Cornell Cooperative Extension
Finger Lakes Grape Program

July 13, 2023

Finger Lakes Vineyard Update

In the Vineyard

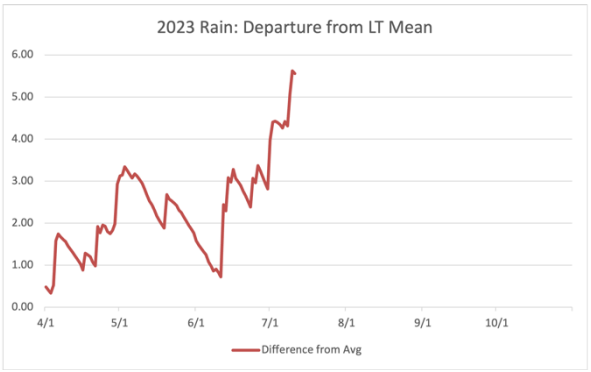
In This Issue:

Hans will be attending the GiESCO conference in Ithaca on July 17-20, so there will be no Vineyard Update newsletter next week. If you need assistance while he is away, please contact Don Caldwell (dc886@cornell.edu or 315-759-1069) for field issues, or Brittany Griffin (bg393@cornell.edu or 315-536-5134) for administrative issues.

Speaking of GiESCO, there is still time to register to view the Professional Day portion of the conference on Thursday, July 20 via Zoom. The talks that day are focused on more applied research that is geared for an industry audience. I have reproduced the agenda for that day in this week's newsletter, or you can view it on the conference website. The registration fee is $75. Follow this link to register.

In the Vineyard

The weather patterns this year have been a bit of a roller coaster ride. April was warm and wet, May and early June were cool and dry, and since mid-June we're back to warm and very wet. Over the past 4 weeks, most locations in the Finger Lakes have received 5-6" of rain, which is roughly twice as much as we would expect over that time on average. The historical average rainfall between June 11 and July 11 at Geneva is about 3.3", but this year's total during that period is just over 8". We have not received any reports of damage to vineyards from the heavy storms that rolled through a few days ago, but please let us know if you are aware of any that happened. As always, be sure to contact your crop insurance and FSA representatives about possible damage due to weather events like this.



Graph showing difference between 2023 rainfall and long-term average. The steep upward trend since mid-June shows how much higher than normal this year's rainfall has been.

The overall sentiment about fruit set this year at our Tailgate meeting in Williamson on Tuesday was probably best summarized as "meh". Not great across the board, not terrible across the board, but a little of everything. This isn't terribly surprising given how much rain we've been getting during the bloom and early fruit set period. Another thing I noticed was portions of stems on some clusters collapsing. This kind of symptom can occur if downy mildew or botrytis infections reach the stems through the flower parts. If this is the case, you would see some sporulation coming from those dead tissues. It could also be something often called 'early bunch stem necrosis', which is a disorder that causes portions of the rachis to shrivel and die. It is more common to see bunch stem necrosis after veraison, but it can also occur at this time of the season. It is not caused by a pathogen so there's nothing to spray to prevent it. One possible factor that has been suggested is high humidity or rainfall during bloom, which could fit our conditions this year.

Wet weather and flooding can also affect weeds and weed control, especially for growers who use herbicides as part of their floor management practices. The following points are from Lynn Sosnoskie, weed scientist at Cornell AgriTech:

- Wet weather conditions can be stressful and may impact the growth and vigor of crops; this, in turn, can affect crop-weed competitive interactions.

