SHOULD I BE ASSESSING BUD INJURY?

Timothy E. Martinson

As most of you know, assessing cold hardiness on a range of varieties in experimental plots at the Geneva Experiment Station is a routine part of Bob Pool and Bruce Reisch’s research programs. They do this by bringing buds inside, placing them in a freezer with thermocouples, and recording the temperature at which buds freeze (at the moment of freezing, they release a small amount of heat that causes a ‘spike’ in the temperature monitors). These ‘Cold Temperature Exotherms’ indicate relative hardness of the buds being tested.

Despite the mild winter, in which temperatures have not gone much below 0°F anywhere in the Finger Lakes, Bob Pool’s crew found inconsistent results in these tests with Cabernet Sauvignon from two different blocks at Geneva. This generally means that the buds they were trying to freeze had already been frozen. Follow-up studies in which they examined buds revealed bud injury around 40%.

What this means is that some of the more cold-sensitive varieties such as Cabernet Sauvignon are less cold hardy than we expect them to be at this time of year. This is true of late-harvested varieties. We speculate that the late ripening in 2000, coupled with early frost that burned off leaves in some areas in late September, left these vines with less hardy than normal wood.

What this means is:

- **Don’t assume that winter injury is minimal because the weather has been mild.** You may have more damage than you would expect in a year with such a mild winter.
- **Pay attention to late-harvested varieties and those that have marginal winter hardiness in good years.** I would include cabernet sauvignon, merlot, gewurztraminer, possibly riesling, lemberger and even cabernet franc (generally more cold hardy, but late-ripening) in this. Chambourcin (late hybrid variety) may also be in this category.
- **Pay attention to areas frosted early last years.** Vineyards in parts of Seneca Lake lost leaves in the early September 29th frost. These blocks may have less winter hardiness than blocks that were not frosted early
- **Examine Buds.** The only way to know what is going on in your vineyard is to collect a representative sample of buds from your vineyards. Instructions for assessing bud injury have been published several times in *Vineyard Notes*, and are available through our office.

The easiest way to find out how to collect bud samples and assess injury is by accessing the following web site (Please note that the underlined part is all one big long word with no spaces)

http://www.nysaes.cornell.edu/hort/faculty/pool/budcoldinjury/Assessingbudcoldinjury.html
Could Barry Schaffer explain his basis for 1400 lbs. more per acre harvested with new machine versus older units? That is approximately 2 lbs/vine.

The 1400 lbs. refers to the assumptions of 7 t/a average with the old harvester and 10% increase in yield recovery. I used the 10% figure because a couple of studies are indicating that amount. This is not a hard and fast increase and needs further study. Operator skill levels and harvester brand, condition, and setup all play a role. I think gentler harvesting and less vine damage will help in in post-harvest photosynthesis and help the vine the following year but we have no idea HOW much benefit and that is why I ignored it with my example.

If you are picking vineyards with lower average yields, projected yield increases will be less. For instance if you get a 10% increase on a 5 t/a vineyard that translates to 1000 lbs. per acre increase. All things being equal, that would stretch out the breakeven period. Prices will vary depending on cultivar and in my example I was using sort of a long term Concord price. –Barry Schaffer

I would expect any differences in recovery with new harvesters to be highly dependent on variety harvested as well. This year we expect a small research project comparing performance of different grape harvesters to be funded and carried out. It should provide a more complete basis for comparisons. –Tim Martinson

Can all liquid spray materials be stored in freezing temperatures?

No. There are many liquids that should not be allowed to freeze. The label will clearly state this. This happens often enough that I recommend all storages be planned with heating in mind. –Ron Gardner, Pesticide Management and Education Program, Cornell.

Does the application of lime to a northeast vineyard eventually reduce the acidity of the grapes and, if so, how long does the process take? Is there some way to accelerate the process, assuming that it is effective in the first place?

Applying lime to the soil should have no direct effect on fruit acidity. Acid levels in grapes are largely determined by ripeness of the grapes - during ripening, malic acid is used in respiration, resulting in lower levels relative to tartaric acid. As malic acid levels drop, so should total acid. The only direct effect of applied nutrients on fruit composition cited in most books is that excess potassium (K) can raise fruit pH to undesirable levels.

Lime application will raise soil pH by replacing hydrogen ions with calcium ions. As pH rises, aluminum (detrimental to root growth) becomes less available, and other nutrients (Calcium, magnesium, potassium and phosphorus) become more available. This should allow for better growth through increased availability of these nutrients, and reduce root stunting due to aluminum toxicity. In an existing vineyard, raising soil pH may require several years. By removing limiting factors affecting vine function, raising soil pH may result in faster ripening and better overall fruit quality. –Tim Martinson

Does the state issue unlimited doe permits and unlimited turkey permits for vineyards that have had heavy fruit losses? How do I get one?

