

# FINGER LAKES

## *Vineyard Notes*



Cornell University  
Cooperative Extension

Newsletter #4

June 27, 2008

IN THIS ISSUE	
Shoot Density and Canopy Management for Hybrids	1
Bird Netting Research Update - 2007	5
33 <sup>rd</sup> Annual ASEV-ES Meeting to Focus on Aromatic White Wines	6
ASEV-ES Technical Program and Symposium Schedule	7
Upcoming Events	9

### Shoot Density and Canopy Management for Hybrids

*Tim Martinson*  
Senior Extension Associate  
[tem2@cornell.edu](mailto:tem2@cornell.edu)

*Justine Vanden Heuvel*  
Assistant professor  
Dept. Horticultural Sciences  
NYS Agricultural Experiment Station  
Geneva, NY

One of the basic principles of viticulture is that vines function best and deliver optimal fruit quality - and quantity- when the grapevine canopy is in balance with the amount of fruit the vine is carrying. This applies whether or not the crop is Concord juice grapes or high-end Cabernet franc. A grower managing a vineyard wants to have the proper ratio of leaf area to fruit to be able to support a reasonable (or large) crop and be able to ripen it.

Too much vegetative growth (under cropping) leads to shoot crowding, excessive shading, numerous leaf layers, and less fruitful buds the following year. Too little leaf area for the amount of fruit present and the fruit won't ripen (overcropping).

Highly vigorous vines with dense canopies can get caught in a vicious vegetative cycle - where excessive growth leads to less fruitful buds, which leads to more growth and even lower bud fruitfulness. Moreover, in dense canopies, quality of the fruit that is there is compromised.

For example, the Traminette vines in Figure 1 had received excessive nitrogen, and produced an extremely dense canopy. The grower found his fruit delayed in ripening, despite a moderate crop, and fruit maturity varied from overripe (exposed clusters) to under-ripe (shaded clusters). Harvest was delayed by 2 weeks compared to other Traminette vineyards in the area.

More importantly, many of the compounds that impart Traminette's unique flavors are directly influenced by exposure to sunlight. Wines produced from this particular vineyard undoubtedly had less of the 'gewürztraminer-like' flavors than other blocks with more balanced canopies.

**The importance of open canopies.** Exposure to light directly influences fruit composition. It can improve brix levels, phenolics, and monoterpenes, while reducing acidity. In red varieties, light exposure reduces levels of



Figure 1. Excess vigor in this Traminette vineyard delayed ripening and harvest, and led to wide variation in fruit maturity. Sun-exposed clusters (top) were over-ripe, while shaded clusters (bottom) lagged in maturity.

methoxy-pyrazines - the compounds responsible for ‘green bell pepper’ flavors - at harvest. Open canopies also improve light interception by leaves, promote air flow and rapid drying, and thereby reduce disease incidence. Not incidentally, open canopies also make it a lot easier to get good spray deposition and disease control.

So how do you get there?

Managing canopy density and cropping level can be a multifaceted process, starting with dormant pruning, continuing with shoot thinning, cluster thinning, canopy zone leaf removal, and shoot tipping or summer hedging.

If you are lucky, and have a moderate vigor site, dormant pruning alone will result in moderate growth conducive to optimal crop levels and an open canopy. Leave the right number of buds and the rest will follow. More often, you may need to use additional canopy management techniques to improve light interception and produce a quality crop.

**Targets.** Ranges of optimal shoot density, shoot length, and crop level to leaf area ratios have been defined for *vinifera* by previous research. They indicate how close the vine is to having a balance of vegetative growth and fruit. Appropriate values for hybrid canopies may be higher.

From a grower standpoint, the most practical measurements to judge vine balance are yield (lb/vine) and pruning weight (lb/vine). While it’s impractical to routinely collect and weigh vine prunings, it may be useful to do so on a few vines to get a feel for how a ‘1 lb vine’ or a ‘2 lb vine’ looks. Yield per vine (T per acre x 2000 lb/ton /vine count = lb/vine) can then be divided by average pruning weight to determine ‘crop load’ ratios. As the table above indicates, a range of 5-12 for this ratio is the ballpark you want to be in for *vinifera*, although crop loads for hybrids may be higher.