In the Vineyard (continued from pg. 1)

- Wet soils can result in delayed or missed weed control events, such as cultivation and spraying. This may allow weeds to escape optimum management windows. Driving on or physically working wet soils can lead to compaction. Compaction can affect soil aeration, crop root system development, and future drainage in the field.
- Weeds that are stressed by wet weather conditions may not respond well to postemergence herbicides. Rain events may be associated with fluctuations in soil and air temperature, which can also affect weed vigor and, subsequently, herbicide performance.
- If trying to make postemergence applications between rainfall events, check the product label for rainfast periods.
- Too much rainfall could facilitate the leaching of residual herbicides that have high water solubility (measured in ppm) and low soil adsorption (measured in K_{oc}). Herbicide loss may be more pronounced on sandy/coarse soils. For herbicides that do bind tightly to soil, microbial degradation may be altered under wet conditions.
- Wet conditions could increase the injury to crops by residual herbicides if crop emergence is slowed.
- Flooding may physically move herbicide treated soil via erosion. This may result in chemicals moving out of a field and onto non-target plants or becoming concentrated in low spots within a planting area. Both conditions can result in reduced weed control (or evenness of weed control) and increase injury potential to desirable species or crop plants.
- Flooding (or erosion) may result in weed seed movement.
- If weed control has failed, applicators may feel compelled to act rapidly to manage unwanted vegetation. Don't let haste lead to herbicide drift events.

IPM

As rainfall and higher humidity conditions ramp up so does disease pressure. As the newly formed berries begin to develop, they are still susceptible to infections from powdery and downy mildew, as well as black rot. Berries will develop resistance to these diseases several weeks after bloom, depending on the cultivar and the disease.

- Powdery mildew: 2-3 weeks after fruit set
- Downy mildew: About 4-6 after bloom
- Black Rot: 5-8 weeks after bloom

In general, native varieties like Concord and Catawba will become resistant to fruit infections 1-2 weeks before *vinifera* cultivars. So earlier blooming cultivars like Concord, Marquette, Baco and others are at or nearing the point where the berries are resistant to new PM and DM infections, while protecting the fruit from black rot will continue to be important for a couple more weeks.

In spite of the heavier disease pressure the past few weeks, growers at this week's Tailgate meeting said that their management programs have been performing well so far, and canopies are quite clean for the most part. Managing them later in the season, especially downy mildew, gets a bit more challenging if pressure continues to remain high if growers are limiting the number of applications of different materials to avoid resistance development. But during this period of fruit susceptibility, continue to use the best materials possible with proper timing and application rates.

Biopesticides

There is growing interest in the use of biopesticides, and an increasing number of these materials that are available to growers as well. Katie Gold's grape pathology program, as did Wayne Wilcox before her, evaluates many of these materials to determine their effectiveness and what kind of place they might have in a disease management program.

One of the key roles that these materials can play in a disease management program is to complement other materials as part of resistance management. As Katie mentions in this year's Grape Disease Control newsletter:

> "Integrating biopesticides into a disease control program reduces the control pressure placed on conventional chemistries, slowing the development of fungicide resistance in target pathogen populations. Protecting the longevity of highly effective, conventional chemistries is essential for the long-term health and sustainability of the New York grape industry. Using biopesticides in your early or late season disease control program will help ensure that the traditional chemistries we rely on for robust powdery mildew and downy mildew control during the critical period of pre- to post-bloom will be in our toolbox for years to come."

IPM (continued from pg. 2)

Katie has more detailed write-ups about these materials in this year's version of her Grape Disease Control publication, along with an article from 2022 in Appellation Cornell.

Japanese Beetles

Japanese beetles are beginning to appear in vineyards in recent days. While they can be incredibly irritating while working in the vineyard, the vines can handle a fair amount of feeding by them without suffering much in the way of losing ripening potential later in the season. Research results suggest that most vines can handle about 30% loss of leaf area by feeding without much consequence, assuming the vines are otherwise healthy and not heavily overcropped. Spraying to control them is often not necessary, but can become so in some years and areas. There are a number of materials with good or excellent efficacy against JBs in New York (lean towards those that are less harmful to predatory insects) listed in Table 4.2.2. in the Grape IPM Pest Management Guidelines.

