Lake Erie Regional Grape Program

CROP UPDATE
July 8, 2021

30 days after bloom-
Kim Knappenberger

Cornell Cooperative Extension
Lake Erie Regional Grape Program

PennState Extension

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.

CORNELL UNIVERSITY FOUNDED A.D. 1865

In this copy:

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.

Contact Information:

Jennifer Phillips Russo - LERGP Viticulture Specialist:
jjr268@cornell.edu
(716) 640-5350
Kevin Martin – LERGP Business Management Specialist:
Kmm52@psu.edu
(716) 397-9674
Andy Muza – LERGP Disease and Pest Management Specialist:
Ajm4@psu.edu
(814) 825-0900
Kim Knappenberger – LERGP NEWA and Vineyard Improvement Program Contact
Ksk76@cornell.edu
Kate Robinson – Administrative Assistant
Kjr45@cornell.edu

Coffee Pot Meeting:
Join us next Wednesday, July 14 at 10:00am. Our guest speaker is Richard Stup, Agricultural Workforce Specialist, Horticulture Section Cornell Cooperative Extension

Click here to watch LERGP Podcasts

Business Management

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

Reducing Disease Management Costs: Better Scouting and Crop Estimation

Most growers have two post-bloom spray applications on, perhaps three. With Concord berries increasing immunity to the major diseases, it's time to save money. Scouting and crop estimation can inform all decisions from here. Where crop sizes are large, hopefully that is not too much of a surprise. Tight spray intervals and quality materials should minimize secondary inoculum. A decision to apply additional fungicides, particularly expensive ones, should be reserved for over-cropped vines or scouting reports. Newer formulations of copper are often $20 per acre or more. The costs of eradicants has also increased over time. Phosphoric acid, nutrol and even harvest more have all increased in price. Techniques to reduce the use of these can result in substantial savings.

Frost and now hail damage have made crop estimation difficult. Where NDVI data is not available to target sampling areas, scouting and additional samples will need to be taken to be confident in the crop estimate. Crop estimation costs just $10 - $15 per acre, when taken manually or with NDVI data. The latter will reduce crop loss and labor and likely result in a better estimate. An investment in a vineyard owned sensor is not likely to save money in crop estimation directly because of the cost of the sensor. It pays for itself through accuracy and informing other decisions. You can create a free account here MyEV. Now mostly out of beta we can definitely recommend growers with more than 80 acres purchase an NDVI sensor. Having a locally supported and free solution to visualize NDVI data completes the circle.

In years like this Extension faces a real challenge with specific questions about crop load and management. MyEv allows you to share data with extension, farmers, consultants, or even processors. With objective data advice can be more specific than "it depends".

The hypothetical example of a frost damaged vineyard with yield varying between 3 and 6 tons, we know that it is unlikely that moderate powdery pressure on leaves will have any impact on brix at all. In this hypothetical situation a grower could save as much as $70 per acre selectively spraying high yielding vineyard blocks and avoiding damaged blocks. Without crop load data these decisions cannot be made with confidence. Frost damage and hail damage assessment is always a challenge. Good luck with crop estimation.

Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Hail Damage

Photo 1. Concord cluster damage from hail on July 2, 2021

Unfortunately, last Friday, July 2, 2021, some of our vineyard blocks withstood some substantial hail, damaging clusters and leaves. It also appears that most of the damage occurred in blocks located between the lake and Route 20. Be sure to contact your crop insurance to report any damage. In talking with growers, researchers, and industry representatives that have experienced this type of damage in the past, I have learned that the damage sustained to the berries at this point in the growing season could end up in one of two options: either turn brown and fall off or callous over and half the berry will continue to grow. Please be sure to sample your damaged fields differently during crop estimation to try and get an accurate account of berries out there.

National Weather Service Forecast (click to link)
NOAA's Disclaimer (click to link)
UTC Forecast Time: 2021-07-08T07:05:22+00:00
Overnight: Patchy fog and a chance of showers and thunderstorms. Cloudy, with a low around 68. South wind around 5 mph. Chance of precipitation is 30%. New rainfall amounts less than a tenth of an inch possible.

