**FINGER LAKES VINEYARD NOTES**

**Newsletter 5**

**May 3, 2001**

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**Cornell Cooperative Extension**

Finger Lakes Grape Program

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**ANNUAL SPRING PEST MANAGEMENT MEETING**

**May 23, 2001, 3:00-6:00 PM**, Lance Fullager Farm, Old Bath Rd, 4 Mi S of Penn Yan. This year's update will include insect and disease updates by Greg English-Loeb and Tim Martinson, Weed management Q & A by Rick Dunst, Tim Weigle's update on the new electronic and print pest management recommendations, a DEC update on enforcement and certification requirements, two demonstrations by Dr. Andrew Landers on the new spray drift deflector for airblast sprayers and coverage from alternate row spraying, and updates on label changes and new products from industry representatives.

The meeting will be followed by a barbecue featuring food, grape juice and wine, chaired by a member of the Bluff Point Benevolent Barbecue Association. Wine and juice will be served - we will have wine purchased for or donated for the grape convention, but if you are associated with a winery, consider bringing a bottle to share. **We recommend that you bring a portable lawn chair to sit on. Please preregister with our office by calling 315-536-5134, by e-mail (tem2@cornell.edu) or by filling in the registration form included with the newsletter. Please bring your pesticide certification number. Up to 3 recertification credits are anticipated.**

**Program Schedule:**

<table>
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<tr>
<th>Time</th>
<th>Topic</th>
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<tbody>
<tr>
<td>3:00-3:20</td>
<td>Insect management considerations for 2001; Use of Danitol in pest management programs, Dr. Greg English-Loeb, Dept. Entomology, NYSAES.</td>
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<tr>
<td>3:20-3:40</td>
<td>Disease Management, Changes to the 2001 recommendations and new features available online; Tim Weigle, Grape IPM Specialist, Finger Lakes and Lake Erie Regional Grape Programs.</td>
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<tr>
<td>3:40-4:05</td>
<td>Review of weed management, and Question &amp; Answer session; Rick Dunst, Vineyard Laboratory, Fredonia, NY. Bring your questions and/or weed samples for identification.</td>
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<td>4:05-4:30</td>
<td>DEC update on certification and compliance inspections; Mike Searles, NYS DEC</td>
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<tr>
<td>4:30-5:30</td>
<td>The new spray deflector for reducing drift; how alternate row spraying affects spray coverage. Dr. Andrew Landers, Dept. of Agricultural and Biological Engineering, Cornell University.</td>
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<tr>
<td>5:30-6:00</td>
<td>Industry representative updates on label changes and new products. Technical representatives from chemical companies will speak about label changes and product updates.</td>
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Management of arthropod pests in grapes involves a number of methods including biological, cultural and chemical control. Chemical control is the approach most familiar to growers. There have been relatively few new insecticides added to the arsenal of grape growers over the last 15+ years and for the most part, growers rely on older generation organophosphate and carbamate insecticides. Things have started to change in the last year or two due to changes in pesticide regulations and some increased problems with insecticide resistance. Starting this new field season Danitol, a pyrethroid insecticide (chemical name is fenpropathrin) will be registered for use in New York. Although pyrethroids have been in use in other crops for many years, this will be the first one registered for grapes. In this brief article, we want to discuss some of the advantages of using Danitol but alert you to some potential risks.

Danitol is a broad-spectrum synthetic pyrethroid insecticide (marketed by Valent) that has actually been around for a number of years. It received a national EPA label last year for grapes and now has clearance for use in New York. In our various trials we have found it to be quite effective against leafhoppers, plant bugs, and grape plume moth. It also did a good job of controlling European red mite. Other researchers have found it effective against grape berry moth, grape steely beetle, and Japanese beetle. Currently, however, only eastern grape leafhopper, grape berry moth, and Japanese beetle are listed on the label. The company has applied for a revised label which will add plant bugs, plume moth, steely beetle, spider mites, and some other insect pests (probably not before next field season). In the mean time, we have requested 2(ee) label exemptions for plant bugs and plume moth which should come into effect this field season (watch for more information on this in later newsletters).

