Crop Update for Apríl 16, 2015

Wednesday, April 29, 2015 -PA Core Training at North East & Girard PA (see sheet) Wednesday, May 6, 2015- Coffee Pot meetings begin (see Coffee Pot Schedule) Saturday, June 27, 2015- Hops Conference at CLEREL Sunday, July 26, 2015- ISHS Shaulis Symposium at SUNY Fredonia Monday, July 27-Wednesday, July 29- ISHS Conference at SUNY Fredonia

Use the included forms, go to our web-site or stop in the office to register.

**Check the web-site for more upcoming events and meetings.

Think Spring!







Cornell University

Building Strong and Vibrant New York Communities Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.



2015 Coffee Pot Meeting Schedule

- May 6- 10:00am-Dan Sprague- 12435 Versailles Plank Rd. Irving NY 14081
- May 13- 10:00am- Phillip Baideme- 7935 Route 5, Westfield NY 14787
- May 20- 10:00am- CLEREL, 6592 West Main Rd. Portland NY 14769
- May 27- 10:00am-Nick Mobilia- Arrowhead Winery 12073 East Main Rd. North East PA 3:00pm-Evan Schiedel/Roy Orton- 10646 West Main Rd. Ripley NY 14775
- June 3- 10:00am- Bob & Dawn Betts- 7365 East Route 20, Westfield NY 14787 3:00pm- North East Lab-662 N Cemetery Rd. North East PA 16428
- June 10- 10:00am- Peter Loretto-10854 Versailles Plank Rd. North Collins NY 14111 3:00pm- Dave Nichols-1906 Ridge Rd. Lewiston NY 14092
- June 17- 10:00am-Tom Tower 759 Lockport Rd. Youngstown NY 14174 3:00pm-Leo Hans-10929 West Perrysburg Rd. Perrysburg NY 14129
- June 24- 10:00am- Kirk Hutchinson-4720 West Main Rd. Fredonia NY 14063 3:00pm- Brant Town Hall- 1294 Brant North Collins Rd. Brant NY 14027
- July 1- 10:00am-Ted Byham 9207 West Lake Rd. Lake City PA 16423 3:00pm-Alicia Munch-761 Bradley Rd. Hanover NY 14136
- July 8- 10:00am- Rosemary & Brenda Hayes- 6151 Route 5 Brocton NY 14716
- July 15- 10:00am-Szklenski Farms- 8601 Slade Rd. Harborcreek PA 16421
- July 22- 10:00am- Paul Bencal-2645 Albright Rd. Ransomville NY 14131

Business Management

Kevin Martin Penn State University, LERGP, Business Management Educator

As you're reading Luke's crop update it is clear that early observations of trunk injury are mostly positive for Concord. Given the potential for variability as well as the potential for mid season collapse, there is still a reason to be concerned. Many growers have modified their pruning practices and left up more buds. At this point, that should be the extent of monetary savings.

If trunk damage remains a concern (weaker vines & poor sites) an expensive pre-emergent herbicide program would be a sound insurance policy. Overall the cost per acre would be fairly minimal by year's end.

For the immediate future, an increased investment in an herbicide program is the only significant change in practice until shoots start to appear. Depending on soil health it might be possible to reduce nitrogen applications to offset herbicide expenditures. In some areas, damage may be limited enough so a normal nitrogen application would be necessary. In any event, a timely applied nitrogen application is efficient and inexpensive. Growers should base nitrogen application on viticulture needs, not business concerns.

Early season sprays are also inexpensive. Given the low price of grapes and potential for variable damage, early season sprays that reduce the need for late season spray are necessary. The total cost of a pre-bloom spray program is between 95 and 120. The absolute most a grower could save in spray costs is \$50. Any savings above that and this year's potential crop and crop insurance would be in jeopardy. If damage to the crop proves to be significant, it is very likely that the \$50 spent would result in immediate savings as late season spray applications could be reduced. Further, the nature of those savings are beneficial to cash flow. Early season spray applications result in a high percentage of costs associated with unpaid labor, depreciation and fuel. The cost of a late season spray application is typically 75% material.