Appropriate pruning weights vary, but the target for a vine with 6 foot in-row spacing trained to a single canopy would be 0.3lb/row x 6 ft = 1.8 lb pruning weight.

**Vinifera and VSP.** Most growers are familiar with basics of vertical shoot positioning (VSP) as a training and canopy management system for high-end *Vinifera* grapes. Canes or cordons are tied to a low fruiting wire, and moveable catch wires are used to force shoots to grow upright. Shoots may be thinned early in the season, and clusters removed. When shoot growth extends beyond the top of the trellis, shoot tips are removed in one or more passes to prevent shoots from shading the lower canopy, and basal leaves in the fruiting zone are stripped mechanically or by hand to expose the clusters. Green harvest at veraison of lagging fruit clusters can improve overall uniformity of ripening. (Figure 2)



Figure 2: VSP and canopy management in a Riesling vineyard near Geneva, NY.

Item measured	Indicator	Range
Cane length/diameter	Grams cane weight	25-40
Vine growth	Pruning weight	0.3 lb/ft of row or canopy
Shoot density	Shoots per foot	4-6
Crop load (pruning wt /fruit)	Lb fruit/lb pruning wt per vine	5-12
Yield per unit of canopy	Crop per foot of canopy	3-5 lb/ft

Each one of these practices involves an additional pass through the vineyard, and a substantial amount of labor. High-value *V. vinifera* - at \$1500 to \$2500 a ton - may support this intense labor input. But what about lower-value, more disease resistant hybrids? What canopy management practices will ‘pay off’ for hybrid grape producers?

A New York Farm Viability Institute - supported project by Dr. Justine Vanden Heuvel and Enologist Gavin Sacks is examining this issue in several hybrid varieties, notably older ‘French hybrid’ Marechal Foch and newer Cornell releases Noiret and Corot Noir. Their question: Will canopy management to produce light exposure to fruit result in enough improvement in wine quality to support use of these practices by growers? Will wineries be able to capture higher bottle prices for hybrid-based wines as a result?

**Hybrid growth habits and canopy management.** Many hybrids are ill-suited for low training and VSP, because they have downward growth habits. They are better suited for high training systems, such as the Hudson River Umbrella or ‘high cordon’ system (Figure 3) - or Umbrella kniffen. Grown on VSP, shoots are hard to train upward, because they want to grow downward. Moreover, many tend to be highly vigorous when growing ‘up’, and are devigorated (growth slows) when they grow down. Finally, some hybrids (e.g. Seyval blanc and DeChaunac) have fruitful basal or non-count buds, so it’s harder to control their crop through pruning alone.



Figure 3. Top Wire Cordon training system - DeChaunac vineyard.

So what practices are suited for vines trained high?

Catch wires are out, unless the cultivar is extremely low in vigor. When vigorous hybrids are trained to VSP, shoots can grow downwards over the top of the catch wires and shade the fruiting zone (Figure 4).

The main opportunities for modifying canopy density and shading in hybrids are shoot thinning and basal leaf removal - supplemented by early fruit thinning in large-clustered

varieties such as Seyval blanc and Chambourcin. Shoot tipping (hedging), while possible, is much harder to do on varieties trained high.



Figure 4. Vigorous Noiret trained to VSP. Note that shoots have grown over the catch wires and back down towards the ground, shading the fruiting zone.

**Shoot thinning.** Shoot thinning accomplishes two things: It reduces canopy density and at the same time reduces the number of clusters per vine. Since it is done early, clusters may compensate by increasing fruit set or berry size - although this doesn’t eliminate the difference in crop weight.