NYSDEC Bureau of Wildlife Regional Offices will issue permits to growers for killing protected wildlife (deer, turkeys, etc.) out of season when there are documented crop losses. The permits will specify the conditions for killing nuisance wildlife (how many, when, type of method, carcass disposition). DEC will not issue an unlimited number of crop damage permits. In addition, DEC will issue tags to growers/forest landowners for killing female deer during the regular hunting season under the Deer Management Assistance Program (DMAP). Again, growers must have documented deer damage, and apply to the DEC Regional Office by September 1 each year to obtain antlerless deer tags. After the hunting season, growers must turn in remaining tags and file a deer kill report with DEC.

–Paul Curtis, Cornell University

What training is needed to apply (or purchase) chemicals or pesticides?

Anyone who purchases or applies restricted use
pesticides in New York State is required to be certified. Several categories of training and certification are listed. Commercial Applicators or Private Applicators are licenced to purchase or apply any pesticide either to other people’s property (Commercial) or their own operation (Private). They may supervise others, including Certified Pesticide Technicians and Pesticide Apprentices to apply pesticides under certain conditions, with certain record-keeping requirements. Factsheets are available at:

http://pmep.cce.cornell.edu/certification/

http://pmep.cce.cornell.edu/certification/Private-app-factsheet.html

http://pmep.cce.cornell.edu/certification/Comm-app-factsheet1.html

–Ron Gardner, Pesticide Management and Education Program, Cornell University

I’ve been reading recently about the increasing use of compost for disease suppression - using it in soil and making a tea for foliar spray. It's being used in German vineyards, for example. What can you tell us about this?

We don’t have a lot of information, to date, on disease suppression by compost in grapes. There is reason to believe, however, that compost could be instrumental in suppressing soil-borne diseases, at least. Such suppression has been documented in many annual crops. Here is the logic: Compost is rich in organic matter and has a wide diversity of beneficial microorganisms. By providing a carbon source to sustain these beneficial organisms and by direct ‘inoculation’, compost may provide an environment more favorable to them, and their presence could prevent growth of more opportunistic disease organisms. Teas may contain secondary compounds that, when applied to foliage, might suppress disease organisms. A difficulty in documenting these benefits (although they may be very ‘real’) is the sheer number of different organisms involved. A project recently funded by the USDA SARE program, awarded to Dr. Jim Travis of Penn State, will be examining potential disease-suppressing effects of compost. – Tim Martinson

What is the proper disposal of old treated vineyard posts when they are not usable anymore?

Old treated vineyard posts may be passed on to someone else who can use them. If they are unusable, they may be disposed of on agricultural land and will eventually break down and compost. The treatment on the posts should have little leaching potential and should not pose a significant hazard to soil or water. Posts may also be landfilled. They should not under any circumstances be burned; the treatment on them would produce a toxic smoke. The same goes for old railroad ties. –Michelle LaDue Benjamin, Recycling/Solid Waste Coordinator

Cornell Cooperative Extension of Schuyler County, (607) 535-7162

Is there any new "morning glory" control?

I'm sure the question is aimed at controlling hedge bindweed (Convolvulus sepium) and/or field bindweed (C. arvensis) which are both perennials. Hedge bindweed has larger leaves and tends to climb quickly up the trellis. Field bindweed has smaller leaves and tends to grow more on the ground but it will climb up vines. There are annual "morningglory" species but I have never encountered them in area vineyards. At any rate, I have these suggestions:

1) During the spring/summer, delay glyphosate applications at least until bindweed is blooming, about the time of grape bloom. For best results apply in late summer or fall. Repeated applications may be necessary over a few years for control.

2) Apply glyphosate in the fall after 100% vine defoliation if bindweed leaves are still green. This is a very effective application timing.

3) Use higher rates of glyphosate than you would for other weed species. For example, the Roundup Ultra® label suggests 3-4 quarts per acre or a 2% solution for spot applications. –Rick Dunst, Vineyard Laboratory, Fredonia, NY

What is the compound that walnut roots emit that is toxic to grapevines and how long is it viable in the soil after the roots have been killed?

