FINGER LAKES
VINEYARD NOTES

Newsletter #7 July 3rd, 2003

Cornell Cooperative Extension

Finger Lakes Grape Program

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FINGER LAKES SPRAYER DEMONSTRATION TO BE HELD JULY 15TH

Andrew Landers

The annual Finger Lakes sprayer demonstration will be held at Canandaigua Wine Company Vineyards, Valois, on Rte 414, between Lodi and Hector. Tuesday July 15th 3.00-5.30 pm (the vineyard is situated just by a sign for Caywood vineyards, note two large wine barrels and the walls of an old bridge, take the entrance south of the vineyard, follow the signs to the car park).

There will be nine sprayers working, including CIMA, Hardi, Durand-Wayland, GreenTech, Montana, Proptec and Turbomist. All the sprayers will be demonstrating the latest techniques in improving deposition whilst reducing drift. There will be a broad range of sprayers to suit all types of canopy. There will also be an update on the Cornell doughnut system with results of trials to date.

After the demonstration everyone is invited to a wine tasting at Caywood Vineyards, courtesy of Mike Doyle. Two pesticide credits have been awarded by the DEC for this meeting. Please pre-register with our office at 315-536-5134 or wtw2@cornell.edu so that we know how many recertification credit sheets to bring.

CURRENT SITUATION

Timothy E. Martinson

After a slow, rainy start, the growing season has switched gears, and most grape varieties have blasted through bloom in a matter of a few days. This is good news, as we should see good fruit set as a result. Growers south of here in Virginia weren't as lucky – bloom was extended during the unrelenting cool, rainy weather, resulting in poor fruit set and likely a poor crop.

The warmer weather has also brought rapid canopy development and growth to area vineyards. This is also good news. The cool, rainy weather during the early part of the season produced some unusual symptoms in early leaves – mottling, deformed leaves, and quite likely some oddball diseases we don't normally see – such as foliar botrytis and possibly anthracnose. Most blocks are growing out of these symptoms.

Cold Injury. It should be no news to anyone that we suffered winter injury in several varieties – most notably *V. vinifera* cultivars, but also some of the hybrids and Niagara. Trunk injury to Niagaras is widespread in parts of the Lake Erie belt, and less common here in the Finger Lakes. **Crown gall** is reappearing in vineyards, after several years with relatively little problems.

Figure 1. *Bob Pool discusses how to recognize trunk injury at the June 24 field meeting in Geneva. Injury at this vineyard was severe – note the vines with only sucker growth in the background.*

We had an excellent discussion about managing winter injury at the meeting on June 24 at the Experiment Station, hosted by Bob Pool and Bruce Reisch. We looked at chardonnay/cab franc training and rootstock trials, and at several *Vinifera* variety and clonal selection trials. Here is a brief summary of results:

- **Pruning Strategy**: In the chardonnay trial (and most other blocks) Bob and Steve Lerch left the canes from last year in position (e.g. vertical shoot positioning) and cut off the growth just below the top wire. This left about 15 to 18 canes per vine, each with an average of about 8 buds, for a total of 120-150 buds. In the rootstock trial, they ended up with about 12 - 25% live nodes (retained buds), and 25-45 shoots per vine. This proved to be a good strategy, and it looks like they will end up with a somewhat reduced crop, better than no crop. In the training system trials, it looked like those vines trained high had better survivorship than those trained low. This won't always be the case, but this was a radiative cold episode (Still, clear night). So leaving long canes and lots of buds (with many of the buds that broke being on the ends of the canes) was a good strategy.

- **Trunk Injury:** Several areas with weak growth on top and strong suckers had trunk injury, and the <u>weak shoots at the top were starting to collapse.</u> With our warm weather, we should be starting to see much more of this in vineyards with trunk injury. This indicates a dead cambial layer, and often appears with the onset of warmer weather, and as the development of the vascular system becomes more complete around bloom. If you have any notable or suspected trunk injury (weak growth, cracked trunks), be sure to replace the trunk next year. Bob recommended leaving whatever top growth you could on the vine, but also to bring up suckers for trunk replacement.

-Tying up suckers. Many vines had little or no growth on top, but vigorous and numerous suckers. A couple of recommendations were: 1) Tie up 2-3 of them, retain others and let

them grow along the ground. This will provide leaf area and slow the growth of highly vigorous bull canes. 2) do not tie up a big bundle, as this may provoke shading and disease development. Tie only what you can arrange and display in the trellis space you have. Timing: Many of the suckers are brittle, and break off easily at this time of the year. Either handle them gently when tying them up, or wait a week or so after bloom - they will probably be much harder to break off in another week.

