



Lake Erie Regional Grape Program **ELECTRONIC CROP UPDATE for March 15, 2012**

March 15, 2012

Dear Member,

As you are aware, we have been in the midst of our Annual Membership Drive and as a part of this process, we are updating our email list-serves. **IF YOU ARE A MEMBER AND HAVE RE-ENROLLED YOU CAN STOP READING NOW AND DO NOTHING ELSE.** If you *haven't* become a member or re-enrolled for 2012, please consider enrolling now.

Only members can receive the Crop Update so if you have not enrolled or re-enrolled, unfortunately your name will be dropped from the list-serve. Please consider enrolling now so that we can keep this important and informative publication coming to your email box! We will be doing this "switchover" the first week in April, 2012. That gives you another three weeks to enroll and not lose this valuable benefit.

If you are **unsure** of your membership status please give Kate Robinson a call or email to confirm your membership (kjr45@cornell.edu or 716.792.2800 ext 201). This includes all NY and PA members!

- **Chautauqua County 2012 LERGP Enrollment Form:** http://lergp.cce.cornell.edu/2012_Chautauqua%20County%20Enrollment%20Form.pdf
- **Out of County 2012 LERGP Enrollment Form:** http://lergp.cce.cornell.edu/2012_Full_Enrollment.pdf
- **Niagara County, NY Enrollment Form:** http://lergp.cce.cornell.edu/2012_Enrollment_Form_Niagara_County.pdf

Thank you very much for your continued interest and support!

Sincerely,
Edith Byrne

Go to <http://lergp.cce.cornell.edu/EventsCalendar.htm> for a detailed calendar of events including maps via Google calendar! Scroll to the bottom of the page for Google calendar and click on the event. Please remember to RSVP for those events that require one! UPCOMING EVENTS are also listed toward the bottom of this Electronic Update.

Please remember to let us know if you have changed or are in the process of changing your email address so we can keep the Electronic Crop Update coming to your inbox!

Please email Edith at: emb35@cornell.edu.

GRAPE INTEGRATED PEST MANAGEMENT: Tim Weigle

Finishing it Up (*and just in time looking at the weather forecast!*)

Pesticide Application Technology

No matter how well an IPM strategy is planned, if materials to manage the pest are not delivered in the correct amounts in the correct areas there is a good chance that pest problems will occur. Dr. Andrew Landers has developed a number of resources for grapes, as well as tree fruit, small fruit, vegetable and turf production, that can be found at

<http://web.entomology.cornell.edu/landers/pestapp/>

Recordkeeping

Once you have decided what to apply and have applied it, recordkeeping is extremely important in the documentation and continued improvement of an IPM program. Trac Software for fruit and turf is designed specifically to record pest management applications on a block-by-block basis and develop the paperwork necessary to keep reporting agencies and the buyers of a crop or commodity happy. More information on Trac Software for Fruit and Turf please visit the website below:

<http://www.nysipm.cornell.edu/trac/default.asp>

For More Information

Check out the NYS IPM website to get additional information on the pest management tools available by clicking the IPM Tools link; <http://www.nysipm.cornell.edu/tools/default.asp>.

For timely information during the growing season you can check the LERGP's weekly Crop Update that is delivered to your email box or visit the NYS Grape IPM Home Page at

<http://lergp.cce.cornell.edu/IPM/IPMHome.htm>

Lastly, Cornell University and the NYS IPM Program have many more resources for use in the development of an IPM strategy that is only a click away using a search engine such as Google and a few key words.

GRAPE CULTURAL PRACTICES: Jodi Creasap-Gee, Ph.D.

Bud Hardiness

Collections for the 2012 bud hardiness data set were done yesterday, so please do check back on Cornell's [bud hardiness website](#) by tomorrow (Friday). However, it does not take a fancy freezer to tell us that buds are probably coming out of dormancy. We have had almost a week of warm weather, and the forecast promises more days close to 70°F and nights around 50°F, which means there is a very good chance we will have an early bud break.

