



Cornell Cooperative Extension
Lake Erie Regional Grape Program

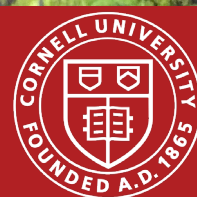


PennState Extension

Crop Update - October 29, 2020

Last Grapes of the Season-
Kim Knappenberger

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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.

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How to join a Zoom meeting video (1 minute):

https://www.youtube.com/embed/vFhAEoCF7jg?rel=0&autoplay=1&cc_load_policy=1

Joining and Configuring Audio & Video (1 minute):

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Business Management

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

The 2020 crop, at least for Concord, is in the books. From what I've heard, harvest was the most normal thing about 2020. We are happy that most growers had a safe and (mostly) successful harvest. Nothing surprising when seeing data from processors. This crop was not one for the record books, for many processors it was the smallest harvest since 2012. Despite harvesting the smallest crop in 7 years, overall the crop size was nearly double the 2012 crop. Payments are expected to continue to trend higher or at least stay high. Between the higher prices and CFAP 2.0, average net revenue for growers should beat many of the previous 7 years.

Mixed into these averages were some severe disasters for individual growers. Unharvested acreage, yields below 2 tons, and significant acreage below 4 ton were all observed. At these levels higher prices provide little assistance. CFAP 2.0 and crop insurance will keep most of these growers on track for profitability. However, that assumes CFAP eligibility and high levels of crop insurance coverage. With CFAP payments based on last year's very successful crop, for most growers the real wild card will be how much risk was assumed on the insurance side of things. Premiums have been rising and with rising premiums (and 7 good years in a row) came policy cancellations. Given the trends of this most recent disaster to be focused on our most vulnerable areas, there is hope that risk management strategies were more robust than average sites.

We would like to be able to reach you via text message!

It seems that everyone is so busy and away from their desk often, so in order to be able to reach you in a timely manner or just to add convenience for you to have easy access to our information right at your finger tips- we are asking for your permission to reach you via text message.

This is a link taking you to a survey where you can give us permission by supplying your phone number with area code and your text preferences- it is only a 3 question survey that will take but a minute to complete.

[Text me please!](#)



THANK YOU!

Please read this important information- your farm may be eligible for financial assistance!

CFAP 2

Corona Virus Food Assistance Program 2.0 is live. This program was originally created to provide financial assistance to farms that were directly impacted by Corona virus. Early on, supply chains broke down and there was price volatility in certain crops. Some crops could not be harvested. CFAP was designed to reimburse those farms for some of their losses.

CFAP 2 is a different program altogether. Commodity based restrictions are no more. If a farmer is growing it, the farmer is getting paid something. All that is required is a simple application. This program has been live for two weeks.

To apply contact your local FSA office. Some offices are open by appointment, but all can be contacted via phone. Applications need to be finalized by December 11, 2020. More information can be found at farmers.gov/cfap

This update is being provided now because I wanted to gather some specific information about grapes and cooperatives. For better or worse, payments will match 2019 sales. This means that payments will be based on certificates issued in 2019. It will not include certificates that matured in 2019.

To determine gross revenue before you contact FSA, have your schedule F ready. The grape payment would typically be calculated on gross sales of grapes that show up on lines 2, 3(a) and/or 8. Line 2 would typically include payments from cooperatives. Line 3 might include certificates or dividends. Line 8 sometimes includes cash payments for grapes where the buyer did not provide a 1099. This will vary based on software and accountant methodology. No accounting for expenses is necessary. This payment is based on gross sales, not net.

2019 Sales Range	Percent Payment Factor
\$0 to \$49,999	10.60%
\$50,000 to \$99,999	\$5,300 + 9.90%
\$100,000 to \$499,999	\$9,250 + 9.70%
\$500,000 to \$999,999	\$48,049 + 9.00%
Sales over \$1 million	\$105,800 + 8.80%

As you can see these payments are slightly graduated as gross sales go up, but only slightly. As specialty crop commodity growers profit comes through volume. Paying based on a percentage of gross sales will dramatically increase profitability. In the best of times profitability does not exceed 30%. This payment will represent somewhere between 30% and 100% (or more) of 2019 net income. In other words \$6,000 for a typical hobbyist or \$25,000 for a typical full-time grower.

Payments are capped at \$250,000 per entity. Family farms with multiple active participant/owners can work around this cap. Needless to say, this is the direct subsidy program that a lot of growers have been looking for that I did not think we would ever see again. To be fair, that is the general

theme of 2020. Good luck and happy harvesting.