In the first year of Justine’s hybrid canopy management study, shoot thinning of Marechal Foch reduced cluster number from about 80 per vine to 60, and crop weight per vine from about 14 to 12 lb. Cluster weight increased slightly (0.14 to 0.15 lb/cluster). In Vignoles, there was a similar decrease in cluster number (about 70 to 50), but a larger increase in cluster weight, from about 0.11 lb to 0.13 lb per cluster. Yield was about 1.5 lb/vine lower on the thinned vines (x807 vines per acre = 0.6 T/acre).

In the Vignoles, shoot thinning measurably changed canopy architecture. Average number of leaf layers was reduced from 2.5 to 2.0 (optimum being about 2), and the % of interior (shaded) clusters dropped from 80% to around 50%. Wines made from this experiment showed discernable sensory differences. In the Foch, Justine measured total flavonols (compounds associated with flavor and mouthfeel), and total anthocyanins (compounds that impart the red color to wines). Shoot thinning increased both.

At our spring seminar on canopy management, growers from Lake Erie, Finger Lakes, and the Hudson Valley tasted the Vignoles and some wines made from shaded or exposed NY76.0844.24 (Numbered selection from Cornell’s breeding program) fruit. Growers and winemakers were able to correctly identify the ‘shaded’ vs. ‘exposed’ wines,

and rated the 'exposed' wines more highly. There was a difference of opinion on how dramatic the differences were, with the Finger Lakes and Lake Erie growers discerning a larger difference than the Hudson Valley attendees.

**Cost and Timing of Shoot thinning.** Shoot thinning is best done early in the season, at around 5-10 inch shoot growth. At that time, it is easy to remove shoots rapidly by hand. The more this is delayed, the more shoots will be lignified and hard to remove without pruning shears. Aim for 4-6 shoots per foot of canopy, and concentrate on removing any secondaries (double shoots) when possible.

Figure 5 illustrates what this looked like in a Umbrella Kniffen-trained block of Marechal Foch this spring. Note that with overlapping canes, what counts is to have the appropriate number of shoots (possibly on several canes) in each foot of row.



Figure 5. Marechal Foch on umbrella kniffen before (above) and after (below) shoot thinning.

In a Cabernet Franc vineyard in the Finger Lakes (Figure 6), we thinned several 60-vine rows and timed how long it took to do so. By maintaining a slow walking speed and focusing on picking off shoots in the most dense parts of the vines, we were able to average between 7 and 9 seconds per vine to complete this task. On a per-acre basis (807 vines per acre)



Figure 6: Shoot thinning in a Cabernet Franc vineyard in the Finger Lakes.

that works out to about 1.6 hours per acre. This is a very small amount of time compared to other hand-labor tasks such as pruning, cluster thinning, and suckering vines.

**Basal leaf removal.** Removing leaves around the cluster zone is a common method to increase fruit exposure. The difference between high-trained hybrids and VSP trained *vinifera* is that the leaf removal is done at the top, and shoot positioning is not as precise. This may rule out mechanical leaf removal, as one will inevitably cut off horizontally-oriented shoots along with basal leaves, leaving more or less short shoots. Later timing of leaf removal (so that developing clusters weigh down shoots and they don't 'sprawl' out to the side) may reduce this problem.

At any rate, extreme leaf removal in the cluster zone should be avoided. Removing too many leaves will reduce photosynthetic capacity too much. Shoot for about 50% cluster exposure.

**Shoot positioning.** Shoots can be manually positioned downwards - basically by manually 'combing' the ones that are growing laterally to a downward position. This may devigorate fast-growing shoots, and provide more light in the renewal zone.

**Hedging.** If vines are not on VSP, then the canopy can be mechanically hedged along the sides to control vine size and provide more light exposure, although studies have demonstrated mixed results with this technique —likely due to the variable shoot length that results. This may be a useful tool if vines are so vigorous that shoots grow too far into the row middles to allow the tractor to pass, but it may not improve fruit and wine quality.

