipments. With exports increasing at a much more rapid pace than imports, and with solid growth in domestic consumption, the US wine supply and demand equation should stay in balance through the year 2001, even with the sizeable crush from the record crop.

California crop. Bearing acreage of wine grapes increased nine percent in California from ’98 to ’99, and more new acreage came into production with the ’99 crop. Most of the new acreage is outside premium wine growing regions. The impact of Pierce’s disease on future California production is unclear at this time, but so far it has affected only about two-tenths of one percent of that state’s acreage, mostly in Southern California and...
Finger Lakes Grape Prices. For growers selling to large wineries, prices were similar to last year. Canandaigua Wine Company, the major buyer of wine grapes in New York, listed slightly lower prices for Aurore, Catawba, Concord, Niagara, and white hybrids. Delaware and red hybrids were listed as unchanged. Canandaigua did, however, offer a slightly higher price for Elvira. Thus, the overall average price for native varieties and hybrids, when weighted by volume of purchases, will be close to last year’s average.

Prices offered by most wineries in the Finger Lakes for Riesling grapes were unchanged, while prices for Chardonnay slipped slightly. Merlot and Cabernet Sauvignon prices moved upward by nine and six percent, respectively. The average price for vinifera in the state of New York, when weighted by volume of purchases, will probably increase slightly for the 2000 crop year to about $1,300 per ton, the highest average price on record (Figure 3). (The increased average price is partly driven by a change in varietal composition, with more red vinifera coming into production.) For the second year in a row, more buyers offered premiums for higher quality grapes this year, probably a trend for the future in the current tight situation.

Growers who can meet the demand for premium quality will likely be rewarded for their extra expenses, especially as the Finger Lakes region attains greater recognition as a premium wine producing region.

Overall, Finger Lakes growers and vintners had lower yields than last year’s big crop (but about average for recent years). Disease pressure was high and hail affected some areas. Most growers’ revenues will decrease significantly compared with last year’s crop. To put this in perspective, however, it must be remembered that 1999 was the highest valued crop ever recorded for New York State. Growers came out of the great ’99 season in strong cash flow positions, and the 2000 season should be better than average. There is considerable optimism about the Finger Lakes wine grape situation, and growers are able to consider new investments in machinery. Those who are in a strong cash flow position should remember the single most important asset they possess—their vineyards. Some investment capital should go into removing unprofitable blocks and replanting with varieties that have a better future potential.

Small wineries with quality wines and good marketing skills will again experience strong sales growth for the year 2001. Winery visitation is increasing significantly for most wineries, and the money spent per visitor is increasing. Sales will increase; most wineries will continue to experience double-digit growth in sales.

Implications for Growers. The market for grape varieties going into premium wine has been extremely tight in the Finger Lakes during the past four years, as indicated by the prices shown in Figure 3. Grape markets, as are all agricultural markets, are global and cyclical. Wine from the “New World” producing countries (i.e., the USA, Argentina, Chile, South Africa, New Zealand, and Australia) is gaining respect in international markets, even in the European Union (EU). EU countries, led by the United Kingdom with nearly a one-fourth share, account for nearly half of US exports. Other “New World” producers, especially Australia, are making significant inroads into EU markets. Wineries in each of these countries are capable of producing premium quality wines, and wine from Chile, Argentina, and the expanded acreage from California is extremely competitive at lower price points (i.e., under $6 per 750 ml bottle).

Furthermore, there are significant developments in the approach to marketing premium wines. There are three basic methods to differentiate premium wine—appellations (French producers come to mind), varietal designation (pioneered by California) and brand (i.e., the Australian and, increasingly, the Italian approach). The only way to enhance value is to differentiate the product. There is now concern that the varietal designation is no longer enhancing value—varietal wine has become a commodity! When a product becomes indistinguishable from similar products, buying decisions are based on prices. Wine marketers the world over are putting more emphasis on either appellations or brands as a way to enhance value. Brands are becoming more important in global wine markets. The Australian have an explicit, jointly developed industry strategy to increase world market share through strong, branded premium products—and these extend upward to price points near $100! At the same time, subappellations are becoming more important (e.g., Napa Valley-Sags Leap and Sonoma County-Russian River). Wine marketers must give consumers a reason to pay $25 to $100 per bottle!

