



Cornell Cooperative Extension Lake Erie Regional Grape Program

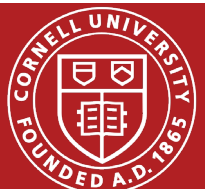


PennState Extension

Harvest at CLEREL 2019-photo: Jenn Russo



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In this Crop Update: Reminders for Important Events

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The Lake Erie Regional Grape Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extensions in Chautauqua, Erie and Niagara county NY and in Erie County PA.

Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Mature Wood & Vine Acclimation

In cold climate areas, the importance of having “wood” on your vines is not a joking matter. Green material on the vine is not cold hardy and will freeze a few degrees below 32 degrees Fahrenheit, or the point where water freezes. I wanted to actually tell you why that happens in this crop update. Just how does the vine enter into dormancy?

During the growing season, the plant tissue is green and full of water and food for the plant’s growth, fruit development, and fruit maturation. After harvest, the water and nutrient demand reallocates to the root system to store for the next growing season, dehydrating or reducing the amount of water in the shoots. Green plant material contains more water than mature (woody) stem tissue and would freeze at higher temperatures than hardened off wood that contains less water. This is why late spring frosts are such a danger to tender, green, full-of-water shoots; they are susceptible to freeze and death.

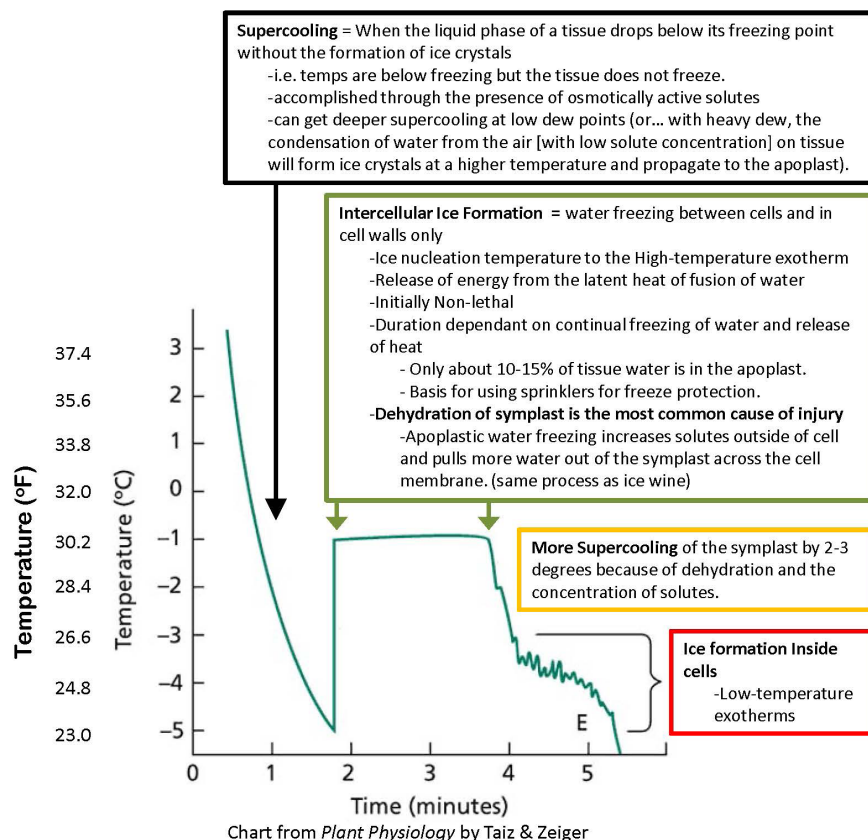
Thinking about how the shoot grows from the bud, the internodes closest to the first bud (basal bud) is the oldest plant material of the season and elongate from there. Late in the summer and fall the basal internodes (most mature of new growth) turn brown, called periderm formation. This is the beginning of the transition to a cold-hardy state, or acclimation, and vine dormancy. It is the plant’s survival mechanism for low winter temperatures and is in response to decreasing day length and cooler temps. This process begins around veraison and continues through the coldest part of midwinter.