Thursday: Patchy fog and a chance of showers and thunderstorms before 9am, then patchy fog and showers and thunderstorms. Cloudy, with a high near 75. South wind 5 to 12 mph. Chance of precipitation is 90%. New rainfall amounts between a half and three quarters of an inch possible.
Thursday Night: Patchy fog and showers and thunderstorms likely. Mostly cloudy, with a low around 65. South wind 3 to 8 mph. Chance of precipitation is 60%. New rainfall amounts between a tenth and quarter of an inch possible.

Friday: A chance of rain showers and patchy fog. Mostly cloudy, with a high near 71. Northwest wind 1 to 10 mph. Chance of precipitation is 30%. New rainfall amounts less than a tenth of an inch possible.
Friday Night: A slight chance of rain showers before 8pm. Mostly cloudy, with a low around 61. Northwest wind around 7 mph. Chance of precipitation is 20%.

Saturday: Mostly sunny, with a high near 75.
Saturday Night: A slight chance of rain showers after 2am. Partly cloudy, with a low around 63.

Sunday: A slight chance of rain showers before 2pm, then a chance of showers and thunderstorms. Partly sunny, with a high near 78. Chance of precipitation is 40%.
Sunday Night: A chance of showers and thunderstorms. Mostly cloudy, with a low around 67. Chance of precipitation is 50%.

Monday: A chance of rain showers before 2pm, then a chance of showers and thunderstorms. Partly sunny, with a high near 82. Chance of precipitation is 50%.

Historical Growing Degree Days (base 50)

Notes: Current season accumulation is reported as the thick blue line from January 1 through date of this report. Historical season data is reported between January 1 and December 31 of each year. The legend indicates how many GDDs had accumulated by the same date in previous years and the final total for the year on December 31.
Data is sourced from Cornell's Northeast Regional Climate Center (NRCC) high resolution gridded data service.

The current growing degree days are represented by the thick blue line on the Figure 1 below. This graph has the cumulative GDDs (base 50 F) since January 1 for the last five years. As of July 8, 2021, Cornell Lake Erie Research and Extension Laboratory has accumulated 1071.0 GDDs, which is 87.2 GDDs higher than the five-year average. 2021 is currently the second highest year now behind 2018 that had 1155.