These marketing developments in a global economy present growers with a new set of potential opportunities and risks. Some implications and potential strategies growers might consider are the following:

- There is potential glut of “commodity” varietal wines on the market in the early years of the new millennium.
- The greatest impact will be on the lower end of the price per bottle spectrum.
- One strategy growers should consider is to attempt to become a preferred supplier of wineries producing a premium product. This implies:
  - Actively seek our buyers with high bottle prices, good marketing expertise, and impressive shelf space in premium wine retail outlets and appearing on numerous restaurant wine lists;
  - Since shelf space and wine listings are at a premium, seek to be a supplier of a winery with a strong brand;
  - Pay utmost attention to the quality requirements that your buyer desires (e.g., leaf pulling, rigorous disease control, crop adjustment);
  - Communicate frequently with your supplier and the designated manager responsible for quality control;
  - Keep abreast of wine marketing trends, especially with varietal demands, and
  - Make replantings as opportunities arise, but be aware that a variety that is relatively new to the region is subject to over-planting as tonnage outstrips market development.

The old way that some growers used of jumping around from buyer to buyer based on the highest price offering for one season probably was never a good strategy, but it is even less viable in the current environment. Both wineries and growers should consider longer-term contracts, especially for future plantings.

FIGER LAKES VINEYARD NOTES

Figure 3. Average Price of V. vinifera Grapes, New York State, 1993-1999 and 2000 (Projected).

2000 Cooperative Research/ Demonstration Experiments in the Finger Lakes

Timothy E. Martinson

Although Cornell University researchers do much of their work in their own experimental plantings and laboratories, a significant portion is also done with industry cooperators in commercial vineyards. Commercial vineyards provide researchers from the nearby NYS Agricultural Experiment Station in Geneva with appropriate places to complete experiments that would be difficult to do on site. This year I have included some on-site experiments of interest from the Lake Erie region. Thanks to all the cooperators that provided support for these projects.

- Evaluation of the effectiveness of the Prophecy controlled droplet sprayer at controlling disease and insects. A. Landers, W. Wilcox, G. English-Loeb. This is the second year of the trials with this interesting over-the-row sprayer. The first year looked at the physical effectiveness of the sprayer at improving deposition and reducing drift, but due to the hot weather, we were unable to see any disease/insect activity. The second year has given better weather conditions to compare its effectiveness against an airblast sprayer. The Prophecy trials have been conducted throughout the growing season at 50 and 25 gallons per acre comparing it to the airblast at 50 gallons per acre. (Cooperators: Canandaigua Wine Co, Naples vineyard)

- Evaluation of the effectiveness of the ESS electrostatic sprayer at controlling disease and insects. A. Landers, W. Wilcox, G. English-Loeb. This is the first year of a season long trial with the ‘improved’ electrostatic sprayer. We have looked at the physical effectiveness of the sprayer at improving deposition and controlling disease and insects at very low rates, 9 gallons per acre compared to an airblast sprayer at 50 gallons per acre. (Cooperator: Canandaigua Wine Co, Dresden vineyard)

- Impact of powdery mildew on juice and wine quality. D. Cadoury, R. Seem, W. Wilcox, J. Henick-Kling. Severe infection of grape berries by the powdery mildew pathogen (Uncinula necator) degrades fruit, juice, and wine quality. However, a recently discovered form of ‘diffuse’ powdery mildew infection that is virtually invisible under field conditions on berries, predisposes fruit of Chardonnay, Riesling, Pinot Noir, and Gewürztraminer to severe botrytis bunch rot and to contamination by several spoilage microorganisms. This research is designed to fill the gaps in our knowledge of how powdery mildew affects juice and wine quality, and should allow growers to make better-informed decisions regarding disease management. (Cooperator: Mark Wagner, Lamoreaux Landing Wine Cellar)