The two main benefits of Danitol and other pyrethroids is that they are broad-spectrum and relatively safe for operators to use. Danitol will control a similar range of pests as Sevin (carbaryl) or Penncap-M did. Another benefit to growers is that Danitol is expected to be priced competitively. The downside of pyrethroids is that they are broad-spectrum and will kill beneficial arthropods – the major ones of concern are predatory mites that control European red mite. In other crops, pyrethroids have been responsible for causing outbreaks of spider mites, presumably because they kill off predatory mites. As mentioned above, the new generation pyrethroids have miticidal activity (although Danitol is not labeled or sold as a miticide) and therefore, will kill both spider mites and predatory mites. Spider mites, however, seem to be much better able to adapt to pesticides than predatory mites. Be aware, therefore, of the possibility that frequent use of Danitol may lead to spider mite problems. If this occurs, you may find it necessary to apply other miticides – at a higher cost. It might also take some time for beneficial predatory mite numbers to rebound. Hence, although it will be tempting to use Danitol for most of your arthropod problems, a better long term strategy would be to selectively use Danitol along with other chemical, biological, and cultural approaches.

The bottom line: We expect Danitol to be an important, useful and affordable tool for a wide range of insect pests in Finger Lakes vineyards. But try to limit its use to one time per season, and only use it in response to observed insect infestations. For most Finger Lakes vineyards, one spray, properly timed (generally the first postbloom spray) is often sufficient for many insect problems, and many vineyards do not require any insecticide sprays. Also be vigilant in observing your vineyards for European red mite following application. Presence of spider mites following use of Danitol would be a pretty clear indication that they were resistant.

The label is available online at: http://www.cdms.net/ldat/ld520014.pdf

THE WHO, WHAT, WHERE, WHEN AND WHY OF PONNAX FOR NEW YORK VINEYARDS

Bob Pool
Department of Horticultural Sciences

A good newspaper story is supposed to answer the questions contained in the title of this. This isn't a newspaper, but it is a newsletter, so I used the model to write this piece.
Who. There are two primary who's: BASF produces and markets Ponnax, a plant growth regulator that was recently registered for use in New York Concord and Niagara vineyards. The other who's are the people who conducted this research at the Vineyard Laboratory. Key players were John Harker, Harriet Hubbard and Rick Dunst.

What. Ponnax is a plant growth retardant. As a growth retardant, it inhibits grape shoot elongation, however, it appears that the primary Ponnax action of interest to grape growers takes place in the flower cluster and the developing grape berries.

Why. For many years growers regularly applied Alar to Concord vineyards to increase flower-set. The expected response from the recommended rates was a yield increase of about 1 ton per acre. However, Alar gained notoriety as a possible carcinogen. Apple orchards were also treated with Alar, and sales of apples and apple juice were drastically reduced when the TV program, 60 minutes, discussed the potential health problem. Fortunately, the grape juice industry had been alert enough to discontinue use of Alar well before the publicity storm. Still, growers missed that "extra" Alar ton, and we began research to identify other means to ensure that flower-set did not reduce yield. Ponnax, whose generic name is mepiquat-chloride, was one of the alternatives we investigated. Mepiquat-chloride is a plant growth retardant that was sold to cotton growers under the trade name, Pix. In cotton, Pix helped increase boll-set, leading us to think it might have a similar impact on Concord grape flowers.

A paper (Pool. 1982. Effect of mepiquat-chloride on the growth and yield of Concord grapevines. J. Amer. Soc. Hort. Sci. 107:376-380.) summarizes the results of this research. We found that bloom-time application at concentrations between 1,000 and 5,000 ppm increased berries per cluster and cluster weight. Ponnax does inhibit Concord shoot growth, but not as severely nor as long as Alar does figure 1.