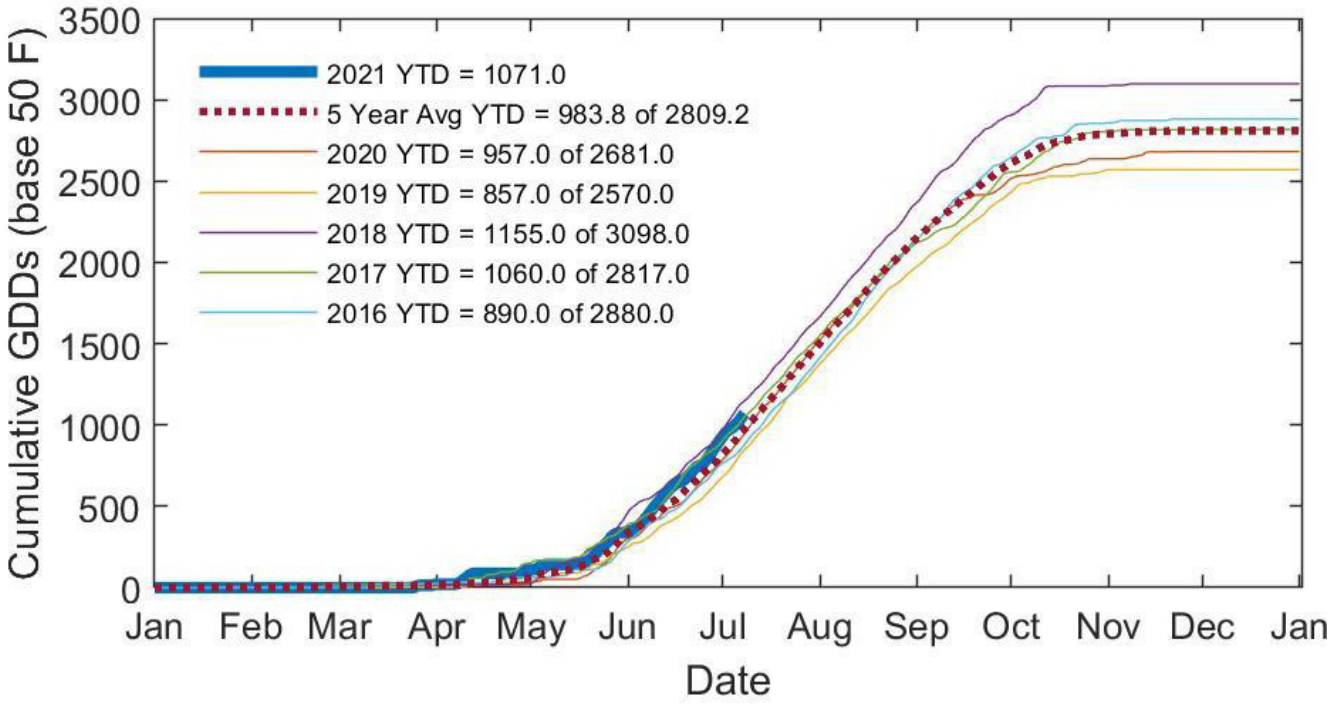


Figure 1 Cumulative Growing Degree Days (base 50 F) and historical five-year average for Cornell Lake Erie Research and Extension Laboratory in Portland, NY

Historical Precipitation (inches)

Notes: Current season accumulation is reported as the thick blue line from January 1 through date of this report. Historical season data is reported between January 1 and December 31 of each year. The legend indicates how many inches of precipitation had accumulated by the same date in previous years and the final total for the year on December 31. Data is sourced from Cornell's

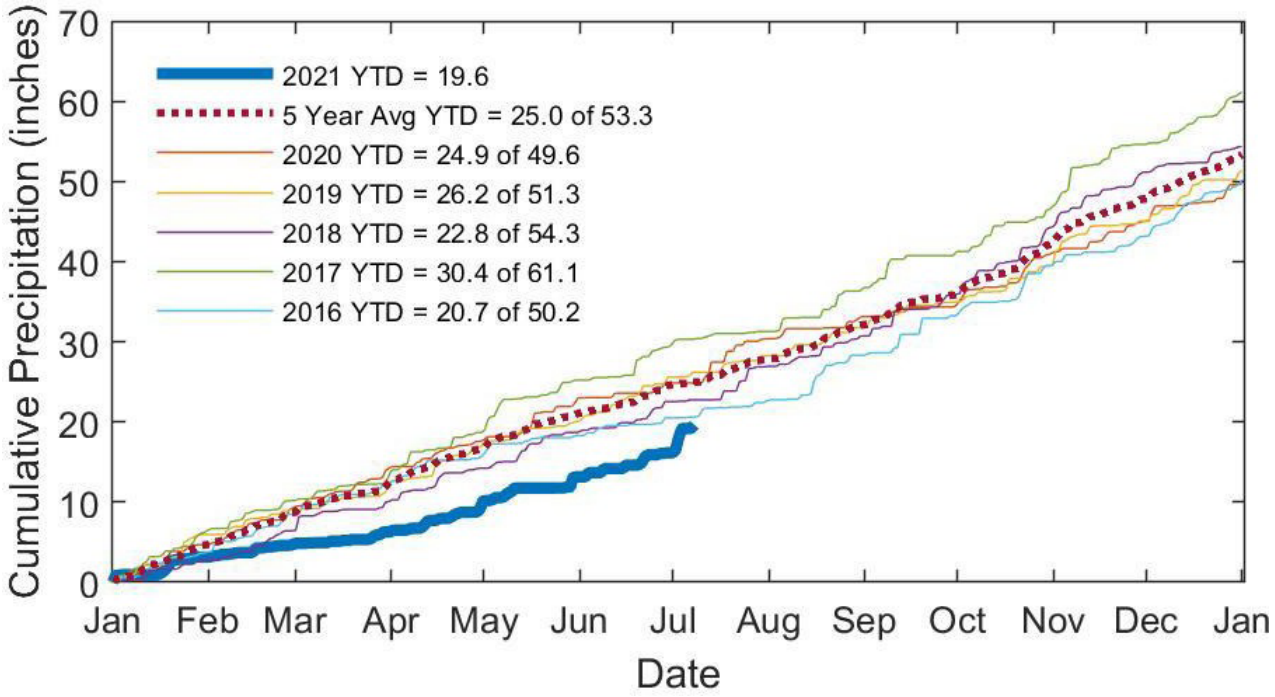


Figure 2. Historical cumulative five-year precipitation in inches for Cornell Lake Erie Research and Extension Laboratory in Portland, NY

Northeast Regional Climate Center (NRCC) high resolution gridded data service.
In the Figure 2 below, the cumulative precipitation in inches for CLEREL in Portland, NY shows that the recent weather is catching 2021 up to the amount that fell in in 2016 (20.7 inches). As of July 8, 2021, CLEREL has received 19.6 inches of rain. This is still 5.4 inches behind the five-year average of 25 inches.

