



# FINGER LAKES VINEYARD NOTES

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### ABOUND REGISTERED IN NEW YORK

*W. Wilcox and T. Martinson*

Late last week, Abound received a Section 24 (c) registration for use on grapes in New York (except Long Island). A few important considerations for its use.

1. It is registered for up to two applications this year, at a rate of 11 to 15.4 fluid ounces per acre at a 10-14 day spray interval. Tests at Geneva have shown excellent results of rates of 11 - 11.5 fl oz/acre at 14 day intervals.
2. Although the label allows the use of a surfactant, it is probably not necessary. No advantage to surfactant use has been seen in tests at Geneva.
3. Abound is strongly phyto-toxic to some varieties of apples. *It is important to avoid any drift on to apples, especially MacIntosh and related (e.g. Cortland, Empire) apples. Drift on to these varieties may cause severe plant injury. If you spray*

*both apples and grapes, be very cautious about using the same equipment in apples following use of Abound - at the very least, thorough cleaning of the equipment is a MUST.*

4. Abound is active against powdery mildew (++++), downy mildew (++++), phomopsis (++++), and black rot (+++). However, it will *not* provide extraordinary better control than existing materials. Don't expect it to cure raging epidemics that other fungicides don't control.

Whether or not you will want to use this product this years comes down to economics, disease pressure in your vineyard, and weather. Cost will be in the neighborhood of \$20 per acre. A few suggestions as to where it might fit:

1. If your major concern is powdery mildew: *Vinifera* and hybrid fruit are past their 'peak' susceptibility of infection; Concord fruit are no longer susceptible to infection by powdery mildew. Foliage infections,

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however will continue. Fixed copper or sulfur materials may be good enough if no other diseases (downy mildew; phomopsis) need controlling. However, if you are planning an additional SI fungicide application, Abound is a good alternative from the standpoint of resistance management and the broader spectrum of diseases controlled.

2. Downy mildew: If you have established infections in your vineyard, and wet weather conditions continue, continued protection for downy is desirable. Abound is an alternative for those with processor restrictions (captan), and won't run up against the pre-harvest interval (mancozeb). The additional control of powdery and other diseases is a plus.
3. Black rot. Abound provides control equivalent to mancozeb or ziram, which should be good enough at this late date. If your vineyard is clean, black rot shouldn't be an issue after August 1 when fruit lose their susceptibility.

To summarize, for many growers, Abound may be a good choice for the next fungicide spray if weather continues to be wet and downy mildew is a concern. However, if more inexpensive spray materials (e.g. sulfur or fixed copper) are sufficient for your situation, stick with them. Beyond the next spray, usefulness of Abound is more questionable.

## SUMMER CANOPY MANAGEMENT

*Tim Martinson*

Bloom is finally nearing completion for most varieties in the Finger Lakes. With completion of bloom, it is time to consider canopy management options that can improve quality, particularly for premium wine grape vineyards. At this time of the season, there are two basic methods (aside from maintaining appropriate control of diseases and insects) for improving the quality of grapes harvested: adjusting the canopy to increase exposure of the fruit to

sunlight and reducing the amount of crop through cluster or shoot thinning.

**Improving fruit exposure** has several benefits. Excessive shading of fruit impedes air circulation around fruit, leading to a moist environment favorable for *Botrytis* infection. Increasing exposure of fruit can dramatically reduce infection by bunch rot disease organisms, as well as improving spray penetration and coverage. Exposure of the fruit to sunlight also promotes desirable changes in chemical composition of grapes that result in improved wine quality. Grapes with sunlight exposure produce wines with better color (red wines), less 'herbaceous' or 'grassy' character in the wine, more favorable pH and potassium levels, more tartaric acid relative to malic acid levels, and increases in desirable aroma and flavor compounds. There are two methods for avoiding the development of dense canopies.