As discussed last week, we cannot change the weather, but we can be aware of the possible issues that may creep up on us this spring. For wine grapes, double pruning might be a good strategy for this spring: Prune to too many buds and plan to go back in the vineyard to prune down to a smaller number after the threat of a spring frost has passed. Concord and Niagara growers have finished pruning in most vineyards, but leaving up extra buds may help salvage crop size in 2012, IF there is a spring frost/freeze event between now and May 5 (average last frost-free date).

During collections on February 27, I collected extra cuttings and brought them into my office. For all varieties, there is now (2.5 weeks later) at least bud swelling, and for most, bud break has already occurred. Granted, my office is much warmer than what the forecasted temperatures will be, but it certainly stands to reason that it might only take a week or two of warm weather for buds to start swelling. Those who are pruning have noted that sap is already flowing.

BUD HARDINESS FROM FEB. 27, WHEN CUTTINGS WERE COLLECTED

02/27/2012 Bud Low Temperature Exotherms

VARIETY	LT10 °F	LT50 °F	LT90 °F
Cab Franc	-4.2	-7.8	-10.2
Noiret	0.5	-4.6	-8.8
	-3.4	-6.1	-9.0
Riesling	-6.5	-10.0	-12.2
Niagara	-2.5	-8.4	-11.1
Traminette	-6.0	-8.6	-13.4



Figure 1. Cabernet Franc collected in Portland on Feb. 27, 2012. LT50 = -7.8°F
Eichorn-Lorenz stage 5-7 (bud break to first leaf unfolded)



Figure 2. Noiret collected in Portland on Feb. 27, 2012. LT50 = -4.6°F
Eichorn-Lorenz stage 5 (bud break)



Figure 3. Concord collected in Portland on Feb. 27, 2012. LT50 = -6.1°F
Eichorn-Lorenz stage 3-5 (wool/doeskin to bud break)



Figure 4. Riesling collected in Portland on Feb. 27, 2012. LT50 = -10.0°F
Eichorn-Lorenz stage 1-2 (dormant bud to bud swelling)



Figure 5. Niagara collected in Portland on Feb. 27, 2012. LT50 = -8.4°F
Eichorn-Lorenz stage 5-7 (bud break to first leaf unfolded)



Figure 6. Traminette collected in Portland on Feb. 27, 2012. LT50 = -8.6°F
Eichorn-Lorenz stage 1-2 (dormant bud to bud swelling)

Two New List-Serves For Wine And Wine Grape-Related Events

Due to some concerns about too many emails on too many topics, we are creating two new list-serves: *one* for wine grape growers and *one* for winery owners/winemakers. This way, LERGP members who are only interested in wine grape- and wine-related *Upcoming Events* will receive these email notices and reminders.

IF you would like to receive Upcoming Events emails for winery workshops, the Winemaker's Roundtable meetings, wine grape programming, please contact Edith (emb35@cornell.edu) to be added to this list-serve. Please identify whether you are interested in wine grape-related programming or winery-related programming.

BUSINESS MANAGEMENT: Kevin Martin

Expected Value of Crop Insurance

Before we begin, a few boring definitions out of the way.

Risk Averse: A description of a decision maker who, when faced with two investments with a similar expected return (but different risks), will prefer the one with the lower risk.

Risk Averse: A description of a decision maker who, when faced with two choices, will sacrifice a certain amount of expected value in exchange for less risk. The "certain amount" of expected value sacrificed increases with the amount of aversion to risk

Rational Basis: Despite the flattering name, Rational Basis is not the only valid decision making personality. It does describe an individual that pursues the highest expected value. Their only regard for risk is how it impacts expected value.

Risk-Seeking: This decision-maker is attracted to risk. A lower expected return, with higher risk is a preferable alternative. This decision-maker generally chooses this path in hopes of the best possible outcome which likely has a much higher value than the expected outcome.