PA Update

Andy Muza, LERGP Extension Team & Penn State Extension- Erie County

In the Vineyard (7 -8- 21) –

Grape Berry Moth (GBM)

By now, many of the High Risk GBM sites in the region should have received an insecticide application. However, the Table containing NEWA locations around the Lake Erie Region (provided by Kim Knappenberger), indicates that there are 16 sites that will reach 900 GBM degree days by today (July 8) – July 14. If an insecticide application has not yet been applied, in High Risk sites near any of these 16 NEWA locations, there is still time to apply a contact insecticide. The GBM Model states that, "For materials that are contact insecticides, e.g. pyrethroids and carbamates, apply between 811 and 900 DD." Don't miss your window of opportunity for management of this second generation of GBM because once eggs hatch and larvae enter berries they are protected.

Figure 1. Concord cluster with hail injured berries. Photo – Andy Muza, Penn State.

Figure 2. Concord berries with hail injury. Photo – Andy Muza, Penn State.

Hail Injury

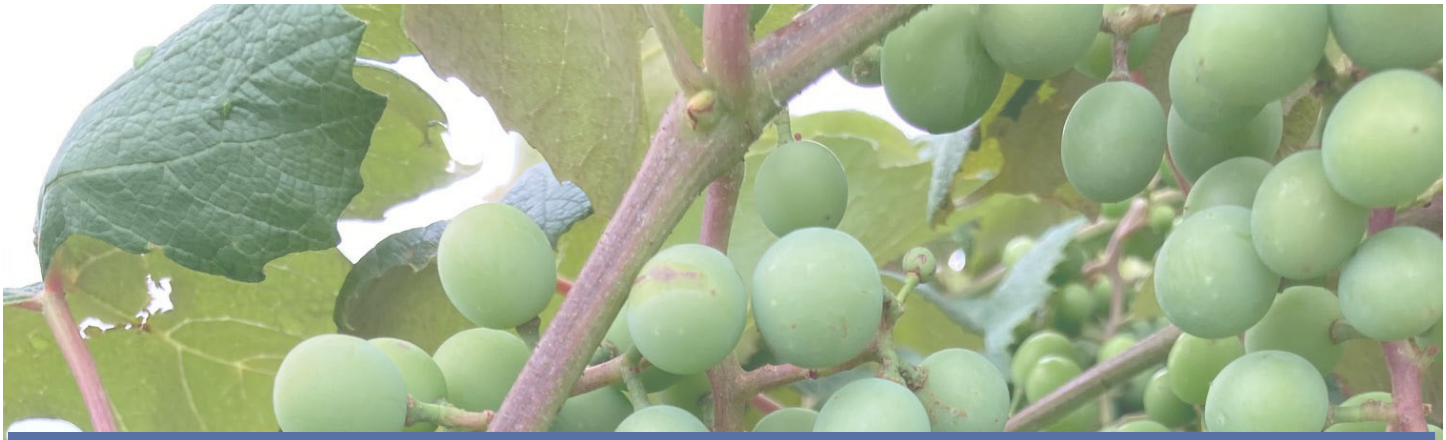
This past Friday morning (7/2), areas of the region in eastern Erie County, PA and into New York were hit by hail. We don't yet know the extent of the injury but some vineyard blocks were hit hard. It is important that growers contact their crop insurance agent, as soon as possible, so that injury levels can be accessed.

At this point in the season, berries that have been injured will either shrivel and die or heal over, depending on the severity of the injury (Figures 1 & 2). Therefore, in my experience, a specific fungicide application for hail injured Concord vineyards is not needed. However, in hail injured blocks of wine varieties that are susceptible to botrytis (e.g., Vignoles, Seyval, Riesling, etc.) a fungicide application (using materials highly effective against botrytis) before bunch closure is advisable.