Okay, let’s talk plant parts for a minute, in particular the vascular bundle. Think about the human vascular system. What is it? It is your circulatory system, which is made up of vessels (i.e. veins, arteries, capillaries) that carry blood that delivers oxygen and nutrients for your body’s survival, amongst other things. Plants have a vascular system that carries water and nutrients throughout the plant for survival. I always remembered it throughout school by the sound of the word phloem (pronounced flow-uhm). Phloem begins with the same sound as food and is the tissue that conducts food from the leaves to ‘flow’ down to all parts of the plant. Xylem tissue transports water and dissolved minerals up to the leaves. In a cross-section of a shoot, the xylem is on the inside of the section surrounded by the phloem. As the season progresses into colder months, the cells outside of the phloem, called cork cambium, brown and produce water-resistant periderm.

The grapevine’s cells “acclimate” to the lower temperatures by doing two things: dehydrate, creating the periderm, and a super’cool’ mechanism that uses sugars and protein complexes that bind water inside the plant to make ‘cryo’- (meaning ice) protectants to protect the water in the plant from turning into ice and killing the green tissue. This is when the buds isolate from the plant’s vascular system. So this is not a super power by any means, we are very aware that vine death can happen at extreme temperatures, but these cryoprotectants lower the freezing point of water inside the cell and buds (living plant material with water inside) gain cold hardiness to protect them in freezing temperatures. See the Figure “What Happens to Plant Tissue During a Freeze Event?” by Dr. Terry Bates below and it can also be found on our website, www.lergp.com under Cultural Practices/Production Practices/Plant Tissue & Freezing tabs.

What Happens to Plant Tissue During a Freeze Event?

T. Bates, Cornell Lake Erie Research and Extension Laboratory,



Bud scales and down form extraorgan "ice sinks"

Less water ----- More Water

Floral tissues do not supercool but they do resist dehydration during extracellular ice formation



This is where the important work funded by the New York Wine and Grape Foundation to research bud hardiness benefits our region. Per Tim Martinson's GRAPES 101 article, *How Grapevine Buds Gain and Lose Cold-hardiness*, research states that "at leaf fall, buds are moderately cold-hardy and can survive temperatures ranging from 5 to 20° F. After the onset of below-freezing temperatures, buds continue to gain cold-hardiness through further desiccation and redistribution of water to the intercellular spaces. As ice forms outside of cells, differential vapor pressure draws water out of the cells and on to the surface of the ice crystals. This response is highly correlated with the vine's exposure to low winter temperatures. For example, buds exposed to lower winter temperatures in New York have median lethal temperatures (LT50) two to three degrees lower than buds exposed to more moderate winter temperatures in Virginia" (<https://grapesandwine.cals.cornell.edu/newsletters/appellation-cornell/2011-newsletters/issue-5/how-grapevine-buds-gain-and-lose-cold/>). There will be more on this in upcoming crop updates.

Tracking this information can give growers an early warning to do extensive bud injury surveys in their vineyards, and adjust pruning levels accordingly.

Grape IPM Impacts & Needs across NYS

Tim Weigle – grape IPM educator has retired and lack of sufficient funding means the NYS IPM Program can't refill this position. ***We stand to lose grape IPM effort in New York State!*** Attaining the means to refill the grape IPM educator position will support our growers' ability to practice IPM: to protect their crops, their livelihood, and our environment. Integrated pest management, IPM, is ***the*** way to grow grapes — sustainably with minimal impact on the environment.

Thirty years ago, industry leaders in the Lake Erie region worked with Assembly Member William Parment to garner funding to create a grape IPM position to address the need for pest management research and extension. The NYS IPM Program embraced the grape IPM position and, for 30 years, Tim did excellent, outcome-based work in the Lake Erie region and all across New York State in collaboration with grape growers and colleagues at Cornell University, and Pennsylvania State University. Over those 30 years, the grape IPM educator helped bring in millions of additional dollars in grant funding to support IPM research and extension, which benefitted our grape industries.