**Cluster thinning.** Some hybrids will benefit from cluster thinning. One thinks of varieties with large clusters and fruitful buds, like Seyval blanc and Chambourcin. Cluster thinning, in general, takes more time than shoot thinning. Timing can be an issue. The earlier you get in there (for example at fruit-set rather than veraison), the faster you can accomplish this task. Early cluster thinning will likely result in some compensation (larger berries, redirection of photosynthate to remaining clusters). Post-veraison cluster thinning (also known as ‘green harvest’) will not change fruit chemistry much, but will improve the consistency of fruit maturity at harvest. Essentially, after veraison, one removes clusters that lag behind in development, so that they don’t impart unripe flavors to the wine.

**Summary.** Hybrids often have different growth habits than *V. vinifera*, and may not be suited to vertical shoot positioning (VSP) - and the canopy management manipulations that are possible with it. Canopies of vines trained to high-cordon or umbrella kniffen, however, can be modified - with improved fruit and wine quality being the payoff.

The most cost-effective way to do this may be shoot thinning. If done at the appropriate time (5-10 inch shoot growth) it can be done rapidly. Aim for 4-7 shoots per linear foot of canopy (if canopy is vertically or horizontally divided, that’s 4-7 shoots for each portion of a divided canopy), and remove secondary buds where both primaries and secondaries have pushed. The result will be a more open canopy, less leaf layers, better fruit exposure - and hopefully more intense flavors and fewer ‘unripe’ flavors in your wines. Try it out in a portion of your vineyard, vinify it separately, and taste the results.

## Bird Netting Research Update - 2007

*Alice Wise & Libby Tarleton  
Cornell Cooperative Extension of Suffolk County  
Long Island Horticultural Research and Extension Center  
avw1@cornell.edu*

Evaluation of bird netting has been a focus of the grape research program over the last few years. For this update, we will focus on 2007 experiments which included three new types of over the row net. The first was an extruded black plastic with a finer mesh size (Wildlife Control

Technologies, CA). The other two were white, knitted nets, Birdtex and VineNet (Gale Pacific, New Zealand). We also evaluated three types of side netting: Vineside and Vineside EZ10 (Gale Pacific, NZ) and a fine mesh knit (Gintec Shade Technologies, Ontario).

At the research vineyard, we used 6 different types of net as a demonstration: conventional, over the row fine mesh, Vineside, Gintec ProGuard, Gintec ProGuard knit and Windbreak Plus. These represent nets tested in previous seasons as well as new types. They all performed equally well, not surprising given the minimal bird pressure. Anyone with specific questions about these nets, feel free to contact us.



Figure 1. Long Island bird netting trial.

**Experiment 1** – In a high pressure Pinot Noir block, we compared conventional net to fine mesh over the row net and fine mesh side netting (Figure 1). Treatments were deployed around veraison in anticipation of heavy bird pressure. Ultimately bird pressure was low to moderate. Still, there were some statistical differences in the data. The fine mesh side net had a much lower incidence (number of clusters damaged) than the two overhead nets. The severity, average percent of damage per cluster, was highest in conventional plots. Fruit parameters at harvest showed some differences but they were not profound. There were indications that both fine mesh nets slightly hindered ripening but this would need to be verified either on a larger scale or over several years. All in all, both the over the row and the side fine mesh nets did a good job with bird control. The side net was very strong and easy to handle. The over the row fine mesh net, however, presented some problems. Both in these plots and in our research vineyard, when applying and removing, we repeatedly ripped this net with very little effort. In our observations, it was not as strong as conventional over the row netting.

**Experiment 2** – In a high pressure Merlot block, we compared conventional net to two side nets, Vineside (Figure 2) and

Vineside EZ10 (Figure 3). The latter is a lower cost version. Again, bird pressure was low to moderate. There was a great deal of variation in the data; that said, fruit in conventional nets incurred a much higher incidence of bird damage vs. the side nets. TA's were variable with the highest in the conventional plots. Overall, the side nets performed better than the conventional over the row net.



Figure 2. Vineside bird netting.



Figure 3. Vineside EZ10 bird netting.