Risk adverse farmers have had crop insurance for decades. Insurance is an easy sale to the risk adverse. They're willing to accept a lower expected value in exchange for greater control of what that value is. For example, a risk adverse grower would annually pay \$40 per acre for insurance with a gross expected

value of \$350 once per decade. Over the course of a decade the grower expects to spend \$400 on insurance and receive payments of \$50. The expected \$50 loss is welcomed as protection against the possibility of experiencing more disasters than expected. For that reason, the risk adverse grower already has crop insurance, probably insured for 75% to 80%. Some risk adverse growers recognize that crop insurance is a poor tool for risk management, at least for their operation. Risk adverse growers in California use 25% more pesticides. We've identified growers here using umbrella training systems or sixty bud pruning. With these management strategies, on a site with very low probability of spring frost or winter injury it can be difficult to ever have the variance in your production levels to have a claim.

The **risk seeking** decision maker has the opposite dilemma. For those taking on too much production risk average yields can also fall low enough so that variance in production levels make it difficult to make a claim. If seeking some risk (think 120 bud pruning with no crop estimation, not minimal pruning with no crop estimation) crop insurance can be rather profitable. These risk-seeking growers tend to be larger commercial vineyards with multiple blocks. So long as they are not tempted to take too many production risks, the growers with the personality and financial conditions making them least likely to want crop insurance are most likely to profit.

On average the **rational** grower will have high levels of crop insurance and profit from it as well. The hypothetical that pleases the risk adverse farmer, in my mind, would be an extremely conservative estimate. To break even with crop insurance the grower does not need to have a disaster once per decade. The event does not need to take place that frequently, nor does it need to be an actual disaster.

Take, for example, the following hypotheticals:

In Figure 1 the grower is best off with a moderate level of crop insurance assuming he is only able to make a claim once every eight years. In doing so his claim exceeds eight years of premiums by \$104. The ROR is greater when disasters coincide with high tonnage prices and is less when insured prices are below their 10-year average. For purposes here, we assume prices are \$250, which is where they are today.

Figure 1

Coverage Level	Premium	Insured APH	Years * Premium	Production in Claim Year	ROI: Crop Insurance	Years Between
50%	10.63	3.4	85.00	3.2	(35.00)	8
55.00%	14.49	3.74	115.94	3.2	19.06	8
60.00%	18.36	4.08	146.88	3.2	73.12	8
65.00%	26.52	4.42	212.16	3.2	92.84	8
70.00%	35.70	4.76	285.60	3.2	104.40	8
75.00%	49.73	5.1	397.80	3.2	77.20	8
85.00%	102.60	5.78	820.76	3.2	(175.76)	8

APH

7.2

44%

The payment the grower receives in Figure one is a disaster payment, with production at 44% of his average.

Figure 2 (*below*) shows a different story. This grower never really has a disaster. As such in the example below he benefits from very high levels of crop insurance. 85% coverage is expensive and he'll need to

collect frequently to benefit. In this example he collects once in three years. His claim is not based on a disaster, but a below average year. With a 6.4 ton average, his 4.2 ton claim represents 66% of his normal crop load. For the large majority this type of variance seems typical.

Figure 2

Coverage Level	Premium	Insured APH	Years * Premium	Production in Claim Year	ROI: Crop Insurance	Years Between Claims
50%	10.00	3.2	30.00	4.2	(280.00)	3
55.00%	13.64	3.52	40.92	4.2	(210.92)	3
60.00%	17.28	3.84	51.84	4.2	(141.84)	3
65.00%	24.96	4.16	74.88	4.2	(84.88)	3
70.00%	33.60	4.48	100.80	4.2	(30.80)	3
75.00%	46.80	4.8	140.40	4.2	9.60	3
85.00%	96.56	5.44	289.68	4.2	20.32	3

APH

6.4

66%



Cornell University
Cooperative Extension
Finger Lakes Grape Program

Are we going to have an early budbreak?

Hans Walter-Peterson, Finger Lakes Grape Program

It's the question that is on a lot of people's minds right now, given the weather that we've had for the past several days, and which is supposed to just continue for at least the next week or so. Given those conditions, it seems likely that the answer to our question would be yes.