- Evaluation of novel miticides for European red mite control. T. Martinson, C. Wager. Control of European Red mite with three novel miticides (Agrimek, Valero, and Dañitol) was compared to Kelthane in a Catawba vineyard. Cooperators: Clearview Farms (Harold, Jim & Don Tones)

- Reducing harvest contamination by snails. T. Martinson, C. Wager. Snails have shown up as harvest contaminants in grapes shipped to processors in 1998 and 1999. Several methods for reducing the presence of striped snails, Cepaea nemoralis, in grape canopies were tested. These included use of novel baits, foliar and trunk sprays with copper compounds, and the use of copper band barriers on grape trunks and posts. (Cooperators: Jonathan & Jeannie Gage, National Grape Cooperative)

- Sprayable pheromone for controlling grape berry moth. T. Martinson, C. English-Loeb, C. Wager. A new ‘sprayable’ formulation of grape berry moth pheromone manufactured by 3M Canada was tested at two sites in the Finger Lakes. Berry moth injury and pheromone trap catches in treated plots were compared with conventional insecticide and pheromone ‘twist ties’. (Cooperators: Jim Pizura, Lance Fullager)

- Hand-held nitrate meter for measuring nitrogen status of vineyard soils. T. Martinson, C. Wager. A handheld meter was used to measure soil nitrate levels in plots with 10 different combinations of nitrogen rates and timing. Prebloom, postbloom and veraison treatments of rates ranging...
from 15 to 60 lb/acre were compared (including split applications), and soil nitrate was measured three times during the growing season. The meter is also being used to test end-of-season nitrate concentration at 80 vineyard blocks in the Finger Lakes. (Cooperator: Mark Wagner, Lennoble (Landing Vineyards) 

Managing grape leafhopper in an organic vineyard. R. Figel, J. Martinson. In the second year of a USDA-SARE program "grower grant" project awarded to Rich Figel of Silver Thread Vineyards, the use of botanical insecticides, including neem oil, pyrethrum and insecticidal soap for controlling grape leafhopper and preserving biological control parasitic wasp Anagrus spp. was evaluated. (Cooperator: Rich Figel) 

Using predatory mites in vineyard for biological control of European red mite. J. Nyrop, C. English-Loeb, K. Goldman. Conducted field and laboratory investigations related to biological control of European red mite in vineyards using the mite predator Typhlodromus. The focus of the work was whether biological control would be effective under commercial settings, whether grape cultivars influence the effectiveness of biological control, and how mites could be monitored efficiently. (Cooperators: Canandaigua Wine Company, Jim & Eric Hazlitt, Mark Wagner, Chris King, Standing Stone Winery, Tom Prejean & Jim Zimar, Prejean vineyards, Ernie Daggett, and Harold, Don & Jim Jones.) 

Impact of plant leaf morphology on interactions among beneficial and pest organisms on grape leaves. G. English-Loeb, A. Norton, D. Gadoury, R. Seem. This is an experiment to determine if the presence of pubescence on grape leaves can modify interactions of predatory and fungal-feeding mites thereby allowing them to coexist and provide better biological control of spider mites and grape powdery mildew. The experiment was conducted at Geneva, but these growers helped out by allowing us to sample from their vineyards for mites. (Cooperators: Scott Osborn, Fox Run Vineyards and Jeff Morris, Glenora Farms.) 

Biological Control of Grape Crown Gall. J. Born. We have been investigating the biological control of crown gall. If a nontumorigenic strain of Agrobacterium vitis, called F2/S, is applied to wounds on grape before pathogenic strains have had a chance to infect, biological control is achieved. Research is underway in the lab to determine how the biological control works. Field experiments are underway at the Geneva Experiment Station and in three commercial vineyards. These field experiments are expected to take between 3 - 5 years to determine how effective the control will be under field conditions. Cooperators: Swedish Hill Winery, Lakewood Vineyards, Harry Humphreys. 