**Experiment 3** – The cooperating grower graciously deployed several new types of over the row nets, both very strong white knits, Birdtex and VineNet. They both did an excellent job of reducing bird damage, and the data was impressive. We used the 16.4' width nets (they also comes in 21' widths) which compressed the top of the canopy a little too much. For heavier canopies and/or wet years, this could lead to undesirable shading and/or downy mildew. Throughout these experiments, we have felt that white nets have fared better than black nets. Whether white nets obscure the fruit better, or they are new and the birds are not yet used to them, it is hard to say. There are references in the

literature, however, that note this effect. This is something to consider for the future.

We have tinkered with spacers to keep the nets away from the cluster zone and measuring relative humidity and temperature inside of the nets. These are discussed in detail in the progress report (see note below regarding these reports). We also discuss costs and quality issues.

We gratefully acknowledge the USDA Viticulture Consortium, New York State, the NY Wine & Grape Foundation, Grape Production Research Fund and Long Island winegrowers for financial support of this work. We also thank Gale Pacific and Gintec Shade Technologies and Spec Trellising. A number of local vineyards have participated in this work over the years, we thank them for their excellent cooperation: Paumanok Vineyards, Mudd Vineyards, Duck Walk Vineyards, McCall Vineyards, Channing Daughters Vineyard & Winery, Osprey's Dominion Vineyards.

*Growers who are interested in reading more about this research can download Alice and Libby's progress report to the Viticulture Consortium-East from 2006 at <http://www.nysaes.cornell.edu/pubs/vitcon/07pdf/55.pdf>. The 2007 report, mentioned above, can be obtained by e-mailing Alice at [avwl@cornell.edu](mailto:avwl@cornell.edu).*

### **33<sup>rd</sup> Annual ASEV-Eastern Section Annual Meeting to Focus on Aromatic White Wines**

The 2008 ASEV/ES meeting will take place July 14-16, 2008 at the Four Points by Sheraton St. Catharines Niagara Suites, in the heart of the Niagara Region in Ontario. The conference will kick off with an all day tour on Monday, July 14, that will start in Niagara-on-the-Lake with visits in the morning to Lambert Vineyard, then on to Southbrook Winery, including a tour of their organic and biodynamic vineyard, followed by a tour of a true gravity flow system at Stratus Winery and tasting of their assemblage of wines. Lunch will follow at picturesque Hernder Estate Wines in West St. Catharines. The afternoon will include a tour of family run Fielding Estate Winery along the beautiful Niagara Escarpment on the Beamsville Bench and end with a tour, tasting and barbeque at Creekside Estate Winery in Jordan, home of the 2008 Ontario Winemakers of the Year Craig McDonald and Rob Power. This tour is filling up very quickly, so make sure to reserve a space soon if you want to go.

The program will begin on Tuesday, July 15 with presentations by researchers and graduate students from all over the eastern and midwestern U.S. and Canada. This is a really great opportunity to hear about the latest information on a whole range of topics associated with grape growing and winemaking, including impacts of canopy management on fruit quality, disease management, and winemaking tech-

niques that can improve wine quality.

This year's symposium will take place on Wednesday, July 16, and will focus on issues in the production of aromatic white wines. The symposium features a stellar lineup of international speakers from Germany, Alsace, the U.S. and Canada, including Olivier Humbrecht of Domaine Zind-Humbrecht. The symposium will cover viticultural, enological and sensory issues associated with the production of these types of wines which are very important to the grape and wine industries in many parts of the country, including here in the Finger Lakes. You can check out the entire program for the conference, as well as registration information, at the ASEV-Eastern Section website, <http://www.nysaes.cornell.edu/fst/asev>.

The conference will conclude Wednesday evening with a Farewell Reception and grazing-style dinner, intended to introduce delegates to a half-day tasting conference that will take place just across the street at Brock University on Thursday July 17. This conference, entitled *The Riesling Experience*, will include technical talks from regional and international experts, tastings, and a gourmet lunch with plenty of great food. It is our hope that attendees to the ASEV/ES will also take advantage of this special opportunity to attend *The Riesling Experience* immediately following the ASEV/ES meeting.

