FINGER LAKES GRAPE PROGRAM
RESEARCH·RELATIONSHIPS·RELEVANCE

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FINGER LAKES VINEYARD UPDATE

August 2025 - Issue, [011]

Photo Credit: Chris Kitchen (UREL)

Cornell Cooperative Extension
Finger Lakes Grape Program

IN THE VINEYARD

It's been good to be back in the vineyards this week after some vacation time in Europe followed by attending the GiESCO viticulture conference in Geisenheim, Germany last week. GiESCO (which stands for Group of International Experts of vitivinicultural Systems for CoOperation – don't ask me, I didn't name it) is the premier viticulture conference where scientists from around the world present research on a wide variety of subjects. Two years ago, Cornell University hosted the conference, led by Justine Vanden Heuvel and a whole slew of other people. A few of my eastern U.S. viticulture colleagues were also there, including Jennifer Phillips Russo (Lake Erie Regional Grape Program), Maddie Oravec (leader of Cornell's grape breeding program), and Maria Smith (Ohio State Extension).

Needless to say, we tasted some really lovely wines (lots of Riesling, of course) over the course of the week, and in the back of my mind I would be thinking of how the wine styles compared to those from the Finger Lakes. While there were certainly some differences, I came away with the same sense that many others do – wines from the Finger Lakes region can stand shoulder to shoulder with most of those that I tasted while in Germany. And fortunately, most of the vineyards here are on much easier sites to farm than much of the Rhine Valley!

Rhine valley vineyards above the town of Rüdesheim

Back here at home, the hot and dry theme continues to dominate our weather as it has over the past couple of months. Since early June, we have received only 50% of our average rainfall and accumulated almost 20% more GDDs than average. Veraison is well underway in early cultivars like Marquette and Baco noir, along with some others like Regent, Zweigelt, and Pinot gris. Chardonnay berries around western Seneca Lake were still green but starting to soften, as were some Concords in the same area.

IN THE VINEYARD

Marquette (left) and Regent (right) at the Teaching & Demonstration Vineyard - August 5, 2025

Signs of early water stress are showing up in some blocks, especially those with shallower or sandier soils with less water holding capacity, such as tendrils that are drying up and leaves starting to angle away from direct sunlight exposure. I did not see any signs of more severe stress this week, like yellowing or necrotic leaves, in mature vineyards, but some young vines with limited root systems are looking a little pale. In these kinds of situations, it might be prudent to get some water to these vines if possible.

IPM

While the lack of rain has helped to tamp down overall disease pressure to some extent, it is still pretty easy to find active downy mildew infections on leaves. Nothing was near the point of concern about losing a lot of foliage, fortunately, but DM is definitely still active. For DM spores to develop, relative humidity levels need to reach 90%+ overnight, which they have for most of the past week. Higher humidity during the day also means that morning dew evaporates more slowly, which helps to promote new infections by wind-blown spores.

SOIL HEALTH SURVEY SAMPLING IN FL VINEYARDS

We are working with Cornell's Soil Health Program once again this year to increase the number of soil health samples collected from vineyards. We have funding to collect samples from up to 10 vineyards in 2025 (1 sample per vineyard right now). We will also be collecting leaf tissue samples to see what kinds of relationships there might be between the soil health indicators that the tests measure and the nutrient content of the vines. The results from both of these tests will be shared with each grower as we get them. The only request we have from participating growers is to answer some questions about production history and floor management practices in the tested blocks. We will send this questionnaire/survey out shortly after harvest is finished.

A soil health test looks at a number of chemical parameters like pH and content of various nutrients (N, P, K, etc.), similar to a standard soil test, but it also measures some physical and biological properties that are associated with healthier soils, such as aggregate stability, organic matter content, and soil respiration, which is an indicator of microbial activity in the soil. In addition to the results themselves, there is an extensive explanation of each of the parameters that are measured and why they are important for soil health. The final section of the report includes some short-term and long-term things that can be done to address deficiencies in any of the measures included in the report. Growers who want to improve any particular factor in the report can use this information to decide on possible practices to undertake to improve those factors.