For some growers cash flow management will be critical to success in 2015. Crop insurance is a game changer, at least by November or December. Without crop insurance as a risk management tool, the cash flow management game will spill over into next year. Understanding how cash flows into your operation is critical. It should influence your decisions. Many viticulture production practices result in expenses that have positive ROIs of less than 1 year. (Such as a typical 12" shoot spray). You want to concentrate on these areas. Compare that to a new harvester, which provides a positive ROI for large farmers after 7 - 10 years. Or compare it with a new tractor. Some new tractors do provide a positive return to a grower. It takes a minimum of 5 years. Many purchased tractors never provide a positive ROI, the farm simply is not large enough to justify the capital cost.

Postponing unnecessary purchases, minimizing capital investment and delaying debt payments to hold equity (as opposed to shrinking/growing) are generally the best first cash flow management strategies.

Cultural Practices

Luke Haggerty Viticulture Extension Associate Lake Erie Regional Grape Program

Looking at Trunk Damage

The rising temperatures have helped kick-start sap movement and allowed us to get the first good chance to inspect for damage. Over the past week I have been out cutting the outer layer of trunks and cordons and looking for freeze damage. Much like the earlier bud cuttings the damage varies from cultivar, location, and the low temp at vineyard site.

To assess trunk and cane damage, make a shallow cut into the trunk or cane deep enough to expose the outer layer of the vascular tissues (about 1/8 inch deep). Examine the vascular tissue for freeze damage by the amount of oxidation (browning) in the various tissues. Trunk damage occurs in this order; phloem, xylem, and then cambium. Damage to the phloem (A-E outer ring) will prevent the flow of carbohydrates needed for shoot development, but will most likely not kill the trunk. Damage to xylem will restrict flow from the roots to the canopy resulting in stunted, chlorotic (yellowed), or dead shoots and can cause vines to collapse under stress. To learn more on how to evaluate trunk damage see the 2015 March Newsletter http://lergp.cce.cornell.edu/newsletter.php.

As you evaluate trunk damage keep in mind the severity and location of the damage. This will help you plan herbicide treatments in specific areas where trunk renewal is needed. Suckers should be retained with the purpose of vine or trunk renewal when trunk damage looks like B, C, and D in the figure below. Severe trunk damage in figure A shows the trunk has no sap flow signaling it is dead. Although the trunk in figure B has sap flow the damage is severe enough that the vine will not be able to function and will most likely die to the ground. Figure E shows minimal damage and should be able to grow out of the minor vascular damage. Both F.1 and F.2 are examples of healthy trunks with no vascular damage.



Outer layer of bark cut away (CAPS) and correspond cross section (lower case) showing varying degree of vascular damage in vine trunks. Decreasing in severity from A – F; (A) dead, (B) severe, (C) severe/moderate, (D) moderate, (E) minimal, and (F.1 & F.2) no damage.

IPM Tim Weigle NYSIPM, LERGP Team Leader

Pre-emergent weed management for trunk renewal

Trunk damage is, or should be, on the minds of many grape growers in the Lake Erie region after the brutally cold winter low temperatures we experienced. At our twilight meeting last night at Militello Farm Supply, Luke Haggerty gave an overview of what he is seeing on trunk damage (see his article in today's Crop Update) and the take away message I got is, we need to be forward thinking in how we react to this potential damage.

If you suspect that one of your vineyards may have experienced significant trunk damage, you should immediately be rethinking your weed management strategy to maximize the number, and quality, of suckers available for training into new trunks. This will require a strong pre-emergent weed management program. I would suggest that if you have been using the same pre-emergent herbicides for a number of years, you should consider rotating to herbicides with active ingredients that you have not used previously. Even if the materials are more expensive, you should get a payback in increased weed control later into the growing season.