It would be nice if there was some nice, clean and easy to use formula to help us figure out when budbreak would happen, but unfortunately we don't. Some research has been done to try to figure out just what influences budbreak, but based on the work that I've looked at there isn't a solid answer that we can use yet.

Several different projects have looked at the influence of soil temperature on budbreak in grapes. Earlier studies done by scientists in California (Zelleke and Kliewer 1979, Kliewer 1975) saw a difference of several days in budbreak of Cabernet Sauvignon canes that were grown in soils at 11-12°C (about 53°F) and soils that were at 25°C (77°F). Studies on other perennial crops like apples (Greer et al. 2005) and trifoliate oranges (Stathakopoulos and Erickson 1965) have seen similar responses. However, a more recent study on Shiraz done in Australia did not see any impact of soil temperature on the timing of budbreak (Field et al. 2009).

So where does that leave us? It would seem to make sense that soil temperature should influence early-season physiology of the vine. But we also know (at least anecdotally) some warm days in late March or early April (2010, anyone?) can get the buds kicked into gear as well. So air temperature has to be the real driving factor, doesn't it?

If we look at the phenology data collected at the Fredonia and Portland stations out in the Lake Erie region, we actually don't see much of a relationship between the date of budbreak and the number of base-50 growing degree days (GDD) accumulated since January 1 (Figure 1). Now, that doesn't mean that there's almost no relationship

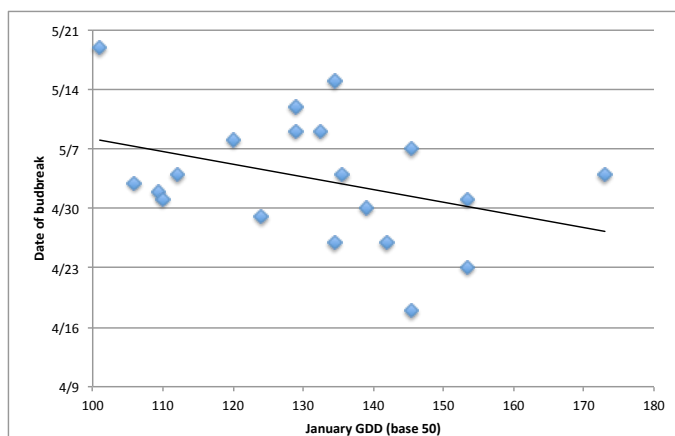


Figure 1. Relationship (or lack thereof) between January GDDs and date of Concord budbreak in the Lake Erie region.

between warm air temperatures and budbreak, but rather that a) GDDs calculated from January may not be a very good measure of what is needed to influence budbreak, and b) that air temperature is not the only driving force to determine when budbreak will happen.

As I mentioned earlier, we really don't have any way of predicting when budbreak will happen based on climatic data. But as with many things with growing grapes, your gut

can often be the most reliable guide. And while it may not be able to give us a precise date, I think most of us are anticipating an early budbreak this year.

Can you do anything about it?

Well, perhaps. My colleague Imed Dami has done a lot of work looking at the use of oils to delay budbreak. He has examined several different types of oil, including soybean-based oils and mineral oils like Stylet Oil, on a number of different varieties, to see just what kind of delay these products might give growers in certain years or in certain locations where early budbreak and spring frost damage might be a concern.

I won't go into a lot of the grisly details here (I've provided a few links at the end of this write-up, if you want more information), but here are the basic messages from his work:

- 1) Applying soybean, mineral and vegetable oils can delay budbreak by anywhere from 2 - 20 days, depending on several factors including variety, timing, and coverage (Dami and Beam, 2004).
- 2) These oils can be phytotoxic at high enough levels. For a mineral oil like Stylet Oil, symptoms of phytotoxicity occurred at about 5% concentration (v/v). Phytotoxicity for soybean oils did not occur at concentrations up to 10% by volume (Dami and Wolf). If you want to use a mineral oil like Stylet Oil, the suggestion is to use less than a 2.5% solution to avoid phytotoxicity problems (Dami 2007).
- 3) Typical practice in Ohio, where a number of growers use this practice every year, is to apply a mixture of 8% soybean oil, 1% of an emulsifier (i.e. spreader/sticker), and 91% water. Imed recommends using 100 gallons of water directed at the wood (so change all of those percentage signs to gallons and there's your

tank mix). I know this seems like a lot of water to use when there's so little surface area to catch it, but the canes need to get soaked in order for this to work.