GiESCO Conference Professional Day Program – Thursday July 20, 2023

8:30-8:35	Opening remarks
Session 1	
8:35-9:00	The Vineyard of the Future Nick DOKOOZLIAN
9:01-9:08	Monitoring of grapevine stem potentials with an embedded microtensiometer Alan N. LAKSO,*, Michael SANTIAGO, Maryrose LUND, Abraham D. STROOCK
9:09-9:15	Smartphone as a tool for deficit irrigation management in Vitis vinifera Gustavo PEREYRA, Anne Pellegrino, Remi Gaudin, Milka Ferrer
9:16-9:30	Subsurface irrigation: A means to reduce chemical and water inputs in vineyards Mark KRASNOW*, Danielle MCMILLAN, Allison HAYWOOD
9:31-9:45	Irrigation as a tool for heatwave mitigation: The effect of irrigation intensity and timing in Cabernet Sauvignon Pietro PREVITALI, Luis SANCHEZ, Nick DOKOOZLIAN
9:46-9:52	Monitoring grapevine water status using Landsat 8 images: a two-year case study in a Merlot vineyard Vincenzo CIANCIOLA, Eve LAROCHE-PINEL, Khushwinder SINGH, Luca BRILLANTE*
9:53-10:00	Effect of scion-rootstock combinations on the performance of a near-infrared (NIR) spectroscopy method for determining vine water status Carlos POBLETE-ECHEVERRIA,*, Thomas CHALMERS, Melane VIVIER, Juan FERNANDEZ-NOVALES, Ignacio BARRIO, Mary Paz DIAGO,
10:01-10:16	The informative potential of remote and proximal sensing application on vertical- and overhead-trained vineyards in Northeast Italy Ron SHMULEVIZ*, Marianna FASOLI, Giovanni Battista TORNIELLI
10:17-10:45	*Break*
Session 2	
10:46-11:11	Scalable asymptomatic Grapevine Leafroll Virus Complex- detection through integrated airborne imaging spectroscopy, autonomous robotics, and cloud computing Kaitlin M. GOLD*, Fernando E. ROMERO GALVAN, Gloire RUBAMBIZA, Ertai LIU, Stephanie BOLTON, Charles STARR, Mimar ALSINA, Nick DOKOOZLIAN, Alyssa WHITCRAFT, Hakim WEATHERSPOON, Ryan P. PAVLICK, and Yu JIANG
11:12-11:19	Toward an automatic way to identify red blotch infected vines from hyperspectral images acquired in the field Eve LAROCHE-PINEL, Benjamin CORALES, Erica SAWYER, Khushwinder SINGH, Kaylah VASQUEZ, Monica COOPER , Marc FUCHS , Luca BRILLANTE*

11:20-11:35 Use of UV light for suppression of grapevine diseases
David M. GADOURY, Lance CADLE-DAVIDSON, Kaitlin GOLD

11:36-11:51 Managing Grapevine Powdery Mildew with Ultraviolet-C Radiation in Washington State
Alexa MCDANIEL, Maria MIRELES, David GADOURY, Michelle MOYER*

11:52-12:07 Chitosan treatment to manage grapevine downy mildew
Gianfranco ROMANAZZI*, Simone PIANCATELLI, Roberto POTENTINI, Giuliano D'IGNAZI, Marwa MOUMNI

12:08-12:23 Preplant Fumigation only temporarily reduces northern root-knot nematode
Michelle M. MOYER*, Maria MIRELES, Bernadette GAGNIER, Katherine E. EAST, and Inga A. ZASADA

12:24-1:25 Lunch

Session 3

1:30-1:55 Spotted lanternfly, a new invasive insect in vineyards: Is it a threat to grapevines?
Michela CENTINARI*, Andew HARNER, Taran ROWELS, Claudia SCHIMDT, Flor ACEVEDO, Cristina ROSA

1:56-2:03 Does spotted lanternfly phloem-feeding have downstream effects on wine volatiles?
Andrew HARNER*, Suraj KAR, Zeke WARREN, Misha KWASNIEWSKI, Michela CENTINARI