Where. Direct application of Alar to the fruit alone was not effective. Alar's response depended upon its effect on shoot growth. Just the reverse is true of Ponnax. Figure 2 shows that good response to Ponnax was only obtained when the flower clusters were directly treated.

Other options?

Pruning level. One of the first things we realized in the search for an Alar replacement was that Alar had been a tool to allow full yield of vines that had been too severely pruned. Figure 3 shows data obtained from a commercial, conventionally pruned and trained Concord vineyard. Several points can be made. First, there was a Ponnax response at every pruning level. Secondly, the relationship between crop level and fruit maturity was not affected by Ponnax treatment. A four-ton crop had about the same brix regardless whether it was on a Ponnax or a non-Ponnax treated vine. A 10-ton crop had lower brix, but again the brix was about equal regardless of Ponnax treatment. This suggests that the cheapest method to obtain a full crop is to leave enough buds.

This doesn't mean you will never benefit from a Ponnax application. The pruning level decision is always a best guess. Sometimes
we guess wrong. I'm expecting that 2001 may be a year when lots of people guessed wrong. The 2000 growing season was much less than optimum. Growers who left a "normal" number of nodes may find that a Ponnax treatment may help compensate for lower than normal fruitfulness. Even growers who hedge pruned and assumed they left lots of extra buds may find that they are faced with lower than normal crop potential. This is because in years of low fruitfulness, growers have a tendency to hedge normally. They cut off fruitful exterior buds and are left with only less fruitful buds from the shaded interior of the vine.

Figure 2. Effect of application time on Concord response to Ponnax. Note that application to the shoot tip produced highest percent fruit-set and there was no response to shoot tip application. This indicates that getting good fruit coverage is most important.

Figure 3. Response of Concord grapevines to pruning level and Ponnax treatment. Data are 3 year averages. Arrows show two ways to achieve approximately 8 ton crops of 15 brix grapes. One method is to leave 60 nodes and treat at bloom with Ponnax. A second way is to retain 80 nodes.

Topping. Another alternative to Alar application we looked at is topping or summer pruning. Our thinking was, if Alar works by reducing the competition between growing shoot tips and developing flowers, then another method to change this competition is to physically remove the shoot tips. Topping does increase flower-set. The goal is to remove a large percentage of the expanding tissues of the shoot tips and leave as many developed leaves as possible. The timing is a little later than with either growth regulator, from 50% bloom to the beginning of shatter. Table 1 shows data from the Vineyard Lab comparing the long-term effect of Alar and topping. Note that Alar and Topping both averaged more than 1 ton per acre higher than the control vines, and that there was no real impact on fruit maturity.

Table 1. Effect of shoot topping and Alar on growth and yield of Concord grapevines.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cane Pruning Wt. (lb)</th>
<th>Juice Soluble Solids (%)</th>
<th>Tons/ Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>2.3</td>
<td>a</td>
<td>16.2</td>
</tr>
<tr>
<td>1 lb Alar</td>
<td>1.7</td>
<td>b</td>
<td>15.8</td>
</tr>
<tr>
<td>Topping</td>
<td>1.7</td>
<td>b</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11.7</td>
</tr>
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INDUSTRY INPUT NEEDED FOR WINE GRAPE VARIETY RELEASE PLAN

Bruce Reisch & Thomas Henick-Kling
New York State Agricultural Experiment Station
Geneva, NY 14456

Richard Cahoon
Cornell Research Foundation
Ithaca, New York 14853

[Ed. Note: This article details release plans for four selections from the Cornell Breeding Program. Please read it carefully, and provide Bruce Reisch with any comments you may have. Because the release mechanism and royalty collection proposed is different than that used in the past, it is important that the program gets feedback from as wide a segment of the industry as possible. - TEM]

Comments may be sent to Bruce Reisch at the address above, or to
bir1@cornell.edu
fax: 315 787 2216
office phone: 315 787 2239

Following discussions with industry representatives (March 2000; February and March 2001) and continuing input from the Cornell Research Foundation (CRF), we would like to present the following outline of grape variety release plans. This
working draft is for your input, reaction, and feedback. We invite your comments via email, phone or in writing; contact information can be found above. Our goal is to finalize release plans as soon as reasonably possible to allow growers to proceed with planting plans and nurserymen to proceed with propagation plans.