For more information, please watch this [youtube video](#). ([podcast #183 on lergp.com](#))

We have had growers take advantage of this opportunity, and have contacted me with this to say about the process:

"the entire process took me less than 24 hours and only involved a few emails back-and-forth and getting the correct gross crop sales to get in to the FSA office. I just needed to sign two things, and the application is finished. And it did turn out to be close to 10% of our crop sales for 2019. thank you so much for bringing this to our attention. Praying people take advantage of it."

"Yes, everyone needs to apply. I had never done business with FSA before so there were a few more forms to fill out besides the application but were simple and quick. I was able to do the whole process through email. Filed on Oct. 2, money was in my bank account this morning, Oct. 14. That is 12 days total !!"

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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

New Grant Fuels Better Nutrient Management in Vineyards

PUBLISHED ON **OCTOBER 13, 2020**



photo 1. Terry Bates, senior research associate at the Cornell Lake Erie Research and Extension Laboratory, looks at efficient vineyard technology to assess field conditions. (Dan Bell/Provided)

ITHACA, N.Y. — The U.S. Department of Agriculture's National Institute of Food and Agriculture has awarded a \$676,000 grant to a pair of Cornell researchers aiming to use high resolution sensors to help vineyard growers identify nutrient deficiencies.

The researchers – Terry Bates, senior research associate at the Cornell Lake Erie Research and Extension Laboratory, and Justine Vanden Heuvel, professor of horticulture – are both from the College of Agriculture and Life Sciences.

Like most plants, proper nutrient uptake is critical to vine health and fruit yield. But identifying deficiencies in nitrogen, potassium, magnesium and other key nutrients is a challenging, labor-intensive and expensive process for vineyard managers. It requires manually collecting leaves during the growing season and mailing the samples to a lab for analysis.

Not only is this costly, but in New York state, nutrient levels can vary significantly from location to location – even within a single vineyard block – due to variations in soil type. Given these challenges, growers typically opt for a one-size-fits-all approach, rather than fine-tuning their management acre by acre.

When it comes to vine nutrition, growers often end up applying fertilizers across entire vineyard blocks, instead of to the sections that need it most.

“Over-applying fertilizers like nitrogen can contribute to leaching issues, which is especially undesirable in wine regions near bodies of water,” Vanden Heuvel said. “[But] data from [our new] sensors can tell growers exactly which portions of a vineyard block need fertilizer, reducing the area that receives an application.”

Vanden Heuvel will develop a measurement mechanism that combines both ground-based sampling and satellite imaging to quantify where nutrient deficiencies are. And by doing some vineyard sampling as part of the approach, growers will effectively be doing what she calls “ground truthing” – using real numbers to support satellite measurements, ensuring that growers are getting precise information.

One of the benefits to this monitoring approach, Vanden Heuvel said, is its accessibility and affordability to grape operations of all sizes.

Bates has already been studying vineyard health through the Efficient Vineyard Project (EVP), and he will use this knowledge to develop nutrient sensors. The EVP takes soil, canopy, yield and sugar content sensing data to generate standard vineyard maps to help managers evaluate the growth, productivity and quality of plants in commercial vineyards. Growers then use this information to create more accurate maps of their own vineyards to better support their management practices.

In collaboration with Jan van Aardt, a professor at the Rochester Institute of Technology’s Center for Imaging Science, Bates will develop new proximal nutrient sensors that detect deficiencies before they become visible to field workers.

Bates and van Aardt are matching remote imaging measurements with ground measurements to set a standard for vineyard nutrition health. In combination with the sensors, this will allow growers to make real-time nutrient management decisions.

“The most important part of the project,” Bates said, “is to help growers manage vineyards more efficiently with a focus on profitability and environmental sustainability.”

Bates and Vanden Heuvel’s award is part of a total grant worth \$4.75 million; collaborators on the overall grant include researchers from Washington State University, University of California at Davis, Oregon State University and the USDA Agricultural Research Service. Of the total grant, \$1 million has been awarded, with the remainder contingent on the project’s progress.

Erin Rodger is the senior manager of marketing and communications for Cornell AgriTech.

–Erin Rodger
Cornell Chronicle

Dr. Katie Gold, Cornell Plant Pathologist, asked the Cornell Grape Team to share the article below. She mentioned that her new fruit pathology counterpart in Wisconsin (Dr. Leslie Holland) and colleagues at Minnesota wrote a great article on post-harvest disease management for powdery mildew and downy mildew that would be great to share with our growers, so I wanted to pass it along to all of you!

