



## FINGER LAKES VINEYARD NOTES

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#### LEAF PULLING FOR IMPROVED FRUIT EXPOSURE

David Peterson

Leaf pulling has become an increasingly used practice in Finger Lakes premium wine grape vineyards to improve sunlight exposure of the fruit. The problems associated with shaded fruit should be familiar to most of you. Briefly, some of the potential disadvantages of shaded fruit include: increased incidence of *Botrytis* and other bunch rots, increased malic acid levels, increased herbaceousness in the wine, increased juice potassium, increased juice pH, decreased color (red wines), decreased sugar levels and decreased desirable aroma and flavor compounds. Given the excessive amount of shoot growth in some area vineyards this year, leaf pulling may be a good idea.

Although there are many potential benefits to leaf pulling, economics must be carefully

considered. Since most of the benefit is in improved quality, growers should evaluate whether or not it will be financially worthwhile. In other words, are you going to be able to market your grapes for a higher price, or will it at least make them more easily marketable? Several wineries did pay growers a premium for leaf pulling last year, and more have discussed it this year. The major direct benefit of leaf pulling to the grower is improved bunch rot control, which can have economic benefits as well. Labor requirements for leaf pulling vary considerably, depending on vigor, variety, training system, how many leaves you wish to pull and whether or not you do it with a machine or by hand. Training system is a major factor in the economics, and systems without a defined fruit zone are almost impossible to leaf pull economically. Low cordon or low cane systems with vertical shoot positioning generally are best suited, while cane systems such as Umbrella Kniffin or 4 Arm Kniffin are the least economical. The higher price received for *vinifera* varieties also

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makes them better candidates. All vines do not necessarily need leaf pulling. Smaller vines (sparser canopies) may need few or no leaves pulled to have good fruit exposure, while more vigorous ones will require more. Leaf pulling on one side of the canopy is another alternative, and can offer lower cost and some increase in exposure. Growers must be careful to avoid excessive pulling, to be sure that an adequate leaf area is maintained to ripen the crop. Older less functional leaves from around the cluster are the ones that should be targeted for removal.

Timing is also important. There are 2 primary windows typically used by growers. The first is within a few weeks after fruit set. You need to wait long enough that clusters begin to toughen up a bit so that they are not easily damaged by a worker ripping away at the leaves. But if you wait too long, fruit that is suddenly sun-exposed after being in the shade will be prone to sunburning. This probably gives a safe window of about 3-4 weeks in the Finger Lakes that we safely can do this, depending on the variety and the season. The other opportunity is at and just after veraison, when the fruit becomes less sensitive to sunburning. The major disadvantage to waiting until veraison is that some of the potential benefits of bunch rot control may be diminished somewhat, and some people have also questioned if the other benefits may not be diminished as well.

## **CURRENT FINGER LAKES DISEASE SITUATION**

Wayne Wilcox  
Dept. of Plant Pathology  
NYSAES, Geneva

With as much rain as we've had this season, disease pressure has been very high. Just how high has been a bit sobering in many instances. A brief rundown of the current situation and some suggestions for future action.

Downy mildew. This disease is epidemic in many vineyards. Because it reproduces so rapidly and prolifically, it has the potential to "explode" if conditions are right (dewey nights and rainy days) and effective fungicides are absent or in short supply (coverage, long

intervals). A number of growers initially misidentified this disease when it started appearing on the berries, believing that it was powdery mildew instead. Unfortunately, this delayed the proper treatment.

Recall that the difference between powdery and downy mildews can be somewhat subtle on berries. Downy mildew produces a white, cottony (downy) appearance, whereas powdery mildew looks powdery or dusty. On some varieties, early downy mildew infections of the clusters cause them to twist into a cork-screw shape. Leaf infections of downy mildew are very easy to diagnose. Look for dime to quarter sized yellowish spots (which eventually die and turn brown) on the top surface, then turn the leaf over. If these spots are caused by downy mildew, you should see white growth (which will be fuzzy in the mornings following humid nights) directly below them on the underside of the leaf.