NEWA location	Wild Grape Bloom date*	GBM GDD total for 7/8/2021	Date expected to hit 900
Ransomville	5/31/2021	898	7/9/2021
Burt	6/6/2021	767	7/14/2021
Corwin	6/2/2021	862	7/10/2021
Brant	6/1/2021	899	7/9/2021
Versailles	6/1/2021	863	7/10/2021
Hanover	6/2/2021	864	7/10/2021
Sheridan	5/22/2021	1073	7/1/2021
Silver Creek	6/3/2021	839	7/11/2021
Silver Creek Double A	5/26/2021	965	7/6/2021
Dunkirk Airport	5/29/2021	935	7/7/2021
Forestville	5/27/2021	912	7/8/2021
East Fredonia	5/31/2021	876	7/10/2021
Fredonia	6/2/2021	846	7/11/2021
Brocton Escarpment	5/31/2021	871	7/10/2021
Portland Escarpment	5/30/2021	890	7/9/2021
Portland	6/1/2021	874	7/10/2021
Portland (LERGP West)	5/29/2021	925	7/7/2021
East Westfield	6/1/2021	OFFLINE	
Westfield	6/2/2021	862	7/10/2021
Ripley	5/27/2021	923	7/8/2021
Ripley Escarpment	5/26/2021	933	7/7/2021
Ripley State Line	5/26/2021	944	7/7/2021
North East State Line	5/26/2021	911	7/8/2021
North East Sidehill	5/25/2021	946	7/7/2021
North East Lab	5/26/2021	962	7/6/2021
Harborcreek	5/26/2021	994	7/5/2021
Harborcreek Escarpment	5/30/2021	854	7/11/2021
Lake City	5/26/2021	959	7/6/2021

"*Estimated date provided by NEWA website Wild grape bloom occurs when 450 base 50BE degree days have accumulated from January 1st of the chosen year.

The difference in wild grape bloom between Portland and Portland LERGP is likely due to marginal differences in the readings coming off of respective sensors or even marginal differences in microclimate. A spread of 2 days falls within the margin of error and the models give advance messages that bloom is approaching."



NORTH EAST FRUIT GROWERS
EST 1937 INCORPORATED

NORTH EAST FRUIT GROWERS
2297 KLOMP ROAD, NORTH EAST, PA 16428
814.725.3705
NEFRUITGROWERS@VERIZON.NET
OPEN YEAR-ROUND MONDAY – FRIDAY 8AM – 5PM
OPEN SATURDAYS APRIL– NOVEMBER 8AM - NOON

BULK FERTILIZER
BAGGED FERTILIZER
CHEMICALS
VINEYARD SUPPLIES
ORCHARD SUPPLIES
PRUNING SUPPLIES
GLOVES & BOOTS
POND PRODUCTS
PRODUCE PACKAGING
HOME OWNER SUPPLIES
& SO MUCH MORE!

DRYSHOD WATERPROOF FOOTWEAR
The world's most wearable rubber boot.
dryshodusa.com

All-Natural Aspen Song Wild Bird Food

ORIGINAL LOWE

FELCO SWISS MADE

CORONA SEASON AFTER SEASON

PA Update

Bryan Hed, Research Technologist, Lake Erie Grape Research and Extension Center

Weather: As of July 8, we have recorded 2.24" of rainfall for the month at our location. We have accumulated about 142.5 growing degree days (gdds) so far during July. We now have about 1146 gdds as of April 1. The three-day forecast looks like there's about a 30% chance of some showers Friday and Saturday, increasing to 60-70% chance on Sunday.

Phenology and Diseases: Conditions have turned wet over the past two weeks (since June 25th) with measurable rainfall on 10 of the last 14 days, totaling about 2.61" at our location. Be on the lookout for downy mildew, especially if rains continue. Fruit of most varieties may be resistant to direct attack by downy mildew at this point, but susceptible varieties may still suffer crop loss from this disease through infections of the cluster stem tissue. Also, leaves remain susceptible to this disease, and in severe cases, canopies can become stripped of their ability to ripen a crop. Be prepared to apply a spray for downy mildew if you see sporulating lesions. A blown-up case of downy at this time can be treated with something like copper and lime. I would avoid the resistance prone materials like Ridomil, Revus, Ranman, Zampro, and even phos acids if you're seeing a fair amount of disease out there. For protectants only, mancozeb products (if you can still use them at this time) and copper/lime are going to be better than Captan or Ziram.