The toxic compound from walnuts is called JUGLONE which is one of several natural compounds produced by plants that act as a natural herbicide against other plants (called allelopathy). From several sources I checked, it appears that the compound lasts from a few months to a year or more after the walnut is removed. Not all plants are affected by juglones. Horses apparently can be
affected by this compound. For further information, check the following web sites:

http://www.ppdl.purdue.edu/ppdl/expert/Juglone.html

http://www.ansci.cornell.edu/courses/as625/1999term/boyer/juglone.html

–Alan Lakso & Leslie Weston, Cornell University

From the 2000 growing season was there a consensus on the indented berries in vinifera grapes?

The questioner is referring to a phenomenon that was widespread throughout the east last year: in several varieties, many berries had a sunken or 'flat' brownish area, brown in color. It was not associated with rot, and berries appear to have ripened normally. This indented area appeared to be consistent with some sort of physical injury that prevented cells from dividing during the ‘cell division’ phase of berry growth. We don’t know exactly what caused it. It definitely wasn’t hail damage, as it was widespread, being reported in Ontario, Ohio, and the Finger Lakes. Our best guess would be that environmental factors (temperature swings, water, perhaps slow drying of some spray materials) were associated with the injury, which occurred during the latter part of the cell division phase (early July). –T. Martinson & Martin Goffinet.

What is the start up cost per acre for new vineyard?

I hope your question was answered in detail during the New Grower Workshop. A 1997 cost survey estimated total investment costs for vinifera at around $12-15,000 per acre. This is based on several assumptions: 1) Farm size of about 40 acres (equipment costs spread over that many acres); 2) New equipment is purchased; 3) All of the operator/skilled labor is included (i.e. you are paying yourself for your time); 4) Land costs of $1500-2000 per acre; 5) Capital costs (cost of NOT investing money in other things (7% interest), land costs, and a return to management of 5%) are included. Out-of-pocket cash costs are around $7000 per acre for V. vinifera grapes. Costs and returns are detailed in the 1997 publication Costs of establishment for V. vinifera grapes, available through our office. –Tim Martinson

What trellis systems are best for Finger Lakes area Riesling & Pinot noir?

In training these grapes, you should shoot for a system that results in adequate, but not excessive shoot density (3-5 shoots per foot of canopy), exposes the fruiting zone to sunlight, and arranges the canopy is in a manner that captures a large share of the available sunlight. For most sites and growers, vertical shoot positioning (VSP) - with low cordons or canes attached to a low wire, shoots trained vertically with moveable catch wires, some basal leaf removal, and possible summer shoot tipping (hedging) works well. – Tim Martinson

NYASS GRAPE IPM SURVEY

Tim Weigle
Area Sr. Extension Educator – Grape IPM

Before you say “Not another survey”, please read on to understand how important your input is to regional grape programs in New York.

In the near future, grape growers in New York should be receiving a survey (if you have not already received it) from the New York Agricultural Statistics Service. I urge you all to participate in this survey. The goal of the survey is to learn about current cultural and pest management practices. The 2001 Grape IPM Survey will provide valuable information for members of the various regional grape programs to set priorities for future research and extension programming. It is also a valuable tool to see where our grape industries stand in...
respect to the implementation of current technology. Please be assured that individual responses to the survey will remain confidential and participation in the survey is voluntary.

Another important aspect of this survey is the ability to secure future funding from outside grant agencies. Results of past surveys have been used in the preparation of grants to federal and regional funding sources. Grower input into the development of industry needs has consistently been listed as one of the strong points of the grants and a major reason for continued funding from these groups. In recent years your input has helped the Grape IPM Extension Program receive grants totaling close to $104,000 from the Northeast Region IPM Program and the USDA/ES Telecommunications Program. These grants have provided funding for the Lake Erie Regional Grape Program Web Site, development of a distance learning center for Grape IPM, and the production of the publication Grape IPM in the Northeast. Everyone who has participated in a survey in the past can take some of the credit for the success of these projects.

Due to your participation in past surveys, the grape industries of New York are once again ahead of the game, and we can continue to be proactive rather than reactive. Please take the time to fill out this survey and get it back in the mail. The time you spend will produce large dividends in the future for project funding and the information we are able to provide you.

**GROW NY PROGRAM FUNDS GRAPE PROJECTS**

*Jim Trezise*

*NY Wine and Grape Foundation*

GROW NEW YORK is a new grant program administered by the NY State Department of Agriculture and Markets. It has provided funding for several initiatives related to the grape and wine industry:

- $49,600 to Warwick Valley Winery (Hudson Valley) to develop fruit-based brandies;
- $25,336 to the Finger Lakes Pinot Noir Alliance for improvements in Pinot Noir viticulture and enology;
- $24,935 to Hunter & Hilsberg of Syracuse (Business Associate Members of the NY Wine and Grape Foundation) for exporting New York wines to the European Union (especially Germany)
- $10,600 to National Grape Cooperative for research on maximizing yield and optimizing quality of Concord and Niagara juice grapes.
- $50,000 to the NY Wine and Grape Foundation for “GETTING OUR SLICE OF THE BIG APPLE-CREATING A "NEW YORK CUISINE". The purpose of the project is to blend New York wines with other New York agricultural products using the creativity of great New York City chefs to create a totally new and exciting New York Cuisine.