Our overall goal is to establish a sustainable, long-term system by which the Cornell wine grape development program can be effectively supported, at least in part, by the industry to produce a steady stream of new and useful varieties. Despite Cornell’s significant investment in the grape breeding and research program, and the Federal and State funds garnered by the Cornell program leaders, there remains a need to provide additional future funding. Present resources remain uncertain from year to year, and are not sufficient to support extended pre-release testing of potential releases at multiple sites. Finding effective mechanisms to link this funding to the profitable use of the program results is both practical and justified. Shifting some of the burden of funding public research from the taxpayer to the commercial sector that benefits, is the ethical basis of the widespread practice of licensing university technologies. To accomplish this linkage, our goal is to establish an optimal mechanism that provides a meaningful return to the research program while accommodating the needs of the industry.

As you probably know, the only mechanism to date has been to collect a small royalty on each grapevine sold – and this approach has produced too-little support for the program. Many of the industry participants in our March meeting a year ago (3/30/00) agreed that a new royalty structure based upon annual fruit production and assessed on a per ton basis may be the improved funding mechanism we are seeking.

We also noted that an element contributing to the current success of the Traminette release was the availability of commercially produced wine at the time of release. All of the publicity surrounding the release had a very favorable impact upon sales. Some growers expressed a strong interest in a delayed release plan so that the industry could take full advantage of release-time publicity.

Following the meeting, we also received a number of written comments via the office of Tim Martinson. We are very thankful for the time that many spent collecting their thoughts and writing them down. We believe that our release plans outlined below reflect and build upon the opinions and ideas that were expressed to us.

There are four numbered NY selections presently being considered for release. These are reviewed here and release plans are then outlined in the following section.

**White Wine Grape:**

NY62.0122.01 - (Coldc 299-35 x Muscat Ottonel) produces an excellent, intensely flavored, high quality muscat wine. It may be made into a dessert wine or used in blending. Own-rooted vines are small (1.2 lb./vine in Geneva), and therefore grafting is recommended.

**Red Wine Grapes:**

NY70.0809.10 - (SV 18-307 x Steuben) produces a deep red colored, medium bodied wine. Best wine quality is achieved when fruit is only lightly extracted; it shows nice cherry and black berry fruit. When overripe and/or over-extracted American native flavors can appear. The vine is vigorous and very productive at Geneva. Vines are healthy with good powdery mildew and Botrytis rot resistance and often maintain green leaves up until frost.

NY73.0136.17 - [(NY33277 x Chancellor) x Steuben] produces an excellent full-bodied, well-balanced wine with complete tannin structure, and distinct pepper and red fruit aromas. The leaves show moderate resistance to powdery mildew and the fruit are resistant to Botrytis bunch rot. Downy mildew may occasionally require control.

GR7 - (Buffalo x Baco noir) highly vigorous, productive and very winter hardy (50% primary bud kill expected at approx. -20 oF). GR7 makes dark red wines with a classical hybrid aroma. It has better tannin structure, and better acidity and pH balance than either Baco noir or De Chaunac. It is best made as a light (not heavily extracted) wine. Use hot pressing, short skin contact time or some carbonic maceration. Ripens early/mid-season.

**For Industry Feedback:**

Release plans - we believe that GR7 should be released separately from the other three selections.
GR7 has been in distribution for a much longer period of time, and is already being used as a component of several successful commercial wines.