Post-Harvest Disease Management for Grapevine Downy Mildew and Powdery Mildew

September 30, 2020 |

By Matt Clark, Leslie Holland, and Annie Klodd

This article initially posted on the University of Minnesota [Grape Breeding and Enology website](#)

If downy mildew and powdery mildew are present on grapevine leaves at harvest, control measures should be considered at that time to prevent early leaf drop and help vines properly acclimate for winter.



Powdery mildew on the upper side of a grapevine leaf (left) and downy mildew spores on the underside of a leaf (right). Matt Clark, University of Minnesota.

Post-harvest vineyard management of downy and powdery mildew is critical as these diseases can appear late in the season and reduce photosynthesis, defoliate vines, and increase the risk of winter damage. Vineyard managers should scout early and often, and continue to control for these diseases late into the season.

Furthermore, control now can have a major impact on the disease pressure in the following year due to the reduction of overwintering fungal structures. Vines that are stressed in the fall are also more likely to suffer winter damage.

Fungal (and fungal-like) pathogens are commonplace in vineyards throughout the state. Infections of downy mildew (*Plasmopora viticola*), black rot (*Guignardia bidwellii*), and powdery mildew (*Uncinula necator*) are perennial problems in the region, but can have devastating effects when environmental conditions are favorable to their growth and dispersal.

Although powdery mildew favors 'dry' conditions, its dispersal depends on rain events and wet leaf surfaces to create infection sites. Downy mildew is favored by humid conditions.

Late-season control of downy mildew and powdery mildew

First, make sure you have correctly identified the disease so that you apply the right fungicides that are effective on that disease. If necessary, send a sample to the UMN Plant Disease Clinic. On leaves, powdery mildew sporulation is typically on the upper surface, whereas downy mildew is predominant on the lower surface where it establishes in the stomata. Both pathogens can cause dam-

age on shoots, petioles, and rachises (the branches of the cluster), especially in fall.

There are many fungicides available for control of downy mildew and powdery mildew, but the lists of recommended products are not identical for both diseases. Consult the [Midwest Fruit Pest Management Guide \(MFPM\)](#) for the latest recommendations of fungicides for the control of powdery mildew and downy mildew on grape.

To select which fungicide(s) to apply during or after harvest, consider what you have already applied, and which products will work best on existing infections. Many products have limits on the number of applications each season; check label for season limits. If you have already reached this limit for a product you are considering, select a different product with a different FRAC code (described below) to reduce the risk for fungicide resistance.

Below are examples of possible options for control of downy mildew and powdery mildew. This is not an exhaustive list. Please consult the MFPM Guide for additional options and recommendations for your spray program. Always consult the fungicide label before making any applications.

Downy Mildew

- Protectants: Captan (FRAC M4) and Mancozeb (FRAC M3)
- Excellent control: Forum (FRAC 40) and Zampro (FRAC 40 + 45)
- Post-infection: Phosphorus acids (FRAC 33). According to [Michigan State University](#), phosphorus acid is a common option for late season applications.

Powdery Mildew

- JMS stilet oil
- Excellent control: Quintec (FRAC 13) and Torino (FRAC U6)

If you still have fruit to harvest, pay close attention to the pre-harvest interval (PHI) on the product label as this will limit the products available to you for disease control. The PHI is the minimum amount of time (days) between application and harvest that is acceptable. For example, phosphorus acid, Captan, and copper have 0-day PHIs, while many strobilurins have 14-day PHIs.

Fungicides applied post-infection can help prevent the spread of the disease to healthy plant tissues and suppress sporulation of the pathogen. It's best to make applications when you first observe the signs of infection, as disease control becomes more challenging the longer you wait. Applications of fungicides for post-harvest management on grape should not be used to eradicate extensive infections that are widespread and heavily sporulating as this can lead to resistance. Applications should be made during good spray conditions (consult the fungicide label for details) and avoid making applications when spray conditions are not good.

What rate to use: Rates are listed in the [MFPM](#) guide as well as the product labels. Always refer to the label before spraying. The same rates apply for post-harvest and pre-harvest applications.

Effective disease control is a season-long project

Most of the common grape diseases can be controlled with interventions early in the year from pre-bloom through bloom. Properly timed fungicide applications and cultural methods that improve air circulation and leaf drying will help prevent infections.

