



FINGER LAKES VINEYARD NOTES

Newsletter 5

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CORNELL Cooperative Extension
Finger Lakes Grape Program

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CURRENT SITUATION – FROST IN THE FINGER LAKES

Timothy E. Martinson

Most of you are aware that there was significant frost injury from three cool nights (April 23, 24, 27). The most severe injury probably occurred on Saturday 27 April, with temperatures down in the mid to upper 20's. Following the record warm temperatures the previous week, buds were past bud swell at that point, with some having close to $\frac{3}{4}$ inch of shoot growth. Damage from this event is still becoming apparent, but it appears that injury is slight (<10%) to moderate (20%) in many vineyards, and high (>50%, up to 90%) in others.

Patterns. The most severe injury I've seen to date has been on the N end of Keuka Lake, Pulteney area, and at higher-level vineyards above Hector. However, Cayuga and Seneca vineyards closer to the lakes are showing some injury to a few buds. South towards Hammondsport injury appears to be less severe, and also moderate in vineyards on E Keuka Lake near Penn Yan.

Management. Blocks that have lost a lot of primary buds will see their crop reduced substantially. These blocks will need less nitrogen than heavily cropped

vineyards, so growers who have moderate to severe injury should consider changing their nitrogen fertilization program. Applying the full amount in severely injured blocks could lead to excess growth and shading, reducing potential crop next year. On the other hand, you will want to have enough growth to set your vineyard up for a decent crop next year. A little common sense and restraint in Nitrogen applications will help avoid problems with either lack of growth or excessive growth.

Here are a few points to consider (for hybrids and natives):

- Fruit typically uses 1/3 of the Nitrogen, while the other 2/3 goes into vegetative growth of shoots and roots.
- Severe freeze injury can reduce the total number of shoots, but moderate injury may leave you with about the same number of shoots, but only one-third of the fruit (from secondary buds).
- If you have a normal number of shoots but no fruit, you may still need some nitrogen to promote canopy growth. It's possible to go overboard by applying nothing, and not get sufficient canopy fill.
- If the shoot number is drastically reduced (by 40-50% or more), applying ANY nitrogen could be too much.
- N uptake starts just before bloom and vines rely on stored N for early growth.
- Following last year's good ripening conditions, many vineyards should have adequate to excellent reserves to support early growth.

These points lead to a few commonsense management suggestions:

- Don't be in a rush to put on N. You can safely defer the prebloom portion of your N fertilization by a few weeks while you assess injury and early season shoot growth.

- If you haven't tried split N applications, this would be a good year to do so.
- If you DO use split applications, reduce the quantity applied in the first application by half. You can always make it up later.
- Assess crop and set after bloom. If there is little crop, and vine growth is good, skip the second application.
- If the crop looks better than expected, make the postbloom application as usual.
- If you have severe injury that limits shoot number, consider skipping N application this year.
- Assess vine growth. Look for signs of N deficiency, such as slow growth and pale yellowish foliage.

Those of you with *V. vinifera* grapes will want to apply the same logic, except that typical amounts applied are much lower. It may be more viable to forgo N application at this time, and wait until around veraison to make a foliar N spray with urea or proprietary products. More on that in a future *Finger Lakes Vineyard Notes*.

WHAT'S THE RISK OF NOT REPLANTING ORCHARDS AND VINEYARDS?

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[Ed. note – this article is part of a series on Risk Management put out by the Dept. of Applied Economics and Management at Cornell University]

One of the most important management decisions facing fruit growers is whether or not to replant an existing orchard or vineyard with a new planting system. A new system may mean a different variety, rootstock, or training system, or some combination of these changes. Many growers feel a sense of inertia about making such a major investment, which can cost from \$3,000 to \$10,000 per acre. Growers who are hesitant about renewing their stock of trees or vines often cite the following risks:

- The risk that the new variety will not be attractive in large volumes to buyers and/or consumers, and thus the market will be limited.
- The risk that the grower will not be able to effectively manage a new training system.
- The risk that, during the period after removal of the old planting and before the new planting

reaches mature yields, the loss of cash income will jeopardize the farm's financial position.

- The risk that damaging weather events such as windstorms, drought, or a severe freeze, will destroy or severely set back the costly new planting.

But have you considered fact that *the decision not to renew your stock of trees or vines also carries with it a set of substantial risks?*

The Risks of Not Renewing Orchards And Vineyards

Risk #1. As consumers' preferences change, growers face the risk that existing varieties will not have a market, or will be priced below direct costs of production. Examples of this abound -- consider Rome apples for fresh market, or Aurore grapes for wine.

Risk #2. The yields of old training systems are lower than that of the newer systems being adopted by other growers. As the new higher yielding systems come into bearing they will drive down the price. The early adopters make a profit at first, but growers with the old system cannot cover costs. An example here is the high-density plantings that are now nearly universally planted, resulting in higher yields and often in higher quality fruit.