Northeast Regional Viñifera Clonal Trial. B. Pool, T. Henick-Kling & C. Gerling. For the past 20 years, the NYS Agricultural Experiment Station has been evaluating promising clones of Pinot Noir, Chardonnay, and other varieties on a small scale. We are now working with wineries and other universities to examine how these clones might fit into the Northeast wine growing region. Donations of vines by American Nursery and Sonoma Grape vines have allowed us to plant clones of Pinot Noir, Chardonnay, Shiraz, and others in commercial and research vineyards across the Northeast. (Finger Lakes Cooperators: Dr. Konstantin Frank’s Viñifera Wine Cellars, Skelgrave Point Vineyard and Winery, Seneca Shores Vineyards, Wagner Vineyards, Fuller Viñifera Vineyards and Lakewood Vineyards.) 

Comparison of three training systems for Cabernet Franc. T. Martinson, B. Pool. Two methods for producing vertically-divided canopies were established in single rows of three-year-old Cabernet Franc. Modified Scott-Henry and Smart Dyson systems will be compared to existing vertical shoot positioned grapes. (Cooperator: John Wagner, Wagner Winery & Vineyard.) 

Control of resveratrol accumulation in grape berries and distribution of phytochemicals in seedless grapes. J. T. Creasy. We are seeking the correct time to stimulate grape berry resveratrol in the vineyard for the maximum harvest concentration. We have applied treatments and collected samples at 48-hour intervals. In a second experiment, we are comparing the concentration and internal distribution of several phytochemicals in seeded and seedless grapes. (Cooperator: Min Creasy, Thornburgh Farms) 

Evaluation of Geneva breeding program grape selections. B. Reisch, T. Henick-Kling, S. Luce, L. Preston-Wilsey. Small plantings of hybrid grapes for red and white wine are under evaluation at Finger Lakes sites. Some grapes are supplied to the enology program for wine evaluation. Seneca and Canandaigua Lake areas. (Cooperators: David Peterson, Swedish Hill, Jim Hazlitt, Saw Mill Creek, John Brahm, Arbor Hill, Stamp family, Lakewood Vineyards, Amberg family, Amberg Wine Cellars) 

Total vineyard mechanization to optimize yield and quality of concord. T. Bates, J. Morris, R. Dunst, B. Shaffer, G. Main. Vineyard mechanization continues to be a hot topic for its potential benefits in reducing labor costs. Current research projects investigate...
the effects of mechanical pruning and/or mechanical thinning on Concord grape yield and quality. (Cooperators: Bob & Dawn Betts, Dave Vercant)

**Evaluation of Milestone® herbicide for potential uses in vineyards.** R. Duns, T. Bates. Milestone® herbicide has been evaluated during the past three growing seasons for its potential uses in bearing and non-bearing vineyards. Milestone® should be a valuable and versatile tool for weed management in grapes but has not yet received state or federal registration. (Cooperator: Dennis Rak, Double A Vineyards)

**Chemical control of leafhoppers.** C. English-Loeb, T. Taft Jr., R. Duns, T. Martinson. We tested new chemical control options for eastern grape leafhopper in comparison to industry standard. We were particularly interested in the efficacy of Provado at half rate (cost savings) as well as testing some new materials to see if they can provide adequate control of both grape leafhopper and grape berry moth. (Cooperator: Joel Kammel)

**Chemical control of grape berry moth.** C. English-Loeb, T. Taft Jr., R. Duns. To test new chemical control options for grape berry moth in comparison to industry standards. Our emphasis was on testing materials that are selective for pests (conserve beneficial arthropods) but broad-spectrum enough to control both grape berry moth and grape leafhoppers. (Cooperator: Ed Einhouse)