Grape IPM impacts and why they are important for our future

- **Grape berry moth** control was relying on four or five sprays. Tim got sprays down to one or none with Cornell IPM knowhow. Crops were still clean and juice delicious.
 - With 58 bills in the legislature that deal with pesticides, they need to know that ***IPM is the solution to pesticide reduction.***
- **Spotted lanternfly** threatens to invade our state and, in Pennsylvania, it has killed vineyards by sucking vines dry. But vineyard IPM can save our vines.
 - We need a grape IPM educator in NY who can advise our growers on ***IPM to protect their vines from invasive species.***
- **IPM forecasts** inform growers when their crops are at risk — or not — reducing extra sprays. Grape IPM forecasts address the five main threats to vineyard health.
 - We need a grape IPM educator to keep these up-to-date and develop new ones so growers can ***protect their crops with a minimum of pesticide input.***
- **Current weather conditions** detected by sensors inform IPM forecasts. Tim doubled Lake Erie weather stations to 44, sending IPM forecasts to growers at newa.cornell.edu.
 - Let's continue to grow a tech-savvy grape industry to ***utilize the latest in digital IPM tools to keep vineyards healthy.***
- **TracGrape software** helps growers keep spray records and generate reports so workers stay safe and processors know their juices and wines are of the highest quality.
 - More sophisticated IPM tools are evolving and we'll need more ***workshops to educate vineyard managers on the latest IPM technologies.***
- **Reaching over 1500 people yearly** — growers, processors, fruit workers — via educational meetings, workshops, webinars, talks, podcasts, YouTube, newsletters, etc.
 - Education is the goal of extension. We need a grape IPM educator delivering information ***on the latest advances in IPM to achieve sustainable vineyards.***

In 2018, grape listening sessions conducted across all grape-growing regions of the state identified

IPM as the top priority need. Our industry needs alternate strategies for dealing with historical and emerging IPM issues that threaten vine health and crop yield — grape rootworm, sour rot, climate change. The wine grape industry needs IPM solutions to reduce reliance on pesticides, since these varieties are more susceptible than juice grapes. Overall, our grape industry benefits from the transfer of Cornell research knowledge into practical solutions for all grape pests (insects, diseases, weeds, birds). A grape IPM educator will teach growers about IPM practices to protect their crops with a minimum of pesticide inputs. They will advance grape IPM research. This educator will help the NYS industry meet the increasing demand for sustainable practices on the part of the grower, the processor, and the marketer. The grape IPM educator is pivotal to maintaining sustainable vineyards in New York State.

Let people know how important the grape IPM educator position is to you and your farm business. Help the NYS IPM Program garner funding to sustain grape IPM excellence. Below are suggested contacts:

Your local Legislators and Assembly Members

Richard Ball
Commissioner, NYS Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235
Commissioner@agriculture.ny.gov

Kathryn J. Boor
Dean, College of Agriculture and Life Sciences at Cornell University
260 Roberts Hall
Ithaca, NY 14853
calsdean@cornell.edu

Christopher Watkins
Director, Cornell Cooperative Extension
366 Roberts Hall
Ithaca, NY 14853
chris.watkins@cornell.edu

Jennifer Grant
Director, New York State IPM Program
607 West North St., Geneva, NY 14456
jag7@cornell.edu

Dear Growers,

I am addressing all of the growers in our region for a call to action please.

Your support and immediate action are required to ensure the grape integrated pest management position housed in the Lake Erie Grape Region continues into the future. To address this need, letters of support from our grower stakeholders are necessary to convey the needs of the work that Tim Weigle provided to our industry and the impacts, or success stories, that have improved your operations.

As of November 4, 2019, the industry lost critical support at Cornell University in grape pest management because of the retirement of our resident IPM specialist, Tim Weigle. In his 30-year career as NYSIPM Specialist, Tim co-edited the annual NY and PA Pest Management Guidelines for Grapes, instituted NEWA models for pest management, led research and education on grape root worm, Japanese beetle, and grape berry moth. Tim has also stayed in the forefront of invasive species such as the multicolored Asian lady beetle and the spotted lanternfly. Tim's program was exceptional at listening and responding to the needs of the grape industry in western New York.

It is our understanding that the grape IPM position will not be immediately refilled by the NYS IPM and the future of the position is uncertain due to funding constraints. Furthermore, alternate proposals are being considered because Cornell is not hearing from our industry. This is our opportunity to let our voices be heard and state the importance of Tim's position in our region or it may go away. We believe that any proposed option to move or derail focus on grape IPM is a huge mistake. The Lake Erie AVA is the largest and most productive grape region in the eastern US and we need programs to support and grow this vital economic engine.