Go into the growing season thinking early season weed control, as you will have limited options later in the season when sucker growth has commenced. Keep in mind that even if sucker growth has reached the top wire or beyond in the first season, the bottom portion of the growth remains green and will be injured by contact herbicide applications, making them poor candidates for renewal trunks. A little extra effort in planning now could pay big dividends this season, and for years to come, through quickly rebuilding your training system and maximizing vine size and trellis fill.

Questioning Whether to Save a Spray or Save Your Crop in 2015?

eNEWA for Grapes can help. We are once again providing eNEWA – grapes in 2015. With the price of grapes potentially falling, bud damage from a particularly brutal winter, and all the other pressures being placed on your already slim profit margin, the information found in the eNEWA – grapes daily email could help you make the decisions on the need for sprays and how best to time them. And the best part is... IT WILL NOT COST YOU A DIME TO GET IT as we are still in the development stage.

eNEWA – grapes provides you the opportunity to get all the current weather and grape pest information found on NEWA (Network for Environment and Weather Applications <u>http://newa.cornell.edu</u>) without having to click through the website. eNEWA is a daily email that contains current weather and pest model information from a station, or stations, near you. The email will contain; 1) high, low and average temperature, rainfall, wind speed and relative humidity 2) the 5-day forecast for these weather parameters, 3) GDD totals (Base 50F), 4) 5-day GDD (Base 50F) forecast and 5) model results for powdery mildew, black rot, Phomopsis and grape berry moth. The weather information is provided for not only the current day but for the past two days as well.

We will be conducting a second year of beta testing of eNEWA for Grapes in 2015. You can choose from any number of stations located near you for delivery of this information via email each day at a time specified by you. Please keep in mind that you will receive a separate email (approximately 3 pages in length) for each station you choose. Once during the growing season and again after harvest, you will be asked to complete a short survey to assist us in improving the eNEWA for grapes email system. If you would like to be a part of this project just fill out the form found in this Crop Update and return to thw4@cornell.edu or print it off and put it in the mail to: Tim Weigle CLEREL 6592 West Main Road Portland, NY 14769

eNEWA Grape Project Subscription Sign-Up

Subscriber information

Name_____

Email address

City_____

Select Location(s) (circle as many as you like)

Lake Erie Region	Portland Route 5	Geneva
Appleton, North	Ransomville	Geneva (Bejo)
Appleton, South	Ripley	Lansing
Dunkirk	Sheridan	Lodi (Lamoreaux)
Erie	Silver Creek	Lodi (Shalestone)
Harborcreek	Versailles	Lodi (Standing Stone)
Lockport	Finger Lakes Region	Penn Yan
North East Escarpment	Aurora	Romulus (Thirsty Owl)
North East Lab	Dresden (FLGP/FLCC)	Varick (Swedish Hill)
Portland	Dundee (Weimer)	Watkins Glen
Portland Escarpment	Fayette 3 Brothers	Watkins Glen (Lakewood)

Select eNEWA Delivery Times (write in times below) Delivery requests should be on the hour.

Mail to: Tim Weigle, CLEREL, 6592 West Main Road, Portland, NY or scan and email to thw4@cornell.edu

Andy Muza

Grape Insect Pests to Watch for from: Bud Swell through Immediate Prebloom Stages Andy Muza, LERGP Extension Team, Penn State Extension – Erie County

This is a preview of insect pests that may cause problems in the vineyard from bud swell through the immediate prebloom period. I will not be providing choices of insecticides registered for use in Pennsylvania for each pest but instead strongly suggest that each grower purchase a copy of the **2015 New York and Pennsylvania Pest Management Guidelines for Grapes** (http://store.cornell.edu/p-189430-2015-new-york-and-pennsylvania-pest-management-guidelines-for-grapes.aspx). This guideline provides a wealth of information on insect, disease and weed management with specific pesticide recommendations, as well as, a chapter on sprayer technology. Growers interested in organic management of pests can download a copy of Cornell's **2014 Production Guide for Organic Grapes** (http://nysipm.cornell.edu/organic_guide/grapes.pdf).