The conference is being held at The Four Points by Sheraton St. Catharines Niagara Suites, an all-suites hotel, which includes 129 spacious guest suites located just minutes from Niagara Falls, Niagara-on-the Lake, Welland, and Fort Erie. Nearby attractions include an internationally acclaimed wine industry, year round festivals, theater, casinos, historic sites, and unique recreational opportunities. Brock University is just across the street.

### ASEV-ES Technical Program and Symposium Schedule (as of June 26, 2008) July 15-16, 2008

#### Tuesday, July 15

8:00 *Introduction* Terry Bates, Cornell University, Fredonia, NY

8:10 *Positive Correlation of Methoxypyrazine Concentrations in Cabernet Franc Fruit with Post-bloom Shoot Vigor.* **Alan N. Lakso**, Diego Intrigliolo and Gavin L. Sacks, Cornell University

8:30 *The Impact of Timing and Severity of Leaf Removal on Production of Phenolics and Methoxypyrazines in Cabernet Franc.* **Said Ennahli**, Piero A. Spada, Steve Lerch, Gavin L. Sacks, and Justine E. Vanden Heuvel, Cornell University.

8:50 *Genome-Wide Genetic Variation in Vitis: Setting the Stage for Genetic Association Studies in Grapes.* **Sean Myles**, Ed Buckler, Cornell University

9:10 *Response of Four Grapevine Genotypes to Iron Deficiency Stress in vitro and in the Greenhouse.* **Paul E. Read**, Leslie Burchell, Virginia Miller and Stephen Gamet, University of Nebraska.

9:30 *Characterizing Virus-Nematode Complexes that Limit Vineyard Sustainability.* **S. Alan Walters**, Bradley H. Taylor, and Z.A. Handoo. Southern Illinois University and USDA ARS Plant Sciences Institute.

9:50 *Cluster Shading Affects Composition but not Concentration of Anthocyanins in Mature DeChaunac Grapes.* **Piero A. Spada**, Catherine C. Neto, and Justine E. Vanden Heuvel, Cornell University and University of Massachusetts Dartmouth.

10:10 *Break*

#### *Student Competition - Enology Session*

10:30 *The Effect of Potassium Metabisulfite Vineyard Sprays on Grape Juice Sulfur Dioxide and Fermentation.* **Lisa Dowling**, Wendy McFadden-Smith, and Debra Inglis, Brock University.

10:50 *Sensory and Analytical Profiles of Riesling and Vidal Icewines: Influence of Crop Level.* **Amy J. Bowen**, Andrew G. Reynolds, and Isabelle Lesschaeve, Brock University.

11:10 *Sensory Profiles of Riesling Wines from Sub-Appellations within the Niagara Peninsula.* **James J. Willwerth**, Andrew G. Reynolds, and Isabelle Lesschaeve, Brock University.

11:30 *ASEV-ES Business meeting*

12:10 *Theme Luncheon*

14:00 *The impact of hyperosmotic stress on yeast nitrogen usage during Icewine fermentation.* **Stephanie Martin**, George van der Merwe, Barry Shelp and Debra Inglis, Brock University.

14:20 *Electronic Nose Monitoring of the Effect of Cluster per Shoot and Cold Soak on Merlot Grape and Wine Volatiles.* **Denise Gardner**, and Bruce W. Zoecklein. Virginia Polytechnic Institute & State University.

Student Competition – Viticulture

14:40 *Etiology of sour rot in Ontario vineyards.* **Rhiannon Plant**, Wendy McFadden-Smith and Debra Inglis, Ontario Ministry of Agriculture, Food and Rural Affairs.

15:00 *Effects of Pruning Severity and Cluster Thinning on Vigor, Yield, Fruit Composition and Crop Load of Vidal Blanc Grapevines.* **Patsy E. Wilson**, D. Archbold, and S.K. Kurtural, University of Kentucky.