2:04-2:19 Litchi Tomato as a Fumigation Alternative in Washington State Wine Grape Vineyards
Bernadette GAGNIER*, Inga ZASADA, Maria MIRELES, Michelle M. MOYER

2:20-2:26 Under vine cover crops induces grapevine tolerance to bunch root
Andrés CONIBERTI, Florencia BONJOUR, Facundo IBÁÑEZ, Marcelo FALERO, Martin GERVASINI Gerardo ECHEVERRIA

2:27-2:34 Reducing chemical use in vineyards. Evidence from the analysis of a national demonstration network
Ester Fouillet, Bruno Rapidel, Anne MEROT

2:35-2:41 Fleurtai, Soreli and Tocai Friulano: perspectives for quality integration of wine together with protection of the docg lison classico appellation
Emilio CELOTTI *, Rebecca VALENT, Giovanni MIAN, Andrea NATOLINO

2:42-2:57 Vineyard nutrient budget and sampling protocols
Nataliya SHCHERBATYUK*, Pierre DAVADANT, Markus KELLER

2:58-3:11 Rootstock regulation of scion phenotypes: The relationship between rootstock parentage and petiole mineral concentration
Marine MOREL*, Sarah Jane COOKSON, Nathalie OLLAT, Elisa MARGUERIT

3:12-3:19 Implications of herbicide, cultivation or cover crop under-vine soil management on the belowground microbiota

Maider VELAZ, Gonzaga SANTESTEBAN, Paula RESANO-GOIZUETA, Maite LOIDI, Nazareth TORRES

3:20-3:27 Effects of the biodynamic preparations 500 and 501 on vine and berry physiology, pedology and the soil microbiome
Markus RIENTH*, Frederic Lamy, Clément Chessex, Thierry Heger

3:30-3:54 Break

Session 4

3:55-4:08 Carry over effect of shoot trimming and deficit irrigation on fruit yeild and berry total soluble solids
Alessandro MATAFFO, Pasquale SCOGNAMIGLIO, Maurizio TEOBALDELLI, Carlo MOLINARO, Antonio. DENTE, Boris BASILE

4:09-4:25 Mechanization of pre-flowering leaf removal under the temperate climate conditions of Switzerland
Thibaut VERDENAL*, Vivian Zufferey, Ágnes Dienes-Nagy, Gilles Bourdin, Jean-Laurent Spring

4:26-4:32 Mechanical fruit zone leaf removal and deficit irrigation practices interact to affect yieid and fruit quality of cabernet sauvignon grown in a hot climate
Shijian ZHUANG, Qun SUN, Paolo SABBATINI, Karl LUND, Kaan KURTURAL, Matthew FIDELIBUS

4:33-4:40 Ultra-low doses of ethylene and ethephon increase fruit set in *Vitis vinifera* L. Malbec
Christian CHERVIN, Olivier GEFFROY

4:41-4:48 The use of elicitors in viticulture: a tool to obtain highly colored wines with a reduce alcohol content?
M.Pilar MARTINEZ-PEREZ, Ana B. BAUTISTA-ORTÍN, Alejandro MARTINEZ-MORENO, Encarna GÓMEZ-PLAZA*

4:49-5:05 Dynamic agrivoltaics, climate protection for grapevine driven by artificial intelligence
Damien FUMEY*, Jérôme CHOPARD, Gerardo LOPEZ, Severine PERSELLO, Perrine JUILLION, Vincent HITTE, Yassin ELAMRI, Joris DUBOSC, Benjamin TIFFON-TERRADE, Jean GARCIN, Alexandre MALON, Benoît VALLE, Angélique CHRISTOPHE, Thierry SIMONNEAU, Nicolas SAURIN, Arnaud CHAMPETIER, François BERUD, Silvère DEVEZE, Julien THIERY, Valérie DIDIER, Jean-Christophe PAYAN, Francis SOURD

Upcoming Events

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

Tailgate Meeting

July 25, 2023 4:30 – 6:00 PM

Gage Vineyards

6104 Hicks Rd, Naples NY

Our next Tailgate Meeting will be on Tuesday, July 25 at Gage Vineyards in Naples. 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. Each meeting has been approved for 1.25 pesticide recertification credits by DEC.