**Chemical control of the root-form of grape phylloxera.** C. English-Loeb, R. Duns, T. Taft Jr. Recent research indicates that own-rooted concord grapes are susceptible to root-form grape phylloxera. In this trial we screened several chemical options (some registered, some not) for controlling them on young vines. (Cooperator: D. Rak)

**Monitoring and chemical control of plant bugs.** C. English-Loeb, T. Taft Jr., R. Duns. Plant bugs, when present at moderate densities, can cause significant yield loss. However, they are small and difficult to see on the vine. This year we tested several alternative methods for monitoring them that are more reliable and more grower-friendly than searching the vine. We also conducted an insecticide trial to determine which registered materials provide adequate control. (Cooperator: Ed Einhouse)

**MARKETING**

**2001 Juice Grape Outlook**

Barry Shaffer
Lake Erie Regional Grape Program

New York juice grape production for 2000 is down from the record production of 1999’s crop. Announced major processor cash prices for Concord ranges from $220-265 per ton, similar to last year’s figures.

One bargaining cooperative, Westfield-Maid Cooperative, went through major changes this year. Westfield-Maid supplied grapes to Seneca Fruits and then Northland Cranberries when Northland bought Seneca. Northland ran into financial difficulties and there was a mutual decision to break the contract. Westfield-Maid growers had a decision in August to stay with the co-op, join National Grape Cooperative, or market their grapes on their own. National Grape got some of the acres but the majority of acres stayed with Westfield-Maid. Westfield-Maid then signed a contract with Cliffstar. Cliffstar now is getting grapes from their existing cash market (tonnage contracts) growers and from Westfield-Maid (acreage contract) with all growers encouraged to join Westfield-Maid!

Many cooperative growers will show higher profits with less tonnage this year. This will be due to payments from their large 1999 crops. Tax management could be crucial with cooperative members this year.

**Other Growing Areas**

Michigan had another good harvest. Pennsylvania growers had an average crop much like New York. Washington State Concord production seems to be evening out from the drastic swings in the 1990’s and is close to average. California concentrate prices will be lower due to a large crop and will have a dampening effect on Concord juice concentrate.

**2001 Outlook**

Sales seem to be strong and inventories are in good shape. I expect Eastern production will be up from this year’s levels. Washington state production should also be up. Coupled with increased supplies of lower priced California grape juice concentrate (GIC), I foresee some softening of Concord and Niagara prices.
Andrew Landers, Department of Agricultural and Biological Engineering, organized a demonstration of seven vineyard sprayers at the Geneva Fruit Field Day on August 17. (A) Landers demonstrates how baffles can channel air flow, reducing drift. (B) A frame with ribbons placed next to sprayer fans illustrated differing patterns of airflow. (C) Poles with water-sensitive paper were placed in vineyard to illustrate pattern of spray coverage. Some of the sprayers demonstrated were (D) Cima, (E) Hardi, (F) Air-o-Fan, (G) Turbomist, (H) Lipeco, and (I) Propene.
HISTORY
Cornell University's Eastern Wine and Grape Archive Preserves Industry History

Lorna Knight
Curator of Manuscripts, Kroch Library
Cornell University

"It is impossible Charley. I am sorry for you, and it is hard for me to say the words which bring to an end our engagement, for I loved you when I promised to be your wife, and I still love you; but I can never run the risk of uniting my life to that of a drunkard."