One of the reasons that we are focusing on this work is that many aspects regarding soil health in agriculture are based on annual cropping systems, which involve significantly more tillage and periods of time where soil is bare and exposed to potential issues such as runoff. In perennial systems, especially in the East, some of our standard practices are the same as those often recommended to improve soil health in annual systems, such as maintaining cover crops and reducing tillage. What, then, are important soil health factors that growers should be paying attention to, and that are worth investing time and resources in, to benefit the vineyard? My interest in this work is to gain an understanding of just how particular soil health practices can help to improve the health of the vines or the performance of the vineyard in terms of yield, fruit quality, etc.

Samples will be collected in mid to late August. Growers who had samples collected from their vineyards last year can request another test this year in a different vineyard block, but

BIOPESTICIDE RESOURCES REFRESHER

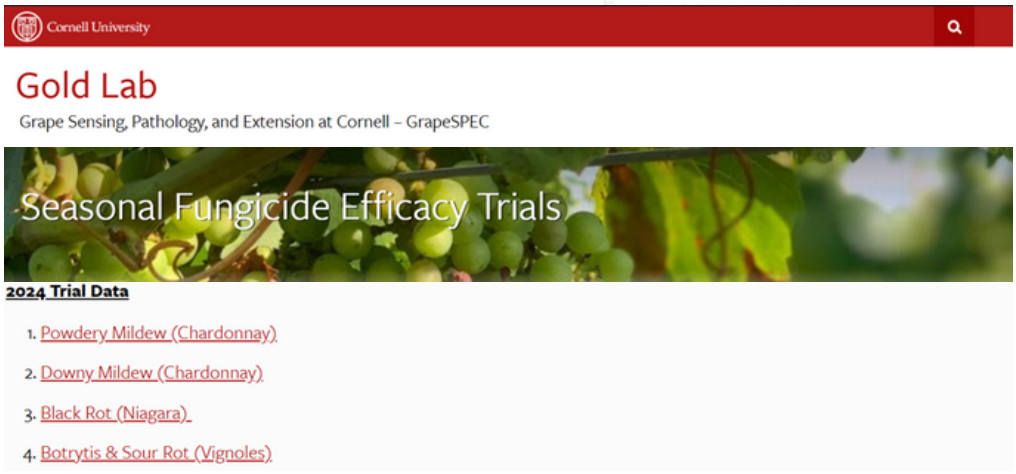
Hello Finger Lakes Growers!

At some of the Tailgate Meetings this year, we have had discussions about biological fungicides, how they work, and how best to use them. It's true that there are still many unknowns regarding how best to use some of these products, but I wanted to take a beat to share three resources that may be helpful for you.

1. "**Grapes 101: Biopesticides" by Katie Gold and Dave Combs**

For starters, this article, "Grapes 101: Biopesticides" is helpful for getting a general overview of bios and the different types. Katie and Dave provide high-level explanations for how many of these products work to control plant pathogens, which may help your decision making. If you'd like more information on these modes of action, specific information on different products, or think this stuff could be explained in a more helpful way, please contact me, Katie, or Dave! Here's the link to the article: https://cals.cornell.edu/news/2022/05/grapes-101-biopesticides

2. **"Gold Lab, Seasonal Fungicide Efficacy Trials**

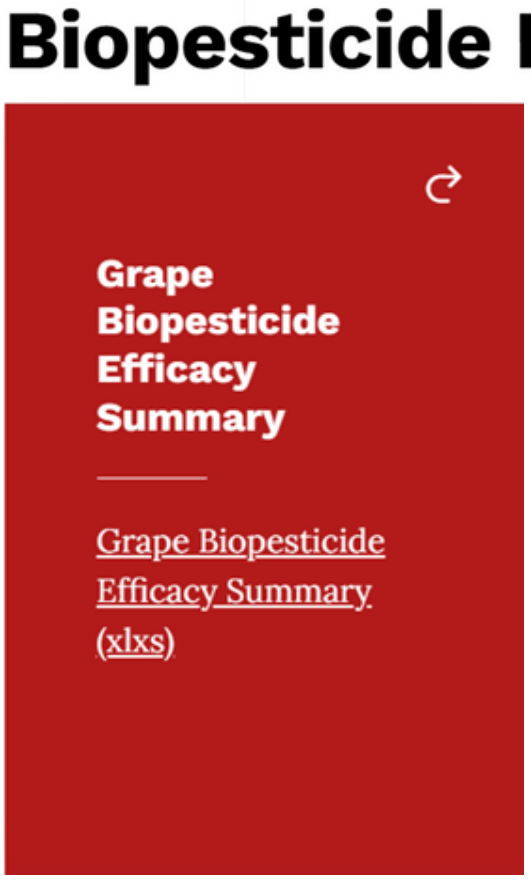


As you probably know, Katie and Dave have been testing many, many products for years, building on Wayne Wilcox's work. Results from all their trials are posted on the lab's website. Here's the link: https://blogs.cornell.edu/goldlab/seasonal-fungicide-efficacy-trials/