**Shoot hedging** or summer pruning is done to prevent vigorous shoots from shading basal areas of the canopy. It involves manual or mechanical removal of shoot tips, particularly in vineyards with vertical shoot positioning. Benefits will be greatest in *vinifera* vineyards with high vigor. The goal is to remove portions of long shoots that lean over into row middles while retaining at least 15 leaves per shoot. Trimming beyond this level should be avoided, as it will reduce leaf area below the minimum amount needed to ripen fruit adequately. Shoot hedging should be done between fruit set (now) and veraison. Trimming may have to be repeated in high-vigor vineyards. Removal of shoot tips promotes growth of lateral shoots. For this reason, early trimming is better than trimming later in the season. Early growth of laterals will produce mature leaves by veraison, which won't divert photosynthate (carbohydrates) from fruit. Shoot hedging around and after veraison should be avoided, because it will redirect carbohydrates from fruit to actively growing lateral shoot tips. Again, shoot trimming is most practical in shoot-positioned vineyards.

**Leaf pulling**, or removal of leaves around the clusters, is another method of improving fruit exposure. Doing so can result in substantial reduction in bunch rot, faster drying after rainfall, and improved pesticide coverage, as well as other quality improvements previously mentioned. Generally, no more than 2 – 3 leaves around clusters are removed. It is not necessary to achieve 100% exposure of the clusters – partial exposure so that 50-70% of the cluster is visible is sufficient. The amount of leaves removed should be adjusted according to the density of the canopy – dense, vigorous canopies will need more leaves removed than smaller, less-vigorous canopies. Removing leaves only on one side of the canopy may provide most of the benefits and reduce the cost somewhat. Leaf pulling is most practical in training systems that have a defined fruiting zone (i.e. low cordon or low cane shoot-positioned canopies). When should leaf pulling be done? From two to four weeks after fruit set. Cluster injury can result when leaf removal is done too early, and sunburning of fruit can result if it is done too late. Leaf pulling is done by hand in most Finger Lakes vineyards – and can require up to 20 hours per acre of labor. For this reason, it is generally economically justifiable only in higher-value *vinifera* vineyards, where some buyers will pay a premium for doing so. Mechanical pruning equipment is being used by some growers, and substantially reduces labor requirements. Increased use of mechanical leaf pulling equipment may make the practice applicable to a wider range of varieties and situations.

**Crop Reduction.** This may not be the year in which there is a great potential for overcropping, as bud fruitfulness appears to be lower than average in many vineyards. However, the delay in development associated with cool early-season temperatures in the Finger Lakes may also delay maturity, which could be a problem in young vineyards, varieties that tend to overcrop, late-maturing varieties, and other vineyards carrying a heavy crop. Crop estimation followed by cluster thinning is an option for attaining

maturity and avoiding winter injury that can follow overcropping and late harvest. Two key questions when considering crop adjustment are 1) how much crop will ripen in my vineyard, and 2) what is the payoff? Because many factors, such as processor's standards, intended use of the grapes, variety, vine health and cold-tenderness can affect answers to both of these questions, growers are perhaps in the best position to decide the desired cropping level in their vineyards (If that sounds like waffling, that's because it is!)

To estimate crop level, you need to know how many vines per acre you have and crop weight per vine. Assuming you know the number of vines per acre, there are two methods for arriving at an estimate of crop weight (lb.) per vine. The first is to 1) count the number of clusters on a representative sample of vines in your vineyard; 2) rely on your knowledge of historical cluster weight at harvest; and 3) multiply factors (1) and (2) to obtain lb. per vine. The second method is to harvest fruit from a representative sample (e.g. 2 post-lengths) at 1200 growing degree-days, when berries reach 50% of final weight. For Concord, studies at Fredonia have shown that regardless of pruning system, weather, year, or crop level, 50% of final cluster weight occurred at 1200 growing degree days (on average, around July 19; last year on July 23, this year probably between July 26 and July 30). This timing is probably in the 'ballpark' for similar varieties. Multiply weight of fruit per vine at 1200 degree-days by 2 to determine crop weight per vine at harvest. For both methods, multiply lb/vine by vines per acre and divide by 2000 to arrive at tons per acre. If the estimated crop is above the desired tons per acre, you can then calculate the number of clusters you need to remove from each vine to arrive at the desired cropping level.