New leaves and existing fruit will remain susceptible to this disease throughout the summer. If it is under control, keep it that way with protective sprays of mancozeb (66 day PHI), captan, or copper materials. If there is more than a trace amount present, consider the use of one of the Ridomil products (both Ridomil MZ and Ridomil Copper have a 66 day PHI, so time is running out). These are by far the most effective materials against downy mildew and can easily pay for themselves under high disease pressure. We have traditionally recommended against applying Ridomil to sporulating lesions (resistance management), and this is a good idea under normal circumstances. Unfortunately, current conditions are not normal. The best fungicide in the world would be 2 to 3 weeks of hot dry weather, so you might be able to substitute this for the chemicals if it ever becomes available.

Powdery mildew. With the downy mildew emergency, powdery has sometimes been forgotten. This disease was slow in becoming noticeable, but it's become severe in some blocks over the last couple of weeks. Take a good look if you haven't within the last few days, especially on highly susceptible varieties or in problem blocks. Dave Gadoury and Bob Seem ( Dept. of Plant Pathology, Geneva) have analyzed historical weather data and compared

them with powdery mildew outbreaks over a number of years, and have come up with one major conclusion: years with severe levels of berry infection have always been those years with numerous rain events from the prebloom through fruit set period. Obviously, this one (season) fits the bill.

Concord fruit are past their period of susceptibility now, but *vinifera* fruit (and probably those of susceptible hybrids) will remain susceptible until veraison. If you've used several SI sprays and the vineyard is clean, sulfur should keep it that way. If noticeable levels of infection are present, the options are (a) try to keep it to a dull roar with sulfur; (b) try to eradicate at least some of it with a spray of JMS Stylet Oil (1.5 to 2% concentration), then maintain control with this or another material; or (c) try to keep it down with Rubigan or Nova. This last option should be effective in the short term, but will lead to long-term problems if you get in the habit of using it.

**Black rot.** Rarely found at more than a trace level, except in hedge-pruned vineyards where last year's mummies were retained in the canopy. If you're clean by the time you read this, you should be home free on black rot for the rest of the season. If more than a trace of black rot is present, maintain protection until August 1.

**Botrytis.** If Rovral sprays during bloom and/or bunch closing are ever going to provide extra help, this will be the year. Consider experimenting on highly susceptible varieties/problem blocks. Leave some (or most) of the block unsprayed for comparison.

## GRAPE BERRY MOTH RISK ASSESSMENT

Tim Weigle

The third week of July once again signals time to scout vineyards for the presence of grape berry moth (GBM). Growers with high risk vineyards will automatically be putting an insecticide on those vineyards in the late July - early August spray. During the 1995 growing season it was apparent that waiting until the first week in July to apply the GBM spray was

too late and with the calendar giving us a full first week in July it is suggested that necessary applications be made during the last week of July or first week of August. Low and intermediate risk vineyards however, should be scouted during the third week of July to determine if cluster damage exceeds the 6% damage threshold. This is also an excellent time to monitor leafhopper (LH) populations to determine if control measures are needed.

Barry Shaffer, Farm Business Management Specialist, has crunched the number from 3 years of GBM RA implementation projects and found that scouting for GBM can result in significant savings to growers. An average cost savings of \$18.73/acre was found using the GBM RA compared to a conventional two-spray insecticide program. Using Barry's example of a 50 acre grower with 10 vineyard blocks and an estimated scouting time for GBM and leafhopper of one hour per block. The 10 hours it would take to scout the 10 blocks could result in a cost savings of \$936.50 (50 acres X \$18.73/acre). Scouting time would then be worth \$93.65 an hour. Of course, actual savings a grower realizes would vary according to weather conditions, acreage, block size, risk rating, etc.

While the third week of July has become a busier time of the year for growers who are also using the new crop thinning techniques, it is apparent that scouting for GBM and LH can result in significant cost savings to growers.