- 4) Concord appears to be the most sensitive variety to this treatment, but it does delay budbreak on other varieties as well, perhaps just not as long as Concord or as consistently.
- 5) The closer the material is applied to budbreak, the less of an effect that the treatment seems to have. Imed found that mid-winter applications were more effective than early spring applications. What does that mean for this year? It would have been closer to ideal to apply these sprays a few weeks ago, but then again, who would have thought that we were going to have this kind of weather 3-4 weeks ago?
- 6) Imed has found, as have growers in Ohio who have used this, that the delay in budbreak does not impact fruit composition or maturity (i.e., delayed harvest) at the end of the season, unless the delay is extensive (more than 2 weeks).

So is it worth trying? I'll give you the standard, yet truthful, Extension answer: It depends. The fact that we're in a warm stretch of weather, closer to budbreak than we normally would be this time of year, probably means that the treatment won't be as effective as it would be if it was applied earlier in the winter. The other factor, obviously, is cost. The material that Imed used in his trial is a soybean oil called Amigo, which is currently running about \$24/gallon. At 8 gallons/acre, plus a gallon of a spreader/sticker, you're looking at just over \$200/acre just in materials (ouch!). Now, protecting a Concord crop from freeze damage might be worth that if you were pretty confident that it would get you past any last freezes that might occur. But I'm sure most growers will take a hard look at that number and want some better information about the practice before spending that kind of money.

Speaking of getting better information, Mike is out today (Thursday, March 15) applying this treatment in some replicated plots in a few different varieties - Concord, Foch and Chardonnay. We will be collecting budbreak data on these vines for the next few weeks and report what we find later this spring. In the meantime, give us a shout if you start to see buds swelling or breaking in your vineyard over the next few weeks. Hopefully, we won't hear from anybody for a while longer.

References:

Dami, I. "Delaying Grapevine Bud Burst with Oils." In: *Understanding and Preventing Freeze Damage in Vineyards: Workshop Proceedings* (page 89-91). December 5-6, 2007, Columbia MO. <http://extension.missouri.edu/explorepdf/winegrape/wg1001.pdf>

Dami, I.E. and B.A. Beam. 2004. *Response of Grapevines to Soybean Oil Application*. American Journal of Enology & Viticulture. 55:269-275

Dami, I. and T. K. Wolf. *Dormant oils delay budbreak of grapevines*. Sourced from <http://dc380.4shared.com/doc/4sw2oQtu/preview.html>. Accessed on March 14, 2012.

Greer, D.H., J.N. Wünsche, C.L. Norling, and H.N. Wiggins. 2005. *Root-zone temperatures affect phenology of bud break, flower cluster development, shoot extension growth and gas exchange of 'Braeburn' (Malus domestica) apple trees*. Tree Physiology 26:105-111.

Kliewer, W. M. 1975. *Effect of Root Temperature on Budbreak, Shoot Growth, and Fruit-Set of 'Cabernet Sauvignon' Grapevines*. American Journal of Enology & Viticulture 26:82-89.

Stathakopoulos, N.P. and L.C. Erickson. 1966. *The effect of temperature on budbreak in Poncirus trifoliata (L.) Raf.* Proceedings of the American Society for Horticultural Science 89:222-227.

Stewart K. Field, S.K., J.P. Smith, B.P. Holzapfel, W.J. Hardie, and R.J. Neil Emery. 2009. *Grapevine Response to Soil Temperature: Xylem Cytokinins and Carbohydrate Reserve Mobilization from Budbreak to Anthesis*. American Journal of Enology & Viticulture 60(2): 164-172.