BIOPESTICIDE RESOURCES REFRESHER

3. Biopesticide Profiles, and Efficacy Summaries – Cornell IPM

The final resource I'll share are some biopesticide profiles and efficacy summaries on the Cornell IPM website. The Profiles can be found here: https://cals.cornell.edu/integrated-pest-management/eco-resilience/biocontrol/using-biocontrol/biopesticide-profiles. They are easily digestible, and contain basic information such as mode of action, FRAC group, "when to start applying," and some other things you might find useful.



The Biopesticide Efficacy Summaries can be found in a downloadable spreadsheet at this link: https://cals.cornell.edu/integrated-pest-management/eco-resilience/biocontrol/using-biocontrol/biopesticide-efficacy-summaries. The database includes product active ingredients and registration numbers, application rates, FRAC codes, pests targeted, efficacy ratings and other interesting information. Many of these efficacy summaries are informed by Katie and Dave's work, but there are some other sources as well. This site is updated every five years or so, and is maintained by **Dr. Amara Dunn-Silver, Cornell IPM's Biocontrol specialist.**

As always, please contact me if you have any questions, comments, or want more information.
See you at the next Tailgate!

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Cornell IPM
New York State Integrated Pest Management

TREE OF HEAVEN CONTROL

Alice Wise, Long Island Horticultural Research & Extension Center

Tree of heaven and grapevines are the two favorite host plants for spotted lanternfly (SLF). It is difficult to say if removal of tree of heaven from the perimeter of a vineyard will have an impact on subsequent SLF populations. However, it cannot hurt and given the potential seriousness of infestations, it is a recommended practice for local vineyards.

Vineyard managers can legally apply herbicide to tree of heaven on the edges of their vineyard for the purpose of controlling an important alternate host plant. The recommended time for this practice starts now. Cutting down TOH is insufficient as it spreads via rhizomes (underground roots). Simply lopping off the top will cause the roots to send up even more baby TOH. The best strategy is to not cut down the trees but use herbicide strategically so that it is translocated down to the TOH root system. Read more about the 'hack and squirt' method here: https://extension.psu.edu/using-hack-and-squirt-herbicide-applications-to-control-unwanted-trees/.

Weed Scientist Dr. Andy Senesac has provided a TOH fact sheet and a chart (included in this newsletter) detailing herbicides for TOH control as there are specific products with labels for this use.

Herbicide lists created for other regions may have products not labeled for use on Long Island so it is important to use a locally generated list of available products and/or check the DEC website for NY-approved labels (https://extapps.dec.ny.gov/nyspad/). Some of these herbicides can drift onto and damage green grapevine tissue especially at this time of year. Weed Scientist Dr. Andy Senesac provided this perspective: 'The question of vapor drift from treated trees to nearby vineyards is a valid one. In cases where there is a proximity of closer than 100 feet, the applications should be delayed until early September. At that time, most of the sensitivity to vapors (but not spray drift) has been lost.'

Bottom line: if electing to try triclopyr, dicamba or MCPA- the three on the list with vaporization issues - be very careful regardless of the time of year that it is applied.

HERBICIDES LABELED FOR USE ON LONG ISLAND THAT PROVIDE CONTROL OF AILANTHUS ALTISSIMA (TREE-OF-HEAVEN)

Tree of Heaven management
There are several herbicide options for managing TOH growing in edge of woods situations. These are:

Glyphosate (Tree of Heaven Ailanthus altissima is not listed as a 'Weed Controlled' on any primary label. Only three products currently have 2ee exemptions for control of this species in New York State.

- Roundup Pro (2ee EPA Reg. No. 524-475) (Not restricted) Application: Frill application only.
- Roundup Custom (Restricted Use) (2ee EPA Reg. (2ee EPA Reg. No. 524-343 Application: Frill application only.
- Rodeo (Restricted Use) (EPA Reg. No. 62719-324) Application: Foliar, Cut-stump, Frill.