1. GR7 will be officially released in September 2002. This date allows time for nurseries to propagate in advance of release and have vines available for sale in 2001 and 2002. It also allows time to prepare release documents and bulletins.

2. Release for NY62.0122.01, NY73.0136.17, NY70.0809.10 will be September 2006. This will allow commercially produced wine to be available in time to take advantage of release time publicity. Cornell University fully commits to this release date but reserves the right to NOT release any grape later determined to have a flaw which would be significant enough to cause harm to the industry. Flaws might be found in either viticultural or enological traits. While this is very unlikely to occur for these relatively well-tested selections, it is still a possibility, and if flaws of concern are found, it would not serve the interest of either the industry or Cornell to proceed with the release.

3. We propose a new mechanism for commercialization of these four selections. In the past, we have patented most grape varieties and licensed nurseries to sell vines with a per-vine royalty returned to Cornell. Despite the considerable expense and effort of this approach, financial returns to the program have been small. For these upcoming releases, we propose to use traditional property contracts for licensing purposes. The new varieties will remain the property of Cornell University and CRF. CRF will grant, as always, licenses to nurseries to propagate and sell vines to growers with the small per vine royalty paid by the nursery to Cornell. Growers will enter into a simple bailment contract with CRF to propagate and grow vines as well as produce and sell fruit to wine producers. These contracts will allow the grower to propagate and grow as many vines as they wish but will not allow distribution of vines or cuttings to others. CRF will have no say in any management practices regarding the vines. Aside from restricting distribution to others, the only other obligation of the growers to CRF will be to pay a royalty on sales of grapes produced from Cornell vines.

4. Royalties: In the past, under Cornell’s plant patent licenses, nurseries have paid to CRF either $0.20 or $0.30 per vine sold. Sales to growers within N.Y. State have been assessed a reduced royalty, though the nurseries haven't always charged NY growers less. We plan to continue to charge this royalty on vine sales, at approximately the same rate as in the past. Regarding royalty on grapes, we have discussed various alternatives with nurseries, growers and winemakers and have tentatively settled on a percentage of the sale price per ton. A five-percent royalty has been considered as the working model but this is not firm and we look to the industry for feedback. In the formulation of this royalty mechanism, we want to build in preference for the New York industry, which has done so much to support the program.

5. This royalty mechanism will require good cooperation by all participants and should generate significantly more research funding for the grape development program. We will evaluate the success of this system with the GR7 release and make adjustments as necessary for the release of the other three varieties. Cornell reserves the right to consider a royalty on wine in the future but would only implement such a plan in a phased-in approach and only after significantly more analysis and input from industry. As with all commercial releases of Cornell varieties, Cornell Research Foundation will administer the plan which we eventually implement. Aside from a modest administrative fee of CRF, the funds will be returned directly to the research programs, representing a much higher rate of return than under the former mechanism.

There are a number of details to be worked out in this plan. Your input is most welcome and is, in fact, necessary. We have asked our two cooperating nurseries (Grafted Grapevine Nursery, Clifton Springs and Double A Vineyards, Fredonia, see http://www.nysaes.cornell.edu/hort/faculty/reisch/cultivars.html for more information) to begin distribution of the above four selections without the previous cap of 100 vines per grower. Meanwhile, a number of specific items must be considered:

1. Mechanism by which royalty based on tonnage can be accurately assessed and collected.
2. Period of collection - start and end dates. For how long is it reasonable to collect a royalty on grapes produced?

3. Plans for royalty based on production. Flat percentage? Reduce percentage after first 50 tons? Increase percentage after first 50 tons? What percentage is reasonable and fair? How do we determine a royalty rate for wineries growing their own grapes?