Long term effect: Talking with a few growers who had been around for the serious trunk injury in '94, I was encouraged. Many told me that their vines were killed right down to the suckers that year; they had less than ideal bull wood the next year, and yet they were able to get a full crop in the year following the big freeze.

Bottom Line: If you suspect trunk injury because you see weak growth, summer 'collapse' of shoot growth and crown gall, now is the time to make sure you are bringing up replacement trunks. While complete recovery and replacement might take a few years, planning for trunk replacement now will help assure a normal crop next year.

WINTER INJURY ON CABERNET FRANC AND RIESLING IN 2003

Tim Martinson and Bill Wilsey
Finger Lakes Grape Program

Over the past few weeks, Bill Wilsey and I have surveyed several Cabernet Franc and Riesling vineyards in the Finger Lakes for winter injury. We chose these two varieties, because they are widely planted and both sustained some winter injury.

In each vineyard, we randomly selected 15 vines and counted the total number of retained nodes (buds), the number of blank nodes (no shoots), the number of 'long' shoots (> 3-4 in mid-June, and the number of 'short' shoots (< 3 inches by mid-June). By separating out 'long' and 'short' shoots, the idea was that the 'long' shoots represented those coming from primary buds and 'short' shoots may have grown from secondary buds, where the primary bud was dead. In most locations, we sampled both varieties.

We sampled 19 sites- 5 on Keuka lake, 7 on W. Seneca Lake, 3 on East Seneca Lake, and 4 on W. Cayuga Lake.

Results are shown in the accompanying table and figure.The general patterns were:

- Cabernet Franc had higher levels of injury than Riesling in 16 of the 17 vineyards surveyed. This is indicated by lower proportion of live shoots per retained node (% live buds).

- For Cabernet Franc, injury was especially severe at most of the Keuka Lake sites (except 1). The % live buds at these sites ranged from 15 to 25% (one had 91% live buds). On East Seneca, W Seneca, and W Cayuga, % live buds ranged from 67-76% on average.

- Growers attempted to compensate for winter injury by retaining more buds. Figure 1 shows that growers left about 125 buds (averaged over all sites) on Cab Franc and about 70-80 buds on Riesling. Other areas averaged about 50 retained nodes (buds) per vine for both Cab Franc and Riesling.

- By leaving more retained nodes, growers were able to compensate somewhat for bud injury (Table 1). For Cabernet Franc, the number of live shoots per vine ranged rom 25 on Keuka sites to 35 (W. Seneca) to 45 in other areas. For Riesling, average was 35 (W. seneca) to 44 (W Cayuga and E Seneca). The 2 of the 3 riesling vineyards on Keuka had shoots in the 30s, one averaged 60 shoots per vine –

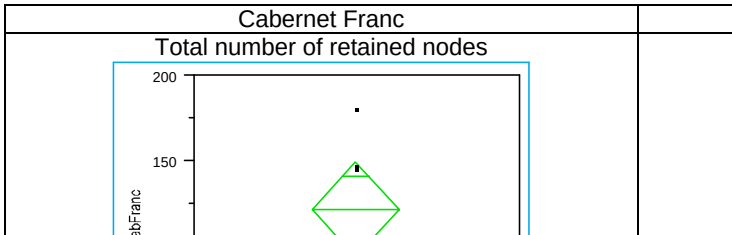
which may indicate the need for shoot thinning. Overall average (in the 40's) for Riesling was in the normal range.

- 'Long' vs 'Short' shoots. In vineyards with higher % live buds, about 90% or more of the shoots were "long" shoots. Vineyards with lower % live buds (higher bud mortality) also had a higher proportion – up to 50% - of "short" shoots. This suggests that more of the shoots on heavily injured vines came from secondary or tertiary buds, where the primary may have been dead.