15:20 *Effect of Pruning Severity on Microclimate, Yield Components, Crop Load and Cold Hardiness of Traminette Grapevines.* **B.S. Brandon O'Daniel** and S.K. Kurtural, University of Kentucky.

15:40 *Spatial Relationships Among Vine Water Status, Yield*

*Components, and Fruit Composition in Cabernet Franc Vineyards of Niagara.* **Javad Hakimi** and Andrew G. Reynolds, Brock University.

16:00 *Enhancing the Precision and Spatial Acuity of Point Quadrat Analyses.* **James M. Meyers** and Justine E. Vanden Heuvel, Cornell University.

16:20 *The development of molecular tools for the selection of freezing tolerant grape cultivars.* **Michelle Moody**, Nelson Ho, Helen Fisher and Annette Nassuth, University of Guelph.

16:40 *Effect of evapotranspiration level and time of irrigation imposition on vine physiology, vigor, yield components, fruit composition and wine quality on Baco noir in a cool climate area.* **Gabriel Balint** and Andrew G. Reynolds, Brock University.

17:00 *VBC30054 as a pre-conditioner to improve berry thinning of 'Vignoles' vines treated with GA3 or NAA.* **Jeffrey M. Wheeler** and Bradley H. Taylor, Southern Illinois University.

### Poster Session

#### *Submitted posters*

*Vine and Cover Crop Water Use in a Riesling Vineyard in a Humid Climate.* Diego Intrigliolo, Richard M. Piccioni and **Alan N. Lakso**, Cornell University.

*Prediction of average yield in seed and seedless germplasm.* Radhakrishna M. Putcha, **Chandrasekhar Putcha**, B.S. Rao, G. Ram Reddy and D. Vijaya, Grape Research Station, APAU, A.P. India and California State University, Fullerton, CA.

*Effects of Shoot Thinning and Hedging on Yield and Fruit composition of Vignoles (Vitis sp.).* **James M. Meyers**, Steven D. Lerch, and Justine E. Vanden Heuvel, Cornell University.

*Using DNA microarrays to distinguish clones of Pinot Noir.* **Christopher Owens**, USDA-ARS, Geneva, NY.

*Effect of Training System on Grapevine Vigor, Yield and Fruit Composition in the Lower Midwestern U.S.* **Chris Smigell, J.** Strang and S. Kaan Kurtural, University of Kentucky.

*Organic matter additions can influence grape vine performance, fruit quality and soil content.* **Fisher, K.H.**, Piott, B. and Parker, E., University of Guelph.

#### *Student Competition*

*Effect of Phenolic Compounds in Noiret Wines on Oenococcus oeni Bacteria.* **Misha T. Kwasniewski**, Alyse Mizia and Kathleen Arnink, Cornell University.

*The Effect of Shoot Thinning and Basal Leaf Removal on Yield and Fruit Composition of Noiret (Vitis sp.).* **Benjamin M. Riccardi**, Steve Lerch, Kathleen J. Arnink and Justine E. Vanden Heuvel, Cornell University.

*Using GPS, GIS and Airborne Imaging to Understand Niagara Terroir.* **Linda Tremblay**, Andrew Reynolds, Ralph Brown, Matthew Marciniak, Lucas Baissas, Brock University.

*Impact of sunlight and its components on severity of grapevine powdery mildew.* **Craig N. Austin**, Alan N. Lakso, Robert C. Seem, Duane G. Riegel, David M. Gadoury, and Wayne F. Wilcox. Cornell University.

### Wednesday, July 16 - Aromatic White Symposium

8:25-8:30 *Introduction -* **Andrew G. Reynolds**, Brock University.

8:30-9:15 *Mapping Riesling terroir in Germany.* **Uli Fischer**, Neustadt, Germany.

9:15-10:00 *Water status and terroir in Riesling in Niagara.* **James Willwerth**, CCOVI, Brock University.