Triclopyr
butoxy ethyl ester Forestry Garlon XRT(EPA Reg. No. 228-381
butoxy ethyl ester Pathfinder II (EPA
triethylamine salt Garlon 3A (EPA Reg No 62719-37
(Garlon 4 Ultra) EPA Reg. No. 62719-527

Application: Foliar, Cut Stump, Basal Cut Stump, Dormant Stem, Thinline Basal Bark
Site uses listed on Primary Label (Restricted Use) : Brush & Tree Control forest sites; *non- cropland areas including: electrical power and utility rights-of-way, industrial sites, non- irrigation ditch banks, pipelines, railroads, roadsides; and natural areas and wildlife habitat and management areas; including grazed areas on all of these listed sites.*

Imazapyr
Application: Foliar - for young trees, Hack and squirt, trunk injection, cut stump.
Site uses listed on Primary Label (not restricted): Brush & Tree Control (Chopper Gen2) EPA Reg. No. 241-430. **Arsenal Applicator's Concentrate** EPA Reg. No. 241-299 : Forestry Sites and undesirable vegetation along non-irrigation ditch banks and for the establishment and maintenance of wildlife openings.

(Arsenal Powerline - not labeled for forestry use) EPA Reg. No. 241-431. For the control of undesirable vegetation in grass pasture, rangeland and industrial noncropland areas including railroad, utility plant sites, petroleum tank farms, pumping installations, storage areas; utility, pipeline, and highway rights-of-way; fence rows; non-irrigation ditch banks and for the establishment and maintenance of wildlife openings.

Metsulfuron-methyl (Escort) EPA Reg. No. 432-1549
Application: Foliar only - for young trees prior to treating mature trees with any of the above.
Site uses listed on Primary Label (not restricted) : Brush Control Application Information ESCORT ® XP HERBICIDE is registered for the control of undesirable brush growing in non-crop areas including grazed areas on these sites. Applications may be made by air, high volume ground application, low volume ground application and ultra-low volume ground application. Except as noted for multiflora rose, ESCORT ® XP HERBICIDE must be applied as a spray to the foliage.

Metsulfuron-methyl & Chlorsulfuron (Cimarron Plus) EPA Reg. No. 432-1572
Application: Foliar only
Site uses listed on Primary Label (Restricted Use); Rangeland, Pastures, Grass Hay Fields, or CRP and non-Crop Sites. Also labeled for EDRR control of invasive species.

Fosamine (Krenite S) EPA Reg. No. 42750-247
Application: Foliar or cut stump
Site uses listed on Primary Label (not restricted): pine plantations and non-crop sites, including highway rights-of-way, industrial sites, railroad rights-of-way, storage areas, utility and pipeline rights-of-way.

MCPA ester (Sword) EPA REG. NO. 34704-1121
Application: Foliar only
Site uses listed on Primary Label (restricted use): non-crop areas including roadsides, fence rows, and rights-of-way.

Dicamba (Oracle Advanced) EPA Reg. No. 93182-24
Application: Foliar, cut sump, basal applications
Site uses listed on Primary Label: Forest, non crop.

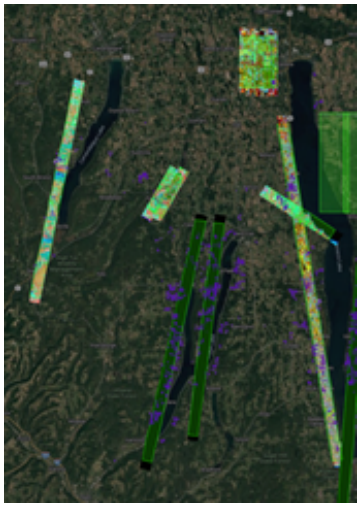
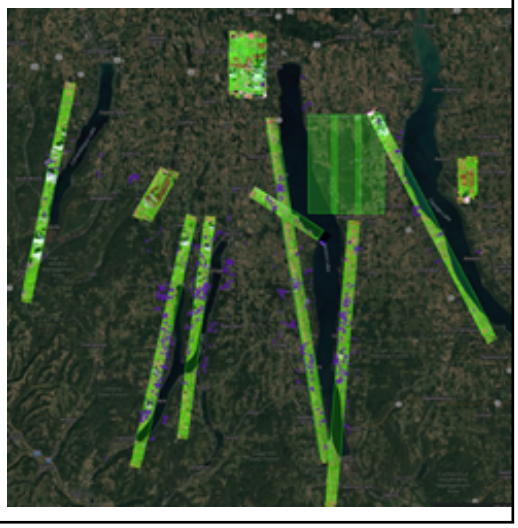
EXPLORING NASA AVIRIS3 IMAGERY COLLECTED OVER FLX VINEYARDS