Location	Site	*CabFranc* Total shoots/node	*CabFranc* Shoots/node Range	*CabFranc* Live shoots/vine	Riesling Total shoots/node	Riesling Shoots/node Range	Riesling Live shoots/vine
Keuka	**1**	0.17	0.06-0.35	17.7	0.43	0.23-0.61	36.5
	2	0.91	0.76-1.00	38.3	-	-	-
	3	0.15	0.02-0.35	19.7	-	-	-
	4	0.25	0.00-0.40	33.3	0.80	0.68-0.92	29.9
	5	0.19	0.11-0.28	17.7	0.72	0.14-0.85	62.2
	Avg	**0.33**	**0.19-0.47**	**25.3**	**0.65**	**0.35-0.79**	**42.7**
W. Seneca	**6**	0.54	0.00-0.89	21.6	0.82	0.62-0.96	23.4
	7	0.81	0.59-1.00	37.6	0.86	0.65-0.96	36.7
	8	0.63	0.39-0.82	33.3	0.33	0.28-0.38	28.5
	9	0.40	0.17-0.64	26.1	0.50	0.29-0.72	30.1
	10	0.83	0.75-0.89	40.7	0.85	0.41-0.98	40.4
	11	0.75	0.59-0.92	41.2	0.88	0.84-0.91	43.7
	12	0.72	0.60-0.80	45.4	0.88	0.79-0.94	43.4
	Avg	**0.67**	**0.44-0.85**	**35.1**	**0.73**	**0.51-0.83**	**35.2**
E. Seneca	**13**	0.67	0.30-0.91	34.8	0.83	0.72-0.94	32.5
	14	0.87	0.80-0.91	60.6	0.87	0.67-0.94	48.9
	15	0.74	0.46-0.83	41.3	0.85	0.67-0.93	50.4
	Avg	**0.76**	**0.52-0.88**	**45.7**	**0.85**	**0.69-0.94**	**43.9**
W. Cayuga	**16**	0.66	0.29-0.96	40.7	0.78	0.48-0.94	49.3
	17	0.50	0.05-0.66	42.9	0.79	0.75-0.83	46.7
	18	0.75	0.69-0.83	53.2	0.80	0.67-0.96	36.7
	19	0.82	0.69-0.93	36.6	0.92	0.82-0.97	43.4
	Avg	**0.68**	**0.43-0.85**	**43.2**	**0.82**	**0.68-0.93**	**44.0**

Table 1. Bud Injury at several Cabernet Franc and Riesling vineyards in the Finger Lakes in 2003

Figure 1. Total number of buds (retained nodes) on Cab Franc and Riesling by location (lake)



Cay= Cayuga; Esen=East Seneca; Keuka=Keuka; Wsen-West Seneca Lake

ENOLOGY PROGRAM HOSTS TASTING SEMINAR

Timothy E. Martinson

Area winemakers tasted their way through 10 different lots of wine resulting from different vineyard practices and winemaking techniques at the New York State Agricultural Experiment
Station in Geneva on June 25. The day-long seminar was hosted by **Hans Justrich**, Extension Enologist with the Cornell Enology Program.

The goal of the seminar was to evaluate how training systems, different clones, different cropping levels and winemaking factors (such as fermentation temperatures, yeast, whole berry fermentation) affected flavor and other sensory characteristics of wine. Wines were made from viticultural trials at the experiment station. They included:

- **Chardonnay Training Trial.** Wines from cane and cordon pruned VSP, Tee trellis, scott henry, and lyre training systems.
- **Chardonnay clones:** Seven distinct clones, including FPMS 4 and 7 (California Foundation Plant Materials Service), the common 'Geneva' clone (unknown origin), and several
- numbered 'Dijon' clones (originating in Burgundy, France) were tasted
- **Ascorbic Acid addition:** Two Riesling wines from the same vineyard source, one treated with ascorbic acid, and one without ascorbic acid, were tasted. Addition of ascorbic acid is thought to delay the appearance of atypical aging (ATA) flavors.
- **Riesling Yeast trial:** Wines made from six different yeasts were compared, and showed often striking differences in flavors.
- **Pinot Noir Thinning Trial:** No crop thinning was compared to early thinning (around fruit set, 1 cluster per shoot)) and late thinning (around veraison). Thinned fruit had better mouth feel and more intense flavors – a typical result with Pinot Noir.
- **Different Fermentation Temperatures:** Pinot noir fermented at constant temperatures from 15 to 25 degrees C or with 'ramped' temperatures were tasted.
- **Pinot Noir Clones:** Three different clones (out of about 7 at the station) were tasted, including 'mariafeld', '115', 'Clone V' and 'clone 7'. They all had different flavor characteristics.

Area Winemakers attending tasting seminar June 25th at the NYS Agricultural Experiment Station

Along with the wines, viticultural information about yields, cluster weight, berry weight, and brix, as well as bud freezing temperatures for the chardonnay and pinot noir clones was presented by Bob Pool in a handout.

Off Flavors. In addition, one flight of wine was chosen to illustrate various 'off' flavors, including Atypical Aging (waxy flavors, lack of varietal character and bitterness), 'mousiness', and 'cork taint'. This is where winemakers used several unique descriptors to characterize the flavors, such as 'rancid peanut butter', 'dusty road', 'furniture wax', 'barnyard', 'damp dishrag' and – my personal favorite – 'garter snake'.

From a growers standpoint, it's easy to make light of the words winemakers use to describe flavors – and often hard to see how they relate to vineyard practices. Flavor differences often seem subtle. Nonetheless, we have had some powerful evidence that drought stress, lack of yeast available nitrogen, and cropping levels can have strong effects on wine quality and wine defects.