Thus begins Chapter One of From Heaven to Hell: A Story of Real Life, a long and best-forgotten novel by E.A. Whitwam and published by Templar Book House in 1901. The novel, along with hundreds of other temperance publications, comprises an excellent collection of published materials documenting the temperance movement. The Order of Good Templars collection is housed in the Division of Rare and Manuscript Collections of the Cornell University Library. The Division is really a special collection where researchers can find published and unpublished materials documenting a wide range of human experience and endeavor. Since one of our collecting strengths is regional history and because Cornell already has an excellent collection of books about winemaking and grape growing at the Geneva Station Library, Cornell would seem a likely choice for the establishment of a wine and grape archive. However, it was not until a couple of years ago that Hudson Cattell of Wine East was successful in convincing Peter MacDonald, then Geneva Station Librarian, Lorna Knight, Curator of Manuscripts, and the Eastern Section of the ASEV, that documenting the history of winemaking and grape growing was imperative. The Eastern Wine and Grape Archive is the result of their successful collaboration and the generosity of ASEV-Eastern Section.

It didn't take much looking to discover that the Division of Rare and Manuscript Collections already had an interesting collection of relevant materials. From the papers and publications of the Good Templars mentioned above, to the records of the Widmer Wine Cellar, and all kinds of printed material in the form of trade cards and hotel suppliers' catalogs, the Division has a strong basis on which to build a top-notch research collection. What an initial survey revealed is that the Division is lacking first-hand accounts of wine making and grape growing by those who were pioneers and practitioners. I am thinking of people like Philip Wagner and Konstantin Frank, who no doubt created and saved letters, journals, research materials and other documentation about their life and work. Fortunately, and once again thanks to the persistence and acumen of Hudson Cattell, the acquisition of the papers of Philip Wagner in 1999, was an initial coup for the Wine and Grape Archive. It is hoped that the papers of vineyards, grape growers, migrant laborers, wine tasters and publicists, will follow.

People who are potential donors are often unfamiliar with the importance of primary materials and may not recognize either their own importance or the significance of their diaries, correspondence, business records, and accumulated memorabilia. A brochure about the Eastern Wine and Grape Archive, which was mailed to all the wineries in Upstate New York, should help answer questions that potential donors will have. In addition, Curator of Manuscripts, Lorna Knight, displayed a selection of archival materials for and made a presentation to assembled members of the ASEV-Eastern Section at their recent meeting in Ithaca, NY. She would be pleased to meet with individuals or groups to look at materials that people have saved and talk about the logistics of donation. It would be exciting to find enough funds to conduct an oral history project involving interviews with pioneer grape growers and wine-makers, scientists, and retailers, among other. And this is certainly a long-range goal.

To obtain a copy of the explanatory brochure, The Eastern Wine and Grape Archive, or to arrange to meet with the Curator of Manuscripts, please contact Lorna Knight at 607-255-3530, e-mail link22@cornell.edu.

(Ed. note - If you have material you think might be appropriate, you can also contact us at the Finger Lakes Grape Program)
EXTENSION

2000 Tours and Field Meetings

Timothy E. Martinson

*Niagara Peninsula Tour*, May 10-12. Twenty Finger Lakes growers and winemakers visited several vineyards and wineries on Canada's Niagara peninsula in this tour, organized by Thomas Henick-Kling and led by Dr. Andrew Reynolds, viticulturist and head of Brock University's Cool Climate Oenology and Viticulture Institute in Canada. Participants: Andy Reynolds and Canadian growers and wineries.


*Spring Pest Management Update*. This annual update, held at Lance Fullagar Vineyard Supplies, featured pest management and label updates by researchers, extension personnel, and industry representatives. Dr. George Good, director of Cornell's Pest Management Education Program gave an update on the food quality protection act. Andrew Landers organized a demonstration of new sprayers. Tim Weigle of Eden and Ed Pinneo were chair of the barbecue committee. Participants: Lance Fullagar, Greg English-Loeb, Ken Gardiner, Tim Weigle, Ed Pinneo, and representatives from BASF, Bayer, Dow Agrosciences, Dupont, Eli Atochem, Conask, JMS Flower Farms, Mycotech, Tomen Agro, Valenta, and Zineca.