Katie Gold, August 4, 2025
Written with assistance from generative AI

On Monday July 28th, 2025, AVIRIS-3 successfully captured high resolution (0.5-1.25m) hyperspectral imagery over Cornell research farms and commercial grapevine, apple, and onion production in the Finger Lakes region. These flights were funded by the NASA Agriculture program office in support of Drs. Katie Gold & Yu Jiang's NASA ACRES consortium (#80NSSC23M0034) funded research project on early disease detection. Cornell University is the largest sub-award in the NASA Acres consortium led by Dr. Alyssa Whitcraft at the University of Maryland-College Park.

The aircraft's hyperspectral sensor recorded hundreds of narrow "colors" of light for each half-meter pixel, creating maps that let us flag subtle differences in canopy health, water status, nitrogen, and leaf chemistry. Below, we walk you through the two early-release map layers now live in the online viewer and share potential insights you may be able to derive from the imagery at this time. The AVIRIS team is posted on the east coast until August 15th and we hope to capture imagery over the Lake Erie grape belt before then!

Open the online map viewer
1. Click the link below (it works on desktop or mobile):
Interactive viewer — https://popo.jpl.nasa.gov/mmgis-aviris/?mission=Acres
2. In the upper-left corner, use Layers ▸ Flight Lines to zoom to the strip that covers your vineyard.

PCA Product **"AVIRIS-3 Realtime PCA 1"** *West Canandaigua and West Seneca lines only*	**RGB quick-look** **"AVIRIS-3 Realtime Quicklook"** *All lines*
	

EXPLORING NASA AVIRIS3 IMAGERY COLLECTED OVER FLX VINEYARDS

Katie Gold, August 4, 2025
Written with assistance from generative AI

How to understand the two map layers you'll see

Product	What it is	What the colors could be flagging	When to trust it
PCA experimental layer (W-Cdga & W-Seneca)	A "principal-components" composite built from 430 hyperspectral bands. Brightness is removed so color only shows *differences* in canopy chemistry and structure.	• Areas with denser, greener foliage • Areas with thinner canopies, stress, bare soil, cover crop gaps	Early scouting for "hot-spots." Great for relative canopy differences **within the same line,** but *DO NOT* compare color between different flight lines! Colors are randomly selected for each individual line
RGB quick-look layer (all other lines)	False-color image made from 1660 nm, 850 nm & 560 nm wavelengths.	• Bright green: healthy foliage • Red-orange: senescing foliage, gaps, soil, roads, etc. • Dark/black: water or shaded areas	General plant health. Requires a healthy amount of prior knowledge of the vineyard for best use!

Why two products? AVIRIS processed the PCA layer in-flight only for the two "demo" strips above. All other lines were downlinked as a fast preview. Higher-level foliar-trait maps (N, water, NSC, phenolics) will follow lab calibration later this season.

Basic navigation tips

Action	How
Turn layers on/off	Click the eye icon next to a layer name.
Adjust color or brightness	Click the **three-line "Layer Settings"** icon; slide *Opacity* or *Contrast* as needed.
See what time the plane passed	The **Time-Slider** at the bottom lets you move along the flight track minute-by-minute.
Locate your block fast	Toggle the **Context → Finger Lakes Boundaries** layer, then zoom with your mouse wheel or the "+" button.

EXPLORING NASA AVIRIS3 IMAGERY COLLECTED OVER FLX VINEYARDS

Katie Gold, August 4, 2025
Written with assistance from generative AI

Practical uses for growers right now

Question	What to look for in the map
Which panels are lagging in canopy growth?	In the PCA strip, look for big color differences (e.g. magenta or yellow pixels next to blue-green neighbors)
Is there spatial variability in my vineyard this year?	Compare color changes within the same block; sudden dull patches might align with damage or differences in vigor. Target areas that look chemically different (different color in PCA) or chlorotic (orange in RGB).