We believe there is a critical and obvious need to support farm-level grape integrated pest management in western NY and Erie County, PA. As of November 4, 2019, the Grape IPM Specialist position has been vacant. Having a physical presence of IPM in our region has assisted in adoption of IPM practices and sustainability of our industry. A grape IPM specialist on the Lake Erie team will insure that their research and extension will immediately address our current needs in IPM, invasive species, and address the continual need to modify spray programs to maintain pest control. What would happen to your operations if the following bullet points were to go away?

This position has been an integral part of the four-member, two-state, five-county Lake Erie Regional Grape Program since its inception in 1992. This vacancy leaves a hole in our industry and we need support to immediately address our current needs in:

- Integrated pest management
- Pesticide recommendations
- updating NY and PA Pest Management Guidelines for Grapes
- pesticide credits at Coffee Pot meetings
- invasive species education
- contact to address the continual need to modify spray programs to maintain pest control
- updating grape berry moth and disease models on NEWA

If you agree, it is imperative that you contact the following decision makers now and let them know that our industry needs IPM support in the Lake Erie Grape Region and to request additional funding support for Ag IPM:

Richard Ball
Commissioner, NYS Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235
Telephone: 518-457-8876

Kathryn J. Boor
Dean of the College of Agriculture and Life Sciences (CALS) at Cornell University
260 Roberts Hall
Ithaca, NY 14853
Telephone: 607-255-5335
E-mail: calsdean@cornell.edu

Christopher Watkins
Director, Cornell Cooperative Extension
366 Roberts Hall
Ithaca, NY 14853
chris.watkins@cornell.edu
Telephone: 607-255-8546

Jennifer Grant
Director, New York State IPM Program
607 West North St., Geneva, NY 14456
jag7@cornell.edu
Telephone: 315-787-2353

For those of you that are not comfortable constructing letters, I am including a sample letter that you may use as a guide, however, your knowledge and personal gains from the guidance of Tim Weigle is more powerful than my words. Please be sure to tell your story. Let the decision makers know that this is very important to the success of our region.

Thank you for continually supporting the Lake Erie Regional Grape Program. Unity has always been our strongest asset and we are excited to work with you to advance the Industry/Research/Extension relationship. **I hope that you consider writing a letter to each of the above decision makers to call to action the need for funding in IPM in our region.**

All My Best,
Jennifer Phillips Russo

SAMPLE LETTER: next page-personalize with your own text.

Concord Farm, Inc.
1234 Juice Lane
The Best Smelling Town, NY 12345

December 12, 2019

Richard Ball
Commissioner, NYS Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235

Dear Commissioner Ball,

I am writing to express my concerns about future funding for Grape Integrated Pest Management in our area. Our Lake Erie Grape Region industry lost critical support at Cornell University in grape pest management because of the retirement of our resident IPM specialist, Tim Weigle. In his 30-year career as NYSIPM Specialist, Tim co-edited the annual NY and PA Pest Management Guidelines for Grapes, instituted NEWA models for pest management, led research and education on grape root worm, Japanese beetle, and grape berry moth. Tim has also stayed in the forefront of invasive species such as the multicolored Asian lady beetle and the spotted lanternfly. Tim's program was exceptional at listening and responding to the needs of the grape industry in western New York.

As growers, we need IPM support because "tell your story here, which may sound something like grape berry moth spray program saved my vines, my spray costs, etc. or use the bullet point mentioned above. Think about what will happen to your management practices when the bullet points above go away or the Spotted Lanternfly gets here."

It is imperative that our industry has access to an IPM support specialist in the Lake Erie Grape Region to continue to be sustainable. Thank you for continually supporting the Lake Erie Regional Grape Program.

Respectfully,

King Concord
Owner and President
(716) 111-0000

Business Management

Kevin Martin, Penn State University, LERGP, Business Management Educator

MORE Labor Updates

Events Cancelled

Due to legal action from Northeast Dairy Producers Association and the New York State Vegetable Growers Association, the upcoming Department of Labor Info-sessions, scheduled for January 16th in Portland and Ellicottville & January 23rd in Hornell are cancelled. We do hope to reschedule them after the January 24th court hearing, but won't be able to confirm that until later this month. In the meantime, if farmers have any questions regarding the new labor laws, they can visit [Cornell's Ag Workforce Development website](#), or call the [NYS Department of Labor](#) at 833-NY-FARMS (1-833-693-2767).