*Tour of Burgundy Vineyards and Wineries*, May 20-27. A group of 22 growers and extension specialists, most from the Finger Lakes, visited the French capital of pinot Noir and Chardonnay. Dr. Pascal Durand, University of Dijon, and Leslie Weston, Dept. Horticulture, Ithaca, organized the tour, which featured stops representing the five production areas (Chablis, Beaune, Cote de nuit, Cote Chalonnaise, Macon) of Burgundy. [Look for upcoming article in a future UN. Participants: Pascal Durand, leader, and Leslie Weston, organizer and translator.

*Electrostatic Spray Systems sprayer*, Canandaigua Vineyards, Dresden. Canandaigua's recently-purchased ESS electrostatic sprayer was demonstrated. This novel sprayer applies a charge to the spray stream for improved coverage and reduced spray volume (as low as 9 GPA). Andrew Landers, Canandaigua staff, and a representative from ESS demonstrated the sprayer. Andrew described his trials currently underway with the sprayer, and promised to share results in a future newsletter article. Participants: A. Landers, ESS Representative, T. Collins, & B. Dunn.

*Vineyard Establishment and Lipco Tunnel Sprayer Demonstration*. Sheldrake Point Vineyards, Interlaken. In this twilight meeting, Dave Weimann, vineyard manager, and Bob Madill, general manager, described their use of laser planting, land leveling, and metal line posts for establishing 30 acres of vineyard in the past three years. Andrew Landers described, and Dave Weimann demonstrated Sheldrake's Lipco recirculating tunnel sprayer, which greatly reduces drift and can recirculate up to 30 percent of spray material applied. Participants: Bob Madill & Dave Weimann, Andrew Landers, & Lipco sprayer representative.

*Fruit Field Day at Geneva*. August 17, NYS Agricultural Experiment Station, Geneva. This day-long tour for grape industry persons was part of a larger event with simultaneous apple, stone fruit, and small fruit tours. In the morning, the tour covered Entomology and Plant Pathology projects and the grape breeding program's 'no-spray' plots. It then moved on to advanced breeding selections, clonal vinification evaluations and training system trials, and grape anatomy and physiology, featuring Alan Lasko's 'bubble' system for measuring whole-vine photosynthesis.

After lunch, seven vineyard sprayers were demonstrated (see pictures on preceding page) by manufacturers. The tour closed with a visit to the USDA grape germplasm collection and the new Vinification and Brewing Laboratory. Participants: C. English-Loeb, J. Nypor, W. Wilcox, D. Cadouy, J. Luce, B. Reed, M. Coffine, S. Lorch & B. Pool, A. Landers, P. Cousins, T. Arvik & T. Henick-Kling.
USDA at Geneva Hires Rootstock Breeder

Peter Cousins
USDA Agricultural Research Service
Plant Genetic Resources Unit

Grape rootstock research and breeding are active under the leadership of Peter Cousins, plant breeder and geneticist in the USDA-ARS Plant Genetic Resources Unit (PGRU) at the New York State Agricultural Experiment Station in Geneva. Cousins studied grape rootstock genetics and improvement in the Department of Viticulture and Enology at the University of California, Davis and joined the PGRU scientific staff last fall. The grape rootstock research program is charged with introduction, evaluation, and breeding of rootstocks for use across the United States.

Evaluation of rootstocks under a wide variety of conditions is underway.

While growing environments, scion varieties, and production systems vary among trials, yield and fruit quality are top criteria in all situations. Planted this spring were two trials in California, a trial of potentially devigorating rootstocks for table grapes and a study to identify invigorating rootstocks for dried-on-the-vine raisin production. A rootstock trial in western New York for Concord and Niagara, in cooperation with Dr. Terry Bates of the Cornell Vineyard Laboratory, is scheduled for planting next spring. This study will examine ten rootstock varieties, including two recent foreign introductions, in combination with these important juice grapes.