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**2001 CONVENTION AND NEW GROWER WORKSHOP THANKS**

The response to our recent 'New Grower Workshop' and the 52nd Annual Finger Lakes Grape Growers Convention and trade show was phenomenal! About 125 attended the Friday session, while we had 300
registrants and 42 exhibitors at the Saturday Convention.

Thanks are due to the many people who participated in this program:

- **The Grower Advisory Committee** selected the topics to be presented and set the overall direction for the program content. Several members also worked at the convention. Special thanks to Steve Bond, Bill Dalrymple, Jim Bedient, Dave Stamp, Jim Ritter, Jim Pizura, and Rich Jerome for their work.

- **Katie Tomlinson**, program assistant for the Finger Lakes Grape Program, was responsible for registration, mailings, and producing both a 3-ring binder for the 'New Grower Workshop' and the Proceedings. Katie's excellent design and layout skills greatly enhanced the appearance and readability of the convention materials.

- **New York State Women for Wine**. Thanks to this group and their chair, Donna Gridley, for doing two tastings this year, one on Friday, and one on Saturday.

- **Seneca Co. 4-H Teen Council** - for their baked goods at the trade show.

- **Exhibitors**. Thanks to all the companies that supported our program through the 42 indoor and 3 outdoor equipment displays in the trade show.


- **Sponsors**. A special Thanks to Vineyard and Winery Management for sponsoring Friday's wine reception, and to the National Bank of Geneva, for sponsoring coffee breaks at the New Grower Workshop

- **Wine Donations**. Thanks to the 24 wineries and juice processors that contributed wine for the wine and cheese reception.

  Arbor Hill Grapery
  Atwater Estate Vineyards
  Barrington Cellars
  Casa Larga Vineyards
  Chateau Renaissance Wine Cellars
  Dr. Konstantin Frank Vinifera Wine Cellars
  Fox Run Vineyards
  Glenora Wine Cellars
  Hazlitt Winery
  Hosmer Winery
  Hunt Country Vineyards
  Keuka Springs Vineyards
  Knapp Vineyards
  Lakewood Vineyards
  Lamoreaux Landing Wine Cellars
  Leidenfrost Vineyards
  Lucas Vineyards
  Miles Vineyards
  Millbrook Vineyards
  National Grape Cooperative
  Prejean Winery
  Silver Thread Vineyards
  Standing Stone Vineyards
  Swedish Hill
  Wagner Vineyards

2001 NY AND PA PEST MANAGEMENT RECOMMENDATIONS SENT

The 2001 Pest Management Recommendations were mailed out last week to all enrollees (5 County program area) and those subscribers from outside the region that ordered it. Many thanks to Tim Weigle for his efforts to get them out very early this year. If you think you should have received a copy, but didn’t, please give our office a call at 315-536-5134.
Many of you will note that this is the March Vineyard Notes, and March is almost over. The schedule slipped, as I was on vacation the week following the grape convention and spent last week involved in several meetings with area clientele.

The April newsletter, including Wayne Wilcox’s annual Disease Management Update, will follow shortly on the heels of this one, after which I hope to get the remaining ones out in a timely fashion near the beginning of each month.

THANKS TO 'FOCUS GROUP' MEETING PARTICIPANTS

Last week, over 60 growers participated in open discussion sessions at Hector, Glenora, Branchport and Pulteney. The topic of discussion was to look 5 years into the future at where the industry is going, what changes growers expect in their own operations, and what growers want the Finger Lakes Grape Program to be doing 5 years down the road. The discussions were led by Les Malcovitch, a business consultant from Elmira, who will be summarizing everyone’s comments for the Planning Committee, formed of Grower Advisory Committee members. The information will be used by the committee to set goals and developing an ‘action plan’ that will guide the program over the next few years. I want to offer those who attended my sincere thanks for your participation in these sessions. Your input will be very beneficial in developing the plan.

UPCOMING EVENTS

New York Wine Industry Workshop. April 4 - 6, 2001. Lake Front Ramada Inn, Geneva NY. Contact Nancy Long for more information at npl1@cornell.edu or phone 315-787-2288 or fax 315-787-2284.