Tasting wines made from vineyards with different practices – and wines made with different winemaking practices – is an important tool to help both winemakers and growers improve their techniques. Tasting seminars held over the years have helped area winemakers and growers adopt new techiques that have resulted in better, more consistent Finger Lakes wines.

CANOPY MANAGEMENT SEMINAR HELD AT WAGNER'S WINERY

Timothy Martinson
Finger Lakes Grape Program
Cornell Cooperative Extension

LODI, NY: Over 90 Finger Lakes grape growers turned out for a day-long seminar at Wagner Winery and Vineyards with world-renowned Australian viticulturist **Richard Smart**, on June 19, 2003. Dr. Smart is best known for his book *Sunlight into Wine*, which describes how to apply canopy management techniques in vineyards to maximize light interception and fruit exposure to sunlight. This book has guided vineyardists worldwide in using canopy management techniques to increase yields, improve fruit quality, and achieve better wine quality.

"Improving our growing practices through canopy management will improve the quality of our wines," said **Jim Bedient**, president of the New York State wine growers, who sponsored the seminar. "The higher the quality of fruit we produce, the more prosperous our industry will be." In introducing Smart, Bedient noted that his book has been an invaluable guide used by area growers to improve both yields and quality of their grapevines.

Concepts described in the book were based on pioneering research on light interception and canopy microclimate in vineyards by the late **Dr. Nelson Shaulis** at Cornell's New York State Agricultural Experiment Station in Geneva, NY. As a PhD student of Dr. Shaulis from 1972-1975, Dr. Smart measured light interception in a Seneca Lake Concord vineyard five miles from Wagner's vineyards. For Dr. Smart, the visit to the east side of Seneca Lake was a return to the location where he started his professional career.

Ninety growers from throughout the Finger Lakes and beyond attended the session at Wagner's Ginny Lee Cafe

In the morning program, growers heard Dr. Smart discuss areas of the world that have a climate similar to the Finger Lakes (Austria, Hungary, Romania, Ukraine, and parts of Russia), some potential novel grape varieties for the region (Rkatsiteli and Separavi, among others), and the physiology and practical application of canopy management.

After lunch, the seminar moved into the field, where host **John Wagner**, of Wagner's Winery and Vineyards, has put these canopy management principles into practice. He demonstrated how the grape canopy on his Cabernet Franc and Riesling vineyards is separated into upward and downward-positioned shoots through the use of moveable catch wires-a training system known as Scott Henry, named for the Oregon vineyardist who first used it.

By positioning shoots in this manner, Wagner is able to produce a 7-foot-tall grapevine canopy extending from ground level to the top of his trellis. This increases sunlight interception, and positions fruit clusters in a narrow band midway up the canopy, where they are less shaded. Wagner, who used to mechanically remove leaves in the cluster zone to increase fruit exposure, no longer needs to do so with the Scott Henry system.

Wagner is known throughout the Finger Lakes industry as one of the area's top vineyard managers. He has done a meticulous job in adapting the Scott Henry system and other principles described by Smart to the 200 acres of vineyards he manages.

***Dr. Richard Smart** (left) and **John Wagner** of Wagners Winery near Lodi (right) discussed how to use moveable catch wires to establish the vertically-divided grapevine canopy, a system known as 'Scott Henry' training.*

The meeting was sponsored by Cornell Cooperative Extension's Finger Lakes Grape Program, based in Penn Yan, and the New York State Wine Grape Growers, an organization representing grape growers throughout New York.

CONTACTING THE FINGER LAKES GRAPE PROGRAM

Timothy E. Martinson

I will be on parental leave starting on July 7, 2003, and continuing until the end of September. In my absence, Bill Wilsey will be continuing to send out the weekly e-mail messages, and monthly newsletter, with help from Tim Weigle, other extension colleagues and faculty at the station.

We intend to keep most of the services and program activities going with a minimum of disruption. Andrew Landers will be presenting a field sprayer demonstration on **July 15**, and we will continue the regular schedule of

newsletters, email updates, and the grape listings. We will post grape prices after August 15, as usual.

Bill will also be collecting data for several ongoing projects during the remainder of the growing season.

I would like to encourage you to feel free to contact **Bill Wilsey** or **Brian Hefler** at our office 315-536-5134 with any questions or requests for field visits you might have. Bill will answer your questions if possible, and will refer your questions and inquiries to extension colleagues or faculty members as appropriate. During my leave, I will continue to be in regular contact with Bill by phone. Please don't hesitate to contact us with any questions or problems you might have. We will follow up on them. Thanks to all of you for your support.

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