Temporary Restraining Order

Labor laws are in effect for most farm employees. Despite this temporary restraining order, farms need to track and pay overtime for nearly all employees that choose to work more than 60 hours per week. For the duration of the temporary restraining order (until January 24th) farms do not need to track hours or pay overtime for any bona fide executive, administrator, professional, or supervisor. In the past, ALL farm employees were exempt. To take advantage of these exemptions farmers would need to establish that employees are bona fide exempt. First, these exemptions require a minimum salary of \$832 per week for administrative and executive status. A salary of \$684 is required for professionals. If salaries exceed these amounts the job description will also need to fit within the definitions of these exempt categories. For more on that see below.

The scope of family members was also temporarily expanded to line up with federal regulations.

Application to PA Vineyards

One other big point of clarification. At this time NYS DOL will only be regulating hours worked in NYS. Hours worked in Pennsylvania do not count toward the 60 hours in the same way NYS minimum wage does not apply to any hours worked in Pennsylvania. Work in Pennsylvania vineyards would also not count against the day of rest.

Executive

- The employee's primary duty must be managing the enterprise, or managing a customarily recognized department or subdivision of the enterprise;
- The employee must customarily and regularly direct the work of at least two or more other full-time employees or their equivalent; and
- The employee must have the authority to hire or fire other employees, or the employee's suggestions and recommendations as to the hiring, firing, advancement, promotion or any other change of status of other employees must be given particular weight.

Administrative

- The employee's primary duty must be the performance of office or non-manual work directly

related to the management or general business operations of the employer or the employer's customers; and

- The employee's primary duty includes the exercise of discretion and independent judgment with respect to matters of significance.

Professional

- The employee's primary duty must be the performance of work requiring advanced knowledge, defined as work which is predominantly intellectual in character and which includes work requiring the consistent exercise of discretion and judgment;
- The advanced knowledge must be in a field of science or learning; and
- The advanced knowledge must be customarily acquired by a prolonged course of specialized intellectual instruction.

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Jared Mosier
Consultant
(814) 923-1372
7472 Buffalo Rd.
Harborcreek, PA 16421



Dave Maille
Consultant
(814) 572-5781
mmagconsulting@gmail.com

VIP

Kimberly Knappenberger, LERGP, Viticulture Extension Aide

With the holidays squarely in our rear view mirrors and the anticipation of the next growing season ahead, have you decided if changes need to be made? If yes, now is the time to get your application in! Not only is it easier to get done in the slower time of the year, but this grant isn't going to last forever and it is granted on a first come, first served basis. The Vineyard Improvement Program is available for the removal of old or underproducing Concord vineyards and replacing them with an agricultural commodity. Once approved, this program will reimburse 50% of removal costs up to \$1,500 per acre and 25% of replant costs up to \$1,500 per acre. There are some restrictions on what is covered on replant reimbursements. For example, if you are planning to replant a vineyard, orchard, or Christmas trees, that is covered. However if you are planning to plant vegetables, cover crops or field crops, those are not covered.

So far we have reimbursed almost \$74,000, and have more applicants that are still working toward getting their reimbursements. Once an application is submitted you have 1 year to get the vineyard removed. You then have 2 years to get your replant done. To be considered "done" if you are replanting a vineyard, the vines, posts, and anchors must be in the ground and wires strung. If you are planting cover crops or field crops we would need to see that the crop has been established in the growing season without the presence of Concord vines.

To learn more about this program or to fill out an application please visit our website at lergp.com and click on the purple button that says Vineyard Improvement Program. If you have other questions, please feel free to call or email Kim at 716-792-2800 ext. 209 or ksk76@cornell.edu.



Overgrown vineyard

Other links of interest:

[LERGP Web-site:](#)

[Cornell Cooperative Extension website:](#)

[Cornell CALS Veraison to Harvest Newsletter:](#)

[Efficient Vineyard:](#)

[Appellation Cornell Newsletter:](#)