Another valuable, compact resource that can be taken along in the vineyard as you are scouting is **<u>Pocket Guide for Grape IPM Scouting of Grapes in North Central & Eastern U.S.</u>** This guide provides concise information along with color photographs on insect/mite pests, natural enemies, diseases and disorders. The pocket guide can be purchased at (<u>http://shop.msu.edu/product_p/bulletin-e2889.htm</u>).

BUD SWELL

Grape flea beetle – beetles are small (3/16") and metallic blue in color. Beetles overwinter in the adult stage and emerge as grape buds begin to swell. The most significant injury caused by this pest is due to adults feeding on swollen grape buds, often consuming enough tissue to destroy the developing bud. By about 1/2" growth the threat of economic loss from this pest is over. Larvae feed on leaves but the extent of injury is usually negligible.

The largest populations of flea beetles are most often around wooded or overgrown edges of vineyards. Scout vineyard rows bordering these areas frequently during the bud swell stage. Look for injured buds along canes and presence of adults. Beetles will jump like fleas when disturbed. Warm, sunny days are usually the best opportunity to observe adults. Areas with bud injury of 2% or greater would warrant an insecticide treatment.

Adult Grape Flea Beetle



Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb_fig1.asp

Flea Beetle injured grape bud picture



Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb_fig5.asp

Climbing Cutworm – several species of cutworm larvae feed on grape buds during the swell stage. The injury to buds can be confused with grape flea beetle damage. The larvae are immature stages of noctuid moths. Larvae have a brown to gray coloration with darker stripes or dots along the body. Larvae hide under stones or weeds beneath vines during the day and climb vines to feed at night. Vineyards with weed cover under the

trellis and areas with sandy soils are at greater risk for injury. Scout frequently during the bud swell stage. If bud injury is detected when scouting then examine weeds/soil beneath vines for presence of larvae. Areas with bud injury of 2% or greater warrant an insecticide treatment.

Spotted Cutworm Larva



Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/cc/cc_fig3.asp

Cutworm injured grape bud



Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/cc/cc_fig5.asp

<u>3 – 12 INCH SHOOT GROWTH</u>

Banded Grape Bug and/or *Lygocoris inconspicuous* – both of these insects have piercing and sucking type mouthparts and are in the same family (Miridae) as tarnished plant bug. Banded grape bug nymphs have antennae with black and white bands, green/brown bodies and are <1/2". *Lygocoris inconspicuous* nymphs are slightly smaller with light green antennae (no bands) and light green bodies. Nymphs (immature stage) of both insects feed on developing flower clusters by piercing florets, pedicels and rachises. Although these insects are occasional pests, research by Greg Loeb (Cornell) showed that population levels >1 nymph/10 shoots can cause economic yield losses.

Begin scouting when shoots are 3 - 5" in length and continue until shoots are at least 12". According to Loeb, flower clusters should be checked on 100 shoots per block with an emphasis near vineyard edges. Due to their body coloration these insects are difficult to see. To determine nymph numbers, hold a white paper plate beneath clusters then tap clusters to dislodge insects. If levels are >10 nymphs/100 shoots an insecticide application is suggested. See scouting video - Banded Grape Bug LERGPvids https://www.youtube.com/watch?v=FrEJ6IJB_is

Banded Grape Bug nymph



Banded Grape Bug nymph in flower cluster



Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/bgb/bgb.pdf

Photo: http://nysipm.cornell.edu/factsheets/grapes/pests/bgb/bgb.pdf

Grape Phylloxera (leaf form) – phylloxera are native to the eastern U.S. and cause galls on both leaves and roots of grapevines. The life cycle is different for the foliar and root forms of this insect. The root form is the most destructive of the 2 forms but is managed by grafting susceptible varieties (e.g., *Vitis vinifera*) to phylloxera-resistant/tolerant rootstocks.