4. Acceptance of the new release plan by the industry in NY as well as out of state.

VINEYARD UPDATES E-MAIL MESSAGES AND CODE-A-PHONE ACTIVE

We have again started a regular schedule of e-mail and telephone (Code-a-Phone) messages. They will be recorded and sent on Mondays and Thursdays (during June), and weekly on Mondays during July and August. These updates include the degree day report, pest management information, schedules of upcoming events, timely 'current situation' information, and links to relevant web sites and factsheets.

If you have e-mail and receive this newsletter, you can receive the updates by e-mail. If you are not currently receiving the e-mail updates, please send me a message at tem2@cornell.edu, so I can get you on the list.

The Code-a-Phone message contains most of the same information that are written into the e-mail message. The Finger Lakes Code-a-Phone telephone number is available 24 hours a day at:

315-536-5549

SUMMER OFFICE HOURS AND CONTACTING THE PROGRAM
Tim Martinson

As the field season starts, I am frequently out of the office working on projects or on farm visits, and trying to contact me can be frustrating. I am committed to being accessible to all growers in the Finger Lakes, so here are some tips:

Office Hours: I will reserve Mondays for being available in my office. The office is open from 8-4:30 Monday through Friday. You can call the office and leave a message at any time.

Phone Inquiries: If I am out, there are several options. Best is to leave a message on the 'voice mail' at the office, and let me know when a good time to reach you is. I'll try to respond generally within a day of your call, and can return calls during the evening if necessary. If you need to reach me sooner, I will generally be available by cell phone, now that I have a wearable phone. I've asked our staff to give out my cell phone number when people call.

Farm Visits: Please call and I'll schedule a time to come out on a farm visit as soon as practical, given other commitments.

Email Messages: I welcome e-mail inquiries at tem2@cornell.edu

UPCOMING EVENTS

May 23, 2001. Spring Pest Management Update and Barbecue. Lance Fullager Farm, 4 mi S of Penn Yan, on Old Bath Rd. Please pre-register. See notice in this newsletter.

June 6-8 Northeast Regional Association of Official Analytical Chemists Meeting, Lakefront Ramada Inn, Geneva NY. Of interest to winemakers: This meeting is an annual regional event for laboratory personnel and chemists. Of interest to area winemakers is a session on June 8 on Analytical techniques for the wine industry, with speakers Susan Read of Canandaigua Wine company, Thomas Henick-Kling, Katheryn Deibler, Cornell and speakers from Italy, and Portugal in attendance. This session will be moderated by yours truly, Tim Martinson. For information, programs and registration (1 day registration available) go to: http://www.vet.cornell.edu/public/NEAS/nerspage.htm

July 10-13, Niagara-on-the-Lake, Canada ASEV Eastern Section 2001 Conference. The conference features a 1.5 day symposium “Space Age Winegrowing” July 11 and 12, with an optional pre-conference July 10 tour of leading Ontario vineyards and wineries. The ASEV Eastern Section Annual Meeting will follow on July 12-13. Both events will be held at the White Oaks Conference Centre & Spa, Niagara-on-the-Lake, Ontario, Canada. For conference registration & information visit the ASEV-Eastern Section website at http://www.nysaes.cornell.edu/fst/asev, or contact: Tim Martinson, NYSAES Cornell University, CCE-Yates, 110 Court Street, Penn Yan, NY 14527, ph: 315-536 5134, Email: tem2@cornell.edu, or Ellen...

August 7-10, 2001, Kennett Square, Pennsylvania. *Second Annual Eastern Pinot Noir Conference*. The purpose of this conference is to critically taste Pinot Noir wines from across the region and beyond. Modeled after the incredibly successful Steamboat conference in Oregon, this event asks wine makers and growers to bring their wines to share and to be evaluated by their peers in an informal and casual setting. The goal is to improve our wines through the unrestrained sharing of knowledge and experience, both in the cellar and the vineyard. Entry to this event is limited to commercial producers only in an effort to assure the confidentiality of our conversations. For more information and registration, please contact Mark Chien at 717 394-6851 or mlc12@psu.edu.