Zelleke, A. and W. M. Kliewer. 1979. *Influence of Root Temperature and Rootstock on Budbreak, Shoot Growth, and Fruit Composition of Cabernet Sauvignon Grapevines Grown under Controlled Conditions*. American Journal of Enology & Viticulture 30: 312-317.

Other Resources:

Dami, I. "Oil Spray to Delay Bud Break - You May Try It!" *Ohio Grape-Wine Electronic Newsletter*, February 29 2012. (page 13). [http://www.oardc.ohio-state.edu/grapeweb/images/OGEN_29_February_2012_\(6\).pdf](http://www.oardc.ohio-state.edu/grapeweb/images/OGEN_29_February_2012_(6).pdf)

Dami, I. and B. Beam. 2004. *Response of Grapevines to Soybean Oil Application*. American Journal of Enology & Viticulture 55(3): 269-275.
([You can download this paper here](#))

Zabadal, T., I. Dami, M. Goffinet, T. Martinson and M. Chien. *Winter Injury to Grapevines and Methods of Protection*. Michigan State University, 2007.



GRAPE DISEASE AND PEST MANAGEMENT WORKSHOP

DATE: Wednesday, March 21, 2012

TIME: 8:30 AM – 4:00 PM

LOCATION: Video Teleconferencing to Location in Erie, PA.

COST: LERGP members can attend free of charge at the Erie County Cooperative Extension office in Erie, PA. **Cost for non members is \$10.**

Space is limited so preregistration is required by March 14, 2012. Contact the Erie County Cooperative Extension office at 814.825.0900 for more information! <http://erie.extension.psu.edu/>
FOR MORE INFORMATION SEE FLYER BELOW!

PA GROWERS: Please go to <http://extension.psu.edu/erie/events> for more Upcoming Events!

Next Electronic Crop Update will be: Thursday, March 22, 2012

Lake Erie Regional Grape Program Crop Update is an e-mail newsletter produced by the Lake Erie Regional Grape Program and sent out by subscription only. For subscription information, please call us at 716.792.2800 ext 201, or look for subscription forms at http://lergp.cce.cornell.edu/Join_Lergp.htm.

Lake Erie Regional Grape Program Team Members:

Andy Muza, Extension Educator, Erie County, PA Cooperative Extension, 814.825.0900

Tim Weigle, Grape IPM Extension Associate, NYSIPM, 716.792.2800 ext. 203

Jodi Creasap Gee, Viticulture Extension Associate, CCE, 716. 792.2800 ext. 204

Kevin Martin, Business Management Educator, 716. 792.2800 ext. 205

For any questions or comments on the format of this update please contact Tim Weigle at: thw4@cornell.edu.

Subscribe to [Appellation Cornell newsletter](#):

<http://grapesandwine.cals.cornell.edu/cals/grapesandwine/appellation-cornell/index.cfm>

[2010 Appellation Cornell Newsletter Index](#):

<http://grapesandwine.cals.cornell.edu/cals/grapesandwine/appellation-cornell/2010-index.cfm>

[Veraison to Harvest newsletters](#):

<http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm>

[NY Grape & Wine Classifieds](#) – New Address! - <http://flgclassifieds.cce.cornell.edu/>

This publication may contain pesticide recommendations.

Changes in pesticide regulations occur constantly, and human errors are still possible. Some materials mentioned may not be registered in all states, may no longer be available, and some uses may no longer be legal. Questions concerning the legality and/or registration status for pesticide use should be directed to the appropriate extension agent or state regulatory agency.

Read the label before applying any pesticide.

Cornell and Penn State Cooperative Extensions, and their employees, assume no liability for the effectiveness or results of any chemicals for pesticide usage.

No endorsements of products are made or implied.

Cornell University Cooperative Extension provides equal program and employment opportunities.

Contact the Lake Erie Regional Grape Program if you have any special needs such as visual, hearing or mobility impairments.

CCE does not endorse or recommend any specific product or service.