The development of new rootstocks for challenging vineyard situations began this spring with the controlled pollination of nearly 2100 flower clusters representing over 200 unique cross combinations utilizing more than 70 female and 50 male parents. Vineyards in New York, California, and Florida contributed to the breeding program, with the grape repository collection of the PGRU playing a key role. Fruit harvest and extraction of the hybrid seeds has begun—more than 100,000 seeds are expected. Seedlings will be evaluated in the greenhouse for nematode resistance and other traits and selected plants will be planted into the vineyard next spring and summer to evaluate horticultural traits such as vigor, habit, and rooting ability. The best may become rootstocks for the future.

Cooperation with growers, nurseries, and state and local researchers across the country is critical to the success of the USDA grape rootstock research program and Cousins welcomes inquiries concerning rootstocks and their use, adaptation, testing, and improvement.

ENOLOGY

News from the Enology Program

Thomas Henick-Kling
Department of Food Science

The Cornell Vitification & Brewing Technology Laboratory opened this vintage! The installation of the utilities in Cornell’s new Vitification & Brewing Technology Laboratory is completed and the wine program moves into the new pilot winery! We are already making the first wines in this wonderful new workspace. While the utilities installation is complete, development of the Laboratory will continue over the next few years as we acquire more equipment for scale-up of new ideas and training of industry personnel and students.

A new Enology Extension Associate will manage the Cornell Vitification & Brewing Technology Lab. Very importantly for our work in the new Vitification & Brewing Technology Laboratory, we have received permission to hire an Enology Extension Associate. With partial funding from NY Agriculture & Markets and industry funds raised by our fund raising programs such as the Vitification & Brewing Lab Gala Dinner we are able to support this new position. The Enology Extension associate will manage the new laboratory, run trials with new technologies, help trouble shooting in wineries, and help organize additional industry seminars and workshops. Please look out for the position announcement—we will circulate it by e-mail and in journals. Help us find the ‘right’ person for the job!
UPCOMING EVENTS

December 11 & 12, 2000
Cool Climate Pinot Noir Conference.
Lakefront Ramada Inn, Geneva NY.
This new conference, sponsored by the
Finger Lakes Pinot Noir Alliance and New
York Wine and Grape Foundation will
feature talks on both viticulture and
winemaking, with speakers from
Ontario, Burgundy (France), California,
and Oregon. For registration information,
contact the NYS Wine & Grape Founda-
tion 315-536-7442, Fax: 315-536-0719,
or uncork@nywine.com.

February 10, 2001
Lake Erie Regional Grape Growers Con-
vention. Northeast, PA. Annual winter
meeting of the Lake Erie Regional Grape
Program. Note the change in date and
location. Call 716-672-2191 for more
information.

March 20-23, 2001
Wineries Unlimited. Lancaster, PA. This
will be the 25th annual trade show and
seminar, organized by Vineyard and Win-
ery Management. Call 800-535-5670 for
more information.

March 2-3, 2001
52nd Annual Finger Lakes Grape Grow-
ers Convention. Waterloo Holiday Inn,
Waterloo, NY. The convention returns to
Waterloo. This year it will feature a half-
day session on Friday afternoon, March
2, aimed at "new growers". Look for de-
tails in upcoming "Vineyard Notes". Call
315-536-5134 for more information.

January 23-25, 2001
Unified Wine and Grape Symposium.
Sacramento Convention Center, Sacra-
mento, California. Contact ASEV, P.O.
Box 1855, Davis, CA 95617-1855 [Tele-
phone 530-753-3142, FAX 530-753-
3318; e-mail <society@asev.org>].

May 16-20, 2001
Intervitis Intertexta. Stuttgart, Germany. In-
ternational trade exhibition for viticulture and
enology, cultivation, processing, bottling and
packaging techniques. Acres of tractors and
plants, plus several symposia - wall tranla-
tion into English and French. More informa-
tion available in our office, or at:
http://www.messe-stuttgart.de/intervitis/
englisch/index.

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Helping You Put Knowledge to Work
Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture and Life Sciences. NYS College of Human Ecology, and
NYS College of Veterinary Medicine at Cornell University. Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.