Caveats & next steps

- **Early-look only**. These images were captured **July 28, 2025** and have **no direct plant health indicators built in**—they're snapshots of canopy condition and variability. Right now, this imagery can do a great job of indicating differences in canopy condition, but not what caused them.
- **Pixel size ≈ 0.5–1.2 m**. One pixel ≈ at most one panel. Very small features (less than a panel) may blur. Young vines and closely cropped VSP trained vines will be most difficult to assess in this imagery.
- **Lighting matters.** Shaded end-rows and headlands can look stressed even when vines are fine—compare with your field notes.
- **Trait maps coming.** Once foliar samples are analyzed, we'll post nitrogen, water, NSC and phenolics layers here and announce via the Finger Lakes Grape Program list.

6. **See something cool?**

We would love to hear your thoughts on the imagery and to what extent it aligns with what you are seeing on the ground. Send Katie and Dana an email (kg557@cornell.edu and dana.chadwick@jpl.nasa.gov) and let us know what you notice!

UPCOMING EVENTS

Don't forget to check out the calendar on our website (https://blogs.cornell.edu/flxgrapes/events/) for more information about these and other events relevant to the Finger Lakes grape industry.

Tailgate Meeting
Tuesday, August 19, 2025 4:30 – 6:00 PM
680 Cellars
3050 Swick Rd., Ovid NY

Our final Tailgate Meeting for the 2025 season will be on Tuesday, August 5 at 680 Cellars in Ovid. These meetings are a time for growers and the FLGP staff to discuss what's going on in the vineyards, ask questions, and learn from each other. There is no set agenda for the most part, so bring questions, observations, thoughts, etc. and let's talk about them. Bring a chair if you want to. Each meeting has been approved for 1.5 pesticide recertification credits by DEC.

Equipment Rodeo 2025
Wednesday, August 13 11:00 AM – 4:00 PM
Wagner Vineyards
9322 Route 414, Lodi NY

Sponsored by the NY State Wine Grape Growers, the Equipment Rodeo is the largest vineyard equipment show on the East Coast. The event will feature equipment from more than 20 dealers, including numerous harvesters and sprayers. Mark your calendars now!

Ryan Young (UREL)

2025 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp (F)	Lo Temp (F)	Rain (inches)	Daily GDDs	Total GDDs
8/1/25	72.5	54.1	0.00	13.3	1774.4
8/2/25	77.2	53.8	0.00	15.5	1789.9
8/3/25	83.1	55.0	0.00	19.1	1809.0
8/4/25	81.0	58.8	0.00	19.9	1828.9
8/5/25	84.9	60.4	0.00	22.7	1851.5
8/6/25	83.5	64.8	0.00	24.2	1875.7
8/7/25	84.0	63.0	0.00	23.5	1899.2
Weekly Total			**0.00"**	**138.1**	
Season Total			**17.42"**	**1899.2**	

GDDs as of August 7, 2024: 2040.3

Rainfall as of August 7, 2024: 16.30"

Seasonal Comparisons (at Geneva)

Growing Degree Days

	2025 GDD [1]	Long-term Avg GDD [2]	Cumulative days ahead (+)/behind (-) [3]
April	86.3	63.9	+5
May	216.9	257.2	-2
June	585.7	486.3	+5
July	776.9	648.5	+10
August	135.4	596.7	+10
September		362.5	
October		114.3	
TOTAL	1801.2	2529.4	

1 Accumulated GDDs for each month.
2 The long-term average (1973-2024) GDD accumulation for that month.
3 Numbers at the end of each month represent where this year's GDD accumulation stands relative to the long-term average. The most recent number represents the current status.

2025 GDD & Precipitation

Precipitation

	2025 Rain [4]	Long-term Avg Rain [5]	Monthly deviation from avg [6]
April	2.81″	2.86″	-0.05″
May	5.23″	3.04″	2.19″
June	1.75″	3.58″	-1.83″
July	1.72″	3.48″	-1.76″
August	0.00″	3.19″	
September		3.43″	
October		3.39″	
TOTAL	11.51″	22.97″	

4 Monthly rainfall totals up to current date
5 Long-term average rainfall for the month (total)
6 Monthly deviation from average (calculated at the end of the month)

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Cornell Cooperative Extension
Finger Lakes Grape Program

The Finger Lakes Grape Program is a partnership between Cornell University and the Cornell Cooperative Extension Associations in Ontario, Seneca, Schuyler, Steuben, Wayne and Yates Counties.