There is still some susceptibility of fruit of all varieties to black rot, including natives like Concord and Niagara. We have racked up about 6 infection periods for black rot since after bloom (since berries have been present), so continue to scout for this disease as well. Infection periods on the 14th and 21st of June should have produced symptoms by now, but black rot on fruit from more recent infection periods (June 30, July 1, 2, and 7) have yet to become manifest. If your scouting efforts reveal more than a little black rot out there, you can still go in with a sterol inhibitor spray at your first opportunity (with the exception of triflumizole products, that are not generally recommended for black rot) and neutralize most or all of the infections that got started last night and today. This is especially important if you're growing vinifera, that will remain susceptible through the end of July. Natives will remain susceptible for about another week or two.

We are done with controlling powdery mildew fruit disease and any more sprays should be targeting the leaves and should be based on the size of the crop that you will be working to get ripe. If you'll be trying to ripen an above average (or way above average) crop, keeping canopies clean and 'firing on all cylinders' is a good insurance policy. There is no formula for just how long you need to continue leaf sprays for powdery mildew; it depends on how much above average your production is on a block by block basis (which a good estimate and your cropping history records will tell you), and how much good ripening weather we have left (which is the million dollar question that no one can answer). The more 'above average' your crop is, the more affordable are the extra leaf sprays (if you can get the crop ripe) and the longer protection will be needed to keep canopies clean.

And lastly: Hail that blew in off the lake during the early morning of July 2 left quite a bit of damage to fruit in some vineyards along the lake in the North East area. As injured/split berries scab over/dry up, the question now arises: should we be spraying something in response to this damage to young, green fruit? The short answer to that is probably, NO. This type of injury is not going to make fruit more susceptible to powdery and downy mildew or black rot. However, growers so affected

should monitor their crop's recovery, especially in the case of wine grapes that produce tight/ compact clusters (Vignoles, Riesling, Pinot noir/ gris, etc), that are prone to the development of bunch rots during ripening. At this point in time, berries that were split or bruised but survive, may scab over without further issue. Berries that were severely injured and that die, will dry up and may fall out of the cluster, in which case they will present no problems. However, dead cluster material that does not fall away, may become trapped within clusters, and especially in the case of compact varieties, can add to problems with Botrytis and other bunch rot organisms, later during ripening. If this scenario develops, wine grape growers need to be mindful of the potential for increased bunch rot problems - and increased effort needed to control it - as we hit the ripening period in August and September, especially if conditions are wet at that time.

****

Register for the LERGP Coffee Pot meetings here.

We have 3 more coffee pot meetings this summer.

July 14-10:00am
July 21-7:00pm
July 28-10:00am

Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

NEWA

This network is a tremendous resource for all of us, but doesn't come without its fair share of problems! For the most part the stations continue to click along without any intervention needed, but on occasion we have outages – usually when we are concerned about exactly how much rain we got or how low those temps were!

Our current status for most of the stations is good, however we have a few issues that you should be aware of…

The East Westfield station is temporarily offline. This is a cellular Rainwise station that is normally pretty reliable. Unfortunately the local ants decided to make a home in the TeleMet (cellular "brain" of the station) and due to the fact that they contain formic acid and conduct electricity, they managed to short circuit the board in a few places and blow some components. We are in the process of getting a replacement TeleMet and hope to have it restored in the near future.

Picture: Homemade bird deterrent is now installed on the Silver Creek station.

The rain this week has made it clear that some stations had plugged rain buckets (bird poop and spray residue are the usual culprits) and three of them also needed a new reed switch (this is the switch inside that counts the times the tipping mechanism swings past it as the rainwater is funneled through). The Silver Creek, Versailles, and Ripley stations should all be reporting rainfall more accurately now, but those did miss some of the initial rainfall in the recent storms.

Harborcreek and North East Side Hill have both had some connection issues this week that may or may not be resolved as of today. And finally the station in Ransomville is experiencing some issues due to its age. If you currently use this station you might want to compare with the Corwin, Burt and Appleton stations.

As always, if you see something that doesn't look right, let me know! Ksk76@cornell.edu

VIP Fast Fact:

11 applicants have finalized their projects and 10 have received reimbursement. On average the reimbursement per acre for removal has been over $1,100 and for replant has been $1,500. The average reimbursement is over $17,000 but it does depend on the amount of acreage you are removing and what you replant. If you want to find out if this is right for you please visit our website at https://lergp.com/about-vip or contact Kim at ksk76@cornell.edu.

Other links of interest:

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

www.trabajadores.cornell.edu (en espanol)