For complete information on the Grape Berry Moth Risk Assessment protocol, New York's Food and Life Sciences Bulletin 138, Risk Assessment of Grape Berry Moth and Guidelines for Management of the Eastern Grape Leafhopper is available at the Finger Lakes Grape Program Office in Penn Yan, NY. Or for more information call Tim Weigle at (716) 672-6830

## FINANCIAL RATIOS PART I (LIQUIDITY)

Barry Shaffer

Financial ratios and measures are like vital signs. Just like doctors monitor percent body fat, blood pressure, etc. financial analysts

monitor financial ratios over time. The numbers calculated are important, but the direction of these numbers over time (trend analysis) can show which way the farm is heading.

There are five categories of financial ratios:

- Liquidity
- Solvency
- Repayment Capacity
- Profitability
- Financial Efficiency

**Liquidity, what is it?** Balance sheet measures of the ability of the business (or household) to meet financial obligations as they come due in the normal course of business, without disrupting the normal operation of the business. WNY Farm Credit has been doing a Grape Farm Financial Summary for the past five years. For our examples we will use Farm Credit's average farm data. I'd like to look at one commonly used ratio per category and for liquidity we'll use the current ratio. This is current assets/current liabilities.

This gives an indication if the business will be able to repay debt in the near term. A current ratio over 1.5 is what you should strive for, under 1 indicates tight cash flow and problems making payments. Here are the current ratios for the Farm Credit average grape farm:

1991 - 3.23	1994 - 3.17
1992 - 2.35	1995 - 1.49
1993 - 1.16	

Looking at only the current ratios 1993 was the worst with the \$1.16 of current assets to pay \$1.00 of current liabilities. Both 1991 and 1994 were strong years. Heading into 1996, the average grower was not as liquid as the previous year which is a bad sign but still in a good range. To do this calculation on your own operation, you need a balance sheet. If you don't have from year end, your lender or accountant should have one.

### **PEST IDENTIFICATION AND GROWER/PROCESSOR FIELD MEETING - JULY 25**

Given the disease problems that are occurring in area vineyards, it provides an ideal

opportunity to have a meeting on field identification of these pests. Growers continue to confuse downy and powdery mildew, and have often implemented costly control measures against the wrong disease. Even worse, they have often done little or nothing to control the disease they actually have, resulting in raging epidemics. We will bring samples of existing disease and insect problems from area vineyards to this meeting, and we encourage you to bring samples from your vineyards. We will also include samples of nutrition problems and other disorders. Wayne Wilcox, grape plant pathologist from the Geneva Station, will be on hand to discuss disease problems and control strategies. **Growers will receive credits for pesticide applicator recertification.**

Also as part of this meeting, we are continuing our "Getting to Know the Processor" series. This will be with Fox Run Winery on Seneca Lake. Fox Run is owned by Scott Osborn, who since purchasing the winery has rapidly increased production and sales. Although the focus at Fox Run has been with *vinifera* varieties, they are also interested in purchasing some hybrids for their blends. We will also get a chance to look at the progressive vineyard management approach Fox Run has implemented to improve disease control and to improve fruit quality. An educational tasting of Fox Run wines will be included.

This is the second meeting of this type, which we began last month at Anthony Road. The response of those who attended that meeting was very enthusiastic. These meetings provide an ideal opportunity to get an in-depth look at what issues the winery faces, and how these issues impact the grower. Growers are also able to interact personally with the winery, which can lead to marketing opportunities.

The meeting will be held on Thursday July 25 at 7 pm at Fox Run Winery, located 8 miles south of Geneva on Route 14. **Preregistration is required.** The meeting is free to all growers enrolled in the Finger Lakes Grape Program. **Please call Katie at (315) 536-5134 on Monday - Friday between 8:30 am and 4:30 pm if you plan to attend. Registration is limited to 40 people.**

The next meeting in this series will be on  
August 20 at Swedish Hill Winery in Romulus.

A handwritten signature in black ink that reads "David V. Peterson". The signature is written in a cursive style with a long, sweeping underline.

David V. Peterson  
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Finger Lakes Grape Program

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