For high-value premium varieties, small acreage or young vineyards, cluster thinning is best done by hand. The appropriate timing is shortly after fruit set and well before veraison. For mature juice or non-premium hybrid varieties, thinning can be done with a grape harvester, with a

suggested timing of 25-30 days after bloom. Procedures for doing so are outlined in an article published in this newsletter in 1995 (*Vineyard Notes* #7, July 10, 1995). Thinning done beyond this time will lessen or eliminate the desired effect on sugar accumulation.

## IRRIGATION FIELD MEETING

*Tim Martinson*

Recent research findings and grower experience with soils that have low water-holding capacity have suggested that irrigation may be beneficial in the Finger Lakes under certain conditions. Recent studies have pointed to the detrimental effect of water deficits on vineyards – even in supposedly ‘wet’ growing seasons. Additional research has shown that Niagara, in particular, can benefit from irrigation during vineyard establishment. Interest among growers is increasing, particularly among those with shallow or coarse-textured soils that have limited water holding capacity.

On Monday, July 21 at 7:00 p.m. we will hold a twilight meeting at Prejean Winery, located south of Dresden, NY on Route 14. Dr. Larry Geohring, Senior Extension Associate and engineer in the Department of Agricultural Engineering will address general considerations in designing and running irrigation systems. Dr. Alan Lakso will discuss vine water demand, and the capacity of soils to supply the demand. This meeting is intended as an opportunity to get an *overview* of the nuts and bolts of irrigation systems, as well as an idea of when and where (what sites) irrigation might be beneficial. Topics addressed (briefly) will be:

- What vineyard sites/varieties might benefit from irrigation?
- When do vines need irrigation?
- Where does the water come from (pond, well, lake?)
- How much is needed, and when?
- How is water delivered to the vines?
- What will this all cost?

There will also be a chance to look at a very small-scale, low-cost system being installed at Prejean winery. **Pre-registration is required.** The meeting will be free to all growers enrolled in the Finger Lakes Grape Program. **Please call Katie Tomlinson at 315-536-5134 between 8:30 am and 4:30 p.m. if you plan to attend. Registration will be limited to 40 people.**

## 1997 CONCORD MARKET

*Barry Shaffer*

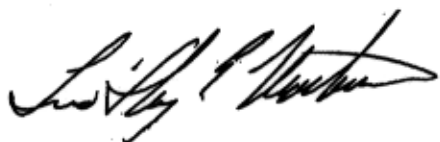
Most factors are positive for a stronger market this fall. Washington State will probably rebound from last year’s pitiful yields. The East probably won’t have the production of last year. Overall, tonnage should increase compared to 1996, but not up to burdensome levels. Inventories may be running low going into harvest because of a short US crop in 1996 and favorable press on the health benefits of purple grape juice consumption with lowering the risk of heart attacks, has already helped sales. I hope that many of these additional consumers will continue to buy purple grape juice. Economists would call this sales increase due to health benefits a shift of the demand curve. This means there should be more consumers at any given price. One note on the Niagara market, competition for bearing vineyards is heated! Quality juice grapes should find strong markets in 1997!

## UPCOMING MEETINGS

**July 21, 7:00 p.m.** Irrigation Field Meeting. Prejean Winery, located approximately 4 miles south of Dresden, NY on Route 14, west side of Seneca Lake. Contact Katie Tomlinson at 315-536-5134 to register.

**July 30, 3:00 p.m.** Vineyard Laboratory, Fredonia, NY. Researcher Field Day. Researchers and Staff will make presentations about ongoing research projects at the Vineyard Laboratory and elsewhere. Contact Phil Throop at 716-672-2191 for more information.

**August 12, 9:00 am.** NYS Ag. Experiment Station, Geneva, NY. Variety Day. We will have a look at new hybrid varieties from Dr. Bruce Reisch's program and *vinifera* clones being evaluated by Dr. Robert Pool. Details will be posted in the next vineyard notes issue.



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