Risk #3. Old systems are less efficient than newer systems, in that their production costs are higher, and they may not be adaptable to new technology. As an example, certain grape training systems can be more readily adapted to mechanized pruning technology. In the orchard, dwarf trees are more efficient to harvest and more attractive to harvest crews, who can pick faster and earn higher wages. Pickers may demand a higher piece rate to harvest the old system.

Risk #4. An old planting becomes more difficult and more costly to manage as the trees age. Either pruning costs become too high, or the quality of fruit too low for profitable production.

Risk #5. The combined effect of the first four risks is that many older growers, especially, fail to reinvest in replanting as they near retirement. The resulting risk is that the farm's key productive asset -- the orchard or vineyard -- becomes less profitable and thus of less value to the prospective buyer, or to the son, daughter, or partner who wants to transition into the operation. In any event, the loss of asset

value on the balance sheet ultimately reduces the grower's retirement earnings. (Of course, if the site is really a poor one for fruit production, the grower will lose by sinking money into a poorly performing asset. That too can reduce the health of the balance sheet.)

My Advice About Replanting

Twenty-four years of experience with the New York fruit industry has convinced me of the folly of standing pat with old plantings. Growers need to constantly assess new varieties, rootstocks, planting densities, and training systems. Many apple growers are now considering other crops, especially peaches and sweet cherries, given the low apple prices of recent years. Besides the potential for greater profits, these other crops provide diversification that helps to reduce variability in income over time.

Replanting ought to be a continuous process. The speed at which orchards and vineyards can or should be renewed depends upon many factors, such as net worth of the grower, market conditions, and the availability of new technology. A good rule of thumb for apples, as well as for juice grapes or low-end American or hybrid wine grape varieties, is that growers can replant up to five percent per year. Total non-bearing orchards of more than 15% can cause cash flow difficulties. Growers with high debt to asset ratios need to be more conservative, as even 5% per year may cause serious cash flow problems.

In conclusion, there are significant risks involved in replanting. But the risk of not replanting is the risk of winding up with an uneconomical and undesirable orchard or vineyard.

For more information about replanting orchards and vineyards, consult the following articles and links:

Replanting Orchards and Vineyards

Orchard Site Bio-Renovation Program (University of West Virginia)
<http://www.caf.wvu.edu/kearneysville/articles/SteinerReplant.html>

Tree Fruit Production Budgets (Pennsylvania Tree Fruit Production Guide 2000-2001)
<http://tfpg.cas.psu.edu/part8/part81a.htm>

How Much Can I Afford To Replant? (G. B. White. Powerpoint presentation for the Finger Lakes Grape

Program's 2002 workshop, Retooling your Vineyard for the 21st Century)

White, G.B., B. Shaffer, R.M. Pool, and A. Lalor. 1997. "The Economics of Replanting Generic Wine Grape Varieties in New York". Research Bulletin 97-05. Available at no charge from Faye Butts, Department of Applied Economics and Management, Cornell University. fsb1@cornell.edu.

G. B. White and Mark E. Pisoni. 2001. "Cost of Establishment and Production of *Vinifera* Grapes in the Finger Lakes Region of New

York-2001," Extension Bulletin 2002-01, 25 pp. Available for \$10 from Faye Butts, Department of Applied Economics and Management, Cornell University. fsb1@cornell.edu.

UPCOMING EVENTS

May 23, 2002, 3:00-6:00 PM, *Annual Spring Pest Management Meeting*. Lance Fullager Farm, Old Bath Rd, 4 Mi S of Penn Yan. Join us for our annual spring pest management update and barbecue. This year we will have updates from the NYS DEC on worker protection, pesticide storage, and record keeping; updates on disease, insect, and weed management, and updates from industry on product labels and uses. We will also introduce Dr. Juliet Carroll, new IPM program Fruit Coordinator. The meeting will end with a barbecue, sponsored by industry and cooked by the Bluff Point Benevolent Barbecue Association, Harold Tones, Chair. **Please preregister with our office by calling 315-536-5134**, by e-mail (tem2@cornell.edu) Registration will start at 2:45 pm, and we can't register those who arrive late. See Program in Vineyard notes #4.

May 23-25. *Bacchus to the Future*. Brock University, St. Catharines, Ontario. Science and technology (including: wine and health, sensory evaluation, and moderntrends in winemaking) Business and marketing of wine (including: wine tourism) Culture of wine (including: education, consumption patterns, health, history of wine) Please visit their web site for more information, <http://www.bacchustothefuture.com/>

July 10-12. *American Society for Enology and Viticulture Eastern Section* annual meeting in Baltimore, Maryland at the Sheraton in Towson. Program will focus on Merlot, Cabernet Franc, Syrah and Chambourcin. Growers and researchers

will make presentations. More information to come.
<http://www.nysaes.cornell.edu/fst/asev>.

August 7-8. *Third Annual Eastern Pinot Noir Conference.* Finger Lakes region. A technical celebration of this greatest of red wine grape varieties. Technical meeting and tasting. If you are a commercial grower or vintner of Pinot Noir, please attend. Contact Mark Chien at 717 394-6851.

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