10:00-10:15 *Break*

10:15-11:15 *The aroma of Gewürztraminer: the role of terroir.* **Olivier Humbrecht**, Domaine Zind-Humbrecht, Turkheim, Alsace (includes tasting).

11:15-12:00 *Processing strategies for aromatic whites.* **Monika Christmann**, Forschungsanstalt Geisenheim, Germany.

12:00-2:00 *Theme lunch featuring aromatic white wines*

2:00-2:45 *Quantifying aroma and flavour in aromatic white varieties.* **Uli Fischer**, Neustadt, Germany.

2:45-3:30 *Novel methods for measuring aromas in aromatic white varieties.* **Gavin Sacks**, Cornell University, Geneva, NY.

3:30-3:45 *Break*

3:45-4:30 *Enzymes for flavour liberation in aromatic white varieties.* **Samantha Kollar**, Lallemand, Inc., Petaluma, CA. (includes tasting)

4:30-5:15 *Experience with aromatic white varieties in the mid-Atlantic region.* **Tony Wolf**, Virginia Polytechnical Institute & State University, Winchester, VA.

6:00-9:00 *Farewell reception featuring a Mediterranean-themed grazing dinner, on campus, Brock University.*

### Thursday, July 17

#### **The Riesling Experience - Brock University**

*A great follow-up to the ASEV-Eastern Section meeting, this event will feature presentations and tastings of Riesling from around the globe. The keynote speaker for the event will be Olivier Humbrecht of Domaine Zind-Humbrecht in Alsace, one of the finest Riesling producers in the world. Program and registration information can be found at [www.rieslingexperience.com](http://www.rieslingexperience.com).*

## UPCOMING EVENTS

### **33<sup>rd</sup> Annual ASEV-Eastern Section Meeting**

*July 14-16, 2008*

*Four Points Sheraton*

*St. Catharines, Ontario*

### **The Riesling Experience 2008**

*July 17, 2008*

*Brock University*

*St. Catharines, Ontario*

Program and registration information can be found at [www.rieslingexperience.com](http://www.rieslingexperience.com).

### **The North East Vineyard Equipment Show and Demonstration**

*July 30 – 31, 2008 9:00 AM – 5:00 PM (both days)*

*1255 Ridge Road, Dresden, NY*

Pre-registration is requested either by e-mail ([ajl31@cornell.edu](mailto:ajl31@cornell.edu)) or by phone (315-787-2429).

### **The Art of Balance: Cool Climate/Maritime Wines in a Global Context**

*August 5-6, 2008*

*Stony Brook University Center for Wine, Food, and Culture*

*Southampton, NY*

Visit <http://www.stonybrook.edu/sb/winecenter/symposium2008.shtml> for more information.



**Cornell University**  
**Cooperative Extension**

*The information, including any advice or recommendations, contained herein is based upon the research and experience of Cornell Cooperative Extension personnel. While this information constitutes the best judgement/opinion of such personnel at the time issued, neither Cornell Cooperative Extension nor any representative thereof makes any representation or warranty, express or implied, of any particular result or application of such information, or regarding any product. Users of any product are encouraged to read and follow product-labeling instructions and check with the manufacturer or supplier for updated information. Nothing contained in this information should be interpreted as an endorsement expressed or implied of any particular product.*

Newsletter No. 4

June 27, 2008

### **FINGER LAKES VINEYARD NOTES**

is published by

Cornell Cooperative Extension

Finger Lakes Grape Program

Ontario, Schuyler, Seneca, Steuben, and Yates Counties

County Office Building

417 Liberty Street • Penn Yan, NY 14527

*Comments may be directed to*

**Hans Walter-Peterson**

Viticulture Extension Educator

Finger Lakes Grape Program

315-536-5134

[hcw5@cornell.edu](mailto:hcw5@cornell.edu)

---

Cornell Cooperative Extension

Finger Lakes Grape Program

417 Liberty Street

Penn Yan, NY 14527

*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.