**The Lake Erie Regional Grape Program at CLEREL
6592 West Main Road, Portland, NY 14769**



Grape Disease and Pest Management Workshop

Wednesday, March 21, 2012

Penn State Berks Campus (near Reading), Thun Library, Room 145

Cost: \$30 at PSU Berks location, \$10 at VTC locations

This meeting has been approved for SIX category pesticide credits available to PA licensed applicators

This program will be available by video teleconferencing to locations in Erie, Northeast PA (Susquehanna), and SW PA (Westmoreland). Please see information below for your contact person and location.

The Grape IPM workshop is held each spring to review the disease and pest season from the previous year and look ahead to growing defect-free fruit in 2012. Dr. Wendy McFadden-Smith is the grape pathologist for the Ontario Ministry of Food, Rural Affairs and Agriculture, and is responsible for over 14,000 acres of grapes in the province. She will present her work on sour rot management. Grapevine yellows is a phytoplasma that causes chronic injury to grapes, especially Chardonnay and has been identified in Pennsylvania. Tremain Hatch, viticulture extension associate at Virginia Tech, will present information about GY from Virginia. Tim Weigle, NY grape IPM specialist will talk about organic disease control strategies in vineyards. Dr. Noemi Halbrecht and Bryan Hed are Penn State grape pathologists, they will cover management of botrytis, downy mildew, black rot, powdery mildew and phomopsis. Dr. John Halbrecht is nematologist, with experience with viruses in grapes.

Program (subject to change):

8:30	Registration and coffee
8:45	Introduction and comments
9:00	Understanding and managing sour rot in vineyards – Dr. Wendy McFadden-Smith
9:45	Management of downy mildew and powdery mildew - Dr. Noemi Halbrecht
10:30	Break
10:45	Organic grape growing practices in the Lake Erie region – Tim Weigle
11:30	Management of nematode and tomato ringspot virus in vineyards – Dr. John Halbrecht
11:50	Lunch on your own
1:15	Update on Grapevine Yellows in Virginia – Tremain Hatch
2:00	Management and research of fruit rot diseases in vineyards. Bryan Hed
2:45	OMAFRA grape IPM website and other disease issues in Ontario - Wendy
3:15	TBA
3:45	Q&A
4:00	Adjourn

Registration Information (read this carefully):

Pre-registration is by e-mail (mlc12@psu.edu) or phone (717.394.6851) to Mark Chien. Class fee is \$30/person. Lunch is on your own. Pre-registration deadline is March 18. **Please pay by cash or check at the door** (make checks payable to “PSCE Program Fund”).

In your e-mail or phone reply, provide this information:

1. Your e-mail address
2. Your telephone number
3. The names of the people who will be attending the workshop

I will confirm your pre-registration by e-mail or phone.

Meeting details (read this carefully):

The workshop is being held at the **Penn State Berks** campus at 1600 Broadcasting Avenue, Reading, PA just off of Rt 222. The meeting room is Thun Library, Room 145. Please arrive by 8:15 or earlier. We will start promptly at 9 AM. Directions and a campus map are available under the “About Us” tab at <http://www.bk.psu.edu/>. There are many restaurants in the vicinity of the school.

IMPORTANT: A campus parking permit is **REQUIRED**. It will be provided to you upon your pre-registration. It includes directions to PSU-Berks and a campus map.

Remote video teleconference (VTC) broadcasts are available in the following locations. The cost will be \$10 to participate*. Please pre-register with the extension educator in your area.

1. VTC SW PA at the Westmoreland County Cooperative Extension office in Greensburg, PA. Contact Lee Stivers at (724) 228-6881. <http://extension.psu.edu/westmoreland>
2. VTC NE PA at Susquehanna County Cooperative Extension office in Montrose, PA. Contact Kim Grace at (570) 278-1158 <http://susquehanna.extension.psu.edu/>
3. VTC Erie at Erie County Cooperative Extension office in Erie, PA. ***LERGP members are free.** \$10 for non-members. Contact Andy Muza at (814) 825-0900. <http://erie.extension.psu.edu/>

Questions??? Call Mark Chien at 717 394-6851