Nymphs (crawlers) emerge in the spring and move to shoot tips to start feeding on the upper leaf surface of newly developing leaves. Feeding initiates the formation of galls on the lower leaf surface. Females can lay hundreds of eggs within galls throughout their life. Crawlers hatch from galls on the upper leaf surface, move to and feed on developing leaves, initiating new galls. This cycle continues throughout the season. Grape varieties vary widely in their susceptibility to leaf galling by phylloxera. Some varieties (e.g., Chambourcin, Seyval, Vidal) can suffer severe leaf galling which reduces leaf function and can affect shoot growth.

Begin scouting early in the season, especially in highly susceptible varieties or newly planted vineyards. Galls may become evident as soon as the 3-5 leaf stage so carefully examine the undersides of terminal leaves for warty looking, green to reddish growths. An insecticide application can be applied when first galls are forming. Additional sprays may be needed 10 -14 days later if galls are present on new leaf growth. Correct timing of sprays is important because nymphs (crawlers) must be active and feeding on leaf surfaces for insecticides to be effective. The most reliable method to determine if crawlers are active is to cut galls open and observe for presence of nymphs. Crawlers are extremely small so a good hand lens is needed.

Phylloxera nymphs (crawlers)

Extensive galling on undersides of leaves picture



Photo: http://www.virginiafruit.ento.vt.edu/phylloxera.html

Photo: http://www.virginiafruit.ento.vt.edu/phylloxera.html



Additional Insect Pests - During this time period a number of other insects (i.e., grape plume moth, grapevine epimenus, 8 – spotted forester, tumid/tomato gallmaker, grape cane gallmaker, and grape cane girdler) may also be present in the vineyard. Although injury from these insects may look alarming, damage is usually cosmetic and insecticide applications are rarely needed. (See sites for fact sheets below).

IMMEDIATE PREBLOOM

Rose Chafer – rose chafer beetles are about 1/2" long, with tan colored bodies and long, spiny legs. These beetles feed on a wide variety of hosts including grape. Large numbers of beetles often emerge from the soil at the same time (**about** 10 days before grape bloom) and begin feeding on tender flower clusters and leaves. Infested areas can lose extensive numbers of flower clusters if beetles are not detected early and treated. Vineyards with a history of this pest or blocks with sandy soils should be scouted daily beginning **at least** 10 days before bloom. A fact sheet on Rose Chafer from Ohio State (<u>http://www.oardc.ohio-state.edu/grapeipm/rose_chafer.htm</u>) recommends an insecticide application if a threshold of 2 beetles per vine is reached.

Rose Chafer beetle

Rose Chafer injury on flower buds



Photo: http://www.oardc.ohio-state.edu/grapeipm/rose_chafer.htm



Photo: http://www.oardc.ohio-state.edu/grapeipm/rose_chafer.htm

Fact sheets on grape insect pests can be found at the following sites:

NYS IPM Fact Sheets for Grapes http://nysipm.cornell.edu/factsheets/grapes/default.asp

Identifying Grape Insects (Michigan State) (http://grapes.msu.edu/integrated_pest_management/identifying_insects

Midwest Grape Production Guide (Bulletin 919) – (Chapter 4 - information on grape insect pests). http://www.oardc.ohio-state.edu/fruitpathology/Bulletins/mw_grape_12aug05%20S.pdf

Mid Atlantic Vineyards Grape IPM (Virginia Tech) http://www.virginiafruit.ento.vt.edu/grape-fruit-ipm.html

Ontario GrapeIPM - Grape Insects http://www.omafra.gov.on.ca/IPM/english/grapes/insects/index.html

THE INTERNATIONAL SOCIETY FOR HORTICULTURAL SCIENCE (ISHS) Presents

"<u>II International Workshop on Vineyard Mechanization and</u> <u>Grape and Wine Quality</u>"