Some cultivars are more susceptible to these fungal pathogens than others. For example, ‘La Crescent’ often can have significant leaf infections of downy mildew but will not demonstrate fruit infections on the same vines. In general, as fruit develop, they become less susceptible to the fungal pathogens because their tissues have become less hospitable for harboring an infection site, something termed ontologic resistance.

Cultural control and fungicide applications should persist through the growing season, and growers can turn to the [Midwest Fruit Pest Management Guide 2019-2020](#) for information on the best practices for controlling these and other pests. This booklet is the ultimate guide for growers across the region and is updated every two years by a team of university fruit specialists called the Midwest Fruit Workers Group.

Preventing Fungicide Resistance

Both the downy mildew pathogen and the powdery mildew pathogen are especially prone to fungicide resistance. The development of resistance to fungicides is problematic and is related to the over use (repeated use) of the same fungicide or fungicides with the same mode of action within a season and across years. Fungicides are categorized by their mode of action and assigned a FRAC (Fungicide Resistance Action Committee) grouping number. “Mode of action” refers to the molecular or functional mechanism by which the chemical works against the pathogen. In general, each FRAC code distinguishes different groups of fungicides based on their mode of action.

The FRAC guidelines and MFPM guide can inform the vineyard manager on combinations of fungicides to be used in tandem, as well as incompatibilities of certain products (i.e. stilet oil should not be applied within 2 weeks of a sulfur or Captan application) and restrictions on the amount of product or number of times per season a fungicide should be used.

Looking forward to the winter

Cultural control practices are necessary in the winter and early spring to remove dead and infected plant tissue (on the vine and leaf litter on the ground) that would otherwise create new infections in the upcoming growing season. One advantage of grape growing is the annual removal of approximately 90% of plant tissues and the plasticity in selecting new, disease-free canes. Dried infected berries, called “mummies”, should be removed from the vineyard. In fact, all infected tissues should be removed and destroyed including diseased material from the vineyard floor when feasible. Retraining new cordons and trunks is one way to improve production over time by reducing the accumulation of diseases and damaged wood from winter injury.

The importance of sorting

The computer science adage “garbage in, garbage out” is a mantra that we should be sharing in the wine world. Grapes infected with rots, mildews, or are otherwise unsound (already fermenting) are going to contribute to a wine product that is also faulty. Ethyl acetate is a common wine fault that is easily detected by wine drinkers, so there is very little tolerance for this in the juice or must going into wine making. Experiments have shown that wine made from infected berries with powdery mildew could be distinguished due off aromas, flavors, and textures. These included flavors described as moldy, bitter, dusty, plastic, and rotten (Conterno et al. 2006). Sorting by hand is labor intensive, but can be accomplished in the field with proper training (even with volunteer staff) or on a sorting table after mechanical harvest.

CAUTION: Mention of a pesticide or use of a pesticide label is for educational purposes only. Always follow the pesticide label directions attached to the pesticide container you are using. Remember,

the label is the law. Be sure that the plant you wish to treat is listed on the label of the pesticide you intend to use. Also be sure to observe the number of days between pesticide application and when you can harvest your crop.

Reference

Conterno, L., D. Gadoury, V. Gerbi, L. Rolle et al. (2006). Grape fungal infection and wine quality. New York Wine Industry Workshop. Available Online

This article was posted in [Disease](#), [Grapes](#) and tagged [Annie Klodd](#), [disease](#), [disease management](#), [diseases](#), [Downy mildew](#), [grapevine downy mildew](#), [Leslie Holland](#), [Matt Clark](#), [post-harvest disease](#), [Powdery mildew](#).

Post navigation

[We're Checking the Yield on Our Trials! Here's What To Look Forward To at Cranberry School 2021](#)

[Grape Cultivar Developmental Stages: September 28, 2020](#)



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[LERGP Web-site:](#)

[Cornell Cooperative Extension website:](#)

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

[Efficient Vineyard:](#)

[Appellation Cornell Newsletter:](#)

COVID-19 resources:

Need information? View the following Cornell CALS and CCE Resource Pages Updated Regularly

General Questions & Links:

<https://eden.cce.cornell.edu/>

Food Production, Processing & Safety Questions:

<https://instituteforfoodsafety.cornell.edu/coronavirus-covid-19/>

Employment & Agricultural Workforce Questions:

<http://agworkforce.cals.cornell.edu/>

Cornell Small Farms Resiliency Resources:

<https://smallfarms.cornell.edu/resources/farm-resilience/>

Financial & Mental Health Resources for Farmers:

<https://www.nyfarmnet.org/>

Cornell Farmworker Program

www.farmworkers.cornell.edu

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