Here is the schedule for Tailgate Meetings for the rest of 2023:

- August 8, 2023: Tango Oaks Vineyard
  5557 NY Route 414, Hector, NY
- August 22, 2023: Fox Run Vineyards
  670 Route 14, Penn Yan, NY

Vineyard Equipment Rodeo

Sponsored by the NYS Wine Grape Growers

Wednesday, August 9 11:30 AM – 5:30 PM

Wagner Vineyards

Save the date! The NYS Wine Grape Growers have organized a day of vineyard equipment displays and demonstrations that will be held at Wagner Vineyards in Lodi, NY. More information to come soon, but be sure to put this on your calendars.

Upcoming Events

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Effects of Viticultural Mechanization on Working Time Requirements and Production Costs

July 20, 2023 9:00 - 10:00 AM PDT

Webinar presented by the American Society for Enology and Viticulture

In our virtual seminar offered for ASEV members, you can read the published paper, see the authors present their findings, and engage directly with them during a Q&A session. Additional information coming soon.

Read the paper and bring your questions!

Moderator:

Lindsay Jordon, Constellation Brands, California

Speakers:

Larissa Strub, Hochschule Geisenheim University, Germany

Simone Loose, Hochschule Geisenheim University, Germany

Andreas Kurth, Hochschule Geisenheim University, Germany

This one-hour webinar includes a twenty minute Q&A with all of the authors. It is free to ASEV members and $50 for non-members.

ASEV Member Registration: https://www.asev.org/asev-webinar-member-registration

ASEV Non-member Registration: https://www.asev.org/asev-webinar-general-registration

2023 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	**Hi Temp (F)**	**Lo Temp (F)**	**Rain (inches)**	**Daily GDDs**	**Total GDDs**
7/5/23	89.1	68.0	0.00	28.6	1014.3
7/6/23	91.2	68.7	0.00	30.0	1044.3
7/7/23	80.1	68.2	0.75	24.2	1068.4
7/8/23	78.6	61.9	0.00	20.3	1088.7
7/9/23	80.2	65.1	0.66	22.7	1111.3
7/10/23	76.8	66.6	0.00	21.7	1133.0
7/11/23	87.6	64.4	0.00	26.0	1159.0
Weekly Total			**1.41”**	**173.3**	
Season Total			**13.55”**	**1159.0**	

GDDs as of July 11, 2022: 1216.3

Rainfall as of July 11, 2022: 8.96”

Seasonal Comparisons (at Geneva)

Growing Degree Days

	2022 GDD [1]	Long-term Avg GDD [2]	Cumulative days ahead (+)/behind (-) [3]
April	135.9	62.8	+13
May	216.8	256.3	+3
June	470.9	484.6	+3
July	265.3	646.1	+3
August		597.4	
September		360.2	
October		112.5	
TOTAL	1088.8	2519.8	

[1] Accumulated GDDs for each month.

[2] The long-term average (1973-2022) 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.

2023 GDD & Precipitation

Precipitation

	2023 Rain [4]	Long-term Avg Rain [5]	Monthly deviation from avg [6]
April	5.73”	2.80”	+2.97”
May	1.90”	3.07”	-1.17”
June	4.61”	3.56”	+1.05”
July	3.66”	3.43”	
August		3.21”	
September		3.47”	
October		3.41”	
TOTAL	15.90”	23.02”	

[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)

Additional Information

Become a fan of the Finger Lakes Grape Program on Facebook, or follow us on Twitter (@cceflgp) as well as YouTube. Also check out our website at http://flgp.cce.cornell.edu.

Got some grapes to sell? Looking to buy some equipment or bulk wine? List your ad on the NY Grape & Wine Classifieds website today!