July 26- July 29, 2015 Fredonia, New York, USA

Sponsored by the ISHS working group on Vineyard Mechanization and Vine Berry Fruits

In collaboration with Cornell Lake Erie Research & Extension Laboratory Portland, NY and Cornell University New York State Horticultural Society New York State Agricultural Experiment Station, Geneva





II International Workshop on Vineyard Mechanization and Grape and Wine Quality

Invitation

On behalf of the ISHS Fruit Section Working Group on Vineyard Mechanization and Vine Berry Fruits, we invite you to an International Workshop on Vineyard Mechanization and Grape and Wine Quality to be held in Fredonia, New York, USA.

The <u>II International Workshop on Vineyard Mechanization and Grape and Wine Quality</u> will be held from Sunday, July 26 to Wednesday, July 29th 2015 at SUNY Fredonia. The workshop will kick off on Sunday with a Shaulis Symposium focused on grapevine physiology and mechanized grapevine production. Monday will be a full day technical and winery tour to the Cornell Lake Erie Research and Extension Laboratory and Lake Erie Region wineries. This will be followed by a day and a half of technical presentations and posters on: precision viticulture, sensing technologies, variable rate management, fruit quality, and economics.

Primary Topics of the Symposium

- Horticulture: Grapevine Physiology and Mechanized Production
- Engineering: Mechanized Tools for Vineyard Operations
- Sensing Technology: Spatial Vineyard Measurement
- Variable Rate Management: Zonal Application for Yield and Quality
- Fruit Quality and Economics: Impact of Mechanized Systems

Sponsors

E. & J. Gallo Winery

If you would like to sponsor this event, please call Katie at 716-792-2800 ext 201 for more information.

For detailed information and registration for this event, please use the following link: http://events.cals.cornell.edu/ishs

Penn State Extension

PESTICIDE CORE CREDIT RECERTIFICATION MEETINGS

WEDNESDAY, APRIL 29, 2015

Northeast Township Building 10300 West Main Road (Rt. 20) North East, PA 16428 -OR- Girard Township Municipal Building 10140 Ridge Road (Rt. 20) Girard, PA 16417

Program 10:00 A.M. to Noon

Program: 2:00 P.M. to 4:00 P.M.

Core Credit Topics:

- Protecting Water Supplies from Pesticides
- Sprayer Clean Up
- Drift Control

Presentations will be given by: Andy Muza, Lake Erie Regional Grape Program; and Ruth Benner, Penn State Extension Erie County.

The meeting is approved for <u>4 core pesticide re-certification credits</u> by the Pennsylvania Department of Agriculture. **Cost for attending this meeting is \$10.00 per person.**

Seating is limited so registration is required.

To Register: Go to our website at **extension.psu.edu/erie**, on the right side under "Upcoming Regional Events" scroll down and at bottom click on "More." Scroll down under April 2015 and click on the title "Pesticide Core Credit Recertification Meetings."

Contact: Questions contact: Penn State Ext Erie Co at 814-825-0900.

LERGP Website Links of Interest:



Check out our new Facebook page!!

Cornell Lake Erie Research & Extension Laboratory Facebook page https://www.facebook.com/pages/Cornell-Lake-Erie-Research-Extension-Laboratory/146971918664867

Table for: Insecticides for use in NY and PA: http://lergp.cce.cornell.edu/submission.php?id=69&crumb=ipm|ipm

Crop Estimation and Thinning Table: http://nygpadmin.cce.cornell.edu/pdf/submission/pdf65_pdf.pdf

Appellation Cornell Newsletter Index: http://grapesandwine.cals.cornell.edu/cals/grapesandwine/appellation-cornell/

Veraison to Harvest newsletters: http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm

Go to http://lergp.cce.cornell.edu/ for a detailed calendar of events, registration, membership, and to view past and current Crop Updates and Newsletters.





Lake Erie Regional Grape Program Team Members:

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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 716-792-2800



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