FINGER LAKES VINEYARD NOTES
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COLD HARDINESS AND BUD INJURY UPDATE

Tim Martinson

With the moderate winter temperatures in the Finger Lakes this winter, concern about significant cold injury has been minimal. However, some areas (particularly around Keuka lake) had a killing frost shortly after harvest, leading to concerns about bud hardiness. Winter low temperatures reported to me ranged from 0°F on east Seneca Lake, -5°F on Cayuga Lake to -10 to -12°F at some of the colder sites on Keuka lake. Most of the winter lows occurred in January. On March 5, bud hardiness was checked at Geneva. The temperature required to kill 50% of the buds for several varieties was: Concord -14.3, Cabernet Sauvignon -7.8, Chardonnay -10.7, Riesling -12.1, Merlot -9.6°F. Based on bud cuttings from several sites, I found from 5 to 32% on vinifera varieties, with the lowest mortality on 'Cabernet Franc', highest on the Cabernet Sauvignon blocks I sampled. In the few hybrid blocks I have checked, I found injury in the 10 - 20% range for Seyval. However two Cayuga White blocks, one on the East side of Keuka lake and the other in the Branchport area had 30-42% bud injury. These higher levels of bud mortality should raise a note of caution. Both sites had the early freeze and leaf drop shortly after harvest. So I would advise those of you have cold-tender varieties, including hybrids, to check your situation.

Now that we are in mid March, vines should be entering the de-acclimation phase, with buds gradually losing their cold-hardiness. As temperatures rise above freezing, this process

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will accelerate. For now, however, it looks like winter injury overall will be moderate.

**FINGER LAKES GRAPE GROWERS CONVENTION REVIEW**

The 48th Annual Grape Grower Convention in Waterloo was attended by 240 participants, and drew registrants from other areas of New York and the Northeast. Like last year, it was held at the Holiday Inn in Waterloo, which provided a very useful setting for both the talks and the trade show and wine reception. My thanks to all the speakers, wineries, and other volunteers who helped make the meeting a success. A special thanks goes to Dave Peterson, who put the whole thing together and participated heavily in the program.

**INTELLIGENT PEST MANAGEMENT**

Tim Weigle

This is typically the time of year that I write an article covering basic pest biology and the various pest management strategies for the coming growing season. I have been doing this for the last eight growing seasons and wondered if I really had anything new to say concerning IPM for grapes. While we continually look at new and better ways to manage pests in the vineyard, I think revisiting the basic concepts of IPM would be useful.

Vineyard pest management cannot be determined using a ‘cookbook’ approach where one program works for all vineyards. Rather, growers need to examine vineyards on a block by block basis to determine the risk of the range of pest (insects, diseases, and weeds) which may become a problem during a particular growing season. Notice that I use the word management and not control. At best, we are looking to manage pests to levels below the point where they are of economic importance. Whether you describe IPM as Integrated Pest Management or, as Wayne Wilcox calls it, Intelligent Pest Management, I think the basic tools are going to be the same and the most important tool for growers to have is knowledge.

Knowledge is the key to a successful IPM program by allowing decisions to be made on a proactive rather than reactive basis. Some of the key components of the knowledge base are:

1. Basic pest biology
2. Variety of grape planted
3. Training system
4. Vineyard topography and surrounding area
5. Vineyard pest history
6. Pest severity last season
7. Crop load
8. Weather conditions

The first 6 components are base knowledge or historical information which is used prior to the growing season to set up a basic vineyard pest management plan. This could be used in determining the risk category for each vineyard block due to the risk of grape berry moth or the potential for powdery mildew, black rot, Phomopsis or downy mildew this year.

The last two components are very important as they are the variables in any one growing season and can cause the basic plan to be altered. There is always a concern as the crop load increases that enough functioning canopy is available to ripen the crop after leafhopper feeding and powdery mildew leaf infections have occurred. Knowing your crop load will help you make more informed decisions on how best to manage the various pest populations. Weather seems to be the critical factor year after year. Hot dry years typically
result in abundant insect problems while rainy weather favors disease development. By knowing weather conditions, including daily weather factors, historical weather information from the start of the growing season, and weather forecasts, you are much better able to carry out the necessary management strategies for all the vineyard pests.

All of the knowledge base discussed has been, and continues to be, available to every grower in the region. Basic pest biology for the major and some minor pests is covered in the Grape IPM Insect and Disease Identification Sheets available at the Lake Erie Regional Grape Program Extension offices in Fredonia, NY and North East, PA. Weeds are similarly covered with the Penn State Weed Identification Sheet series. These and all the pertinent pest management bulletins, IPM practices and scouting forms can be found in the IPM manual, Grape IPM in the Northeast.

While training systems, vineyard topography and variety of grape planted are easy to come up with, knowledge of your vineyard and past record keeping is required to have a good idea of vineyard pest history. Good records also help put into perspective just how severe a particular pest problem was last year in relation to years past. Comparing disease or insect severity with past spray records and weather conditions can provide a great deal of insight into some of the reasons a particular problem occurred.

Crop load will have to be determined in each block during every growing season. Sampling protocols developed for use with fruit thinning can be used to approximate final crop size and are available from the extension team.

A wealth of weather information has become available through the creation of the Northeast Weather Association (NEWA), a not for profit organization which maintains a network of weather equipment throughout New York and Erie County, PA. Near real time weather data, disease models, and weather forecasts for agricultural producers are available seven days a week. Information is accessed via a fax sent to you each day during the growing season or by connecting to a computer bulletin board service (BBS) located in the Grape IPM office in Fredonia. While the BBS has traditionally been heavily slanted toward weather information, in 1997 we are looking to expand the information available by placing more scouting results, viticultural practices, etc. on the BBS at appropriate times during the growing season. Accessing the information provided by NEWA does require a membership fee. The fee varies depending on usage and how the information is retrieved. If you would like more information on NEWA please contact Tim Weigle at (716) 672-6830 or Curt Petzoldt at (315) 787-2206.

Traditional methods of providing pest and weather information such as by code-a-phone, newsletters, grape recommends and twilight meetings will still be used. I would encourage each of you to make 1997 the year where you increase the knowledge base from which you work whether it be record keeping by vineyard block, better understanding of basic pest biology, or the use of weather information and forecasts to help in deciding the need and timing of pesticide applications. If you have any questions about developing a vineyard IPM strategy please give me a call.

UPCOMING MEETINGS

VITICULTURE SHORT COURSE. MARCH 26, 28, APRIL 1, 3 (Day Sessions) and April 8, 15 (Evening Sessions). Yates Co. Auditorium, Court St. Penn Yan, NY. The course includes sessions on Vine growth and development, vineyard floor management,
nutrition, farm safety, computer applications for vineyard management, and insect and disease management. Pesticide recertification credits offered. We sent out a notice last week about this course with a deadline of March 20. However, we still have space for a few more participants. Please call Katie at 536-5134 if interested.

NEW YORK WINE INDUSTRY WORKSHOP. April 10-11. Jordan Hall, NYS Agricultural Experiment Station, Geneva, NY. Contact: Thomas Henick-Kling, Dept. Food Science and Tech., NYS Agric. Exp. Sta., Geneva, NY 14456 (315)-787-2277 Fax: (315) 787-2397. Main themes are:

- Review of 1996 season - weather, fungal disease pressure, ripening conditions, juice and wine quality.
- Use of heat in processing of grapes and wine.
- Use of selected yeast and bacterial cultures in winemaking.

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