



CROP UPDATE

June 17, 2021

*Bloom- Jennifer Phillips
Russo*

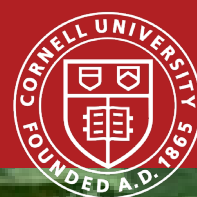


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Lake Erie Regional Grape Program



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In this copy:

- Concord Business Update- Kevin Martin
- Vineyard Updates- Jennifer Phillips Russo
- In the Vineyard- Andy Muza
- North East, PA Update- Bryan Hed

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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Join us for a Nutrition talk by Dr. Terry Bates-

Senior Research Associate, School of Integrative Plant Science Horticulture Section,
Director, Cornell Lake Erie Research and Extension Lab Cornell AgriTech

Wednesday, June 23 @ 10:00am

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Business Management

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

Concord Business Update

The outlook for prices continue to rise for some juice markets. High prices continue to impact cash flow for growers. Cooperatives generating revenue are also strengthening their positions and making adjustments in an effort to improve long-term health. On the cash market front the impact of the Gallo merger is becoming clear. Certainly that merger is good news for Concord growers. There is no way around it, the FTC limitations in the merger significantly impacted the market for white natives and hybrids. Growers working with Gallo report very positively regarding the marketing contracts that they did take over.

Just as Cooperatives and cash market processors take advantage of this bit of good fortune; growers should do the same. Tackling debt is probably an obvious step toward reducing financial risk. Certainly, restructuring debt makes a lot of sense. Debt should be sustainable in both the size of the payment and the rate of interest. Eliminating debt too quickly can create troublesome tax problems. In addition to regular debt payments, additional debt payments up to \$600 per acre probably make sense.

On the other side of the debt equation are assets. Some assets are tax efficient (such as buying more land). Increasing available cash is very important to reducing financial risk. It's not terribly tax efficient but it can dramatically improve business efficiency when prices do fall. Liquid investments are practically worthless right now, so it is tempting to avoid carrying too much cash. The goal for a mature vineyard operation will depend on three important variables. To whom do you sell, cash on hand should be very high in December if your payments are complete for the year. What are your annual expenses? Everyone should have somewhat similar expenses, except debt service. Monthly debt payments also justify carrying more cash. Monthly or quarterly income from Cooperatives or other sources reduce the need for cash on hand. Total cash on hand should float between \$250 and \$400 per acre, depending on the season. To that number one should add six months of debt payments. An additional \$300 should be added for cash market growers. Investments to make a Concord operation more sustainable, beyond debt, should focus on the reduction of labor. Improvements in mechanical pruning top the list of potential labor savings. Harvest efficiency comes in a distant second. Beyond that, investment in labor savings is dependent on the operation. One thing that is critical to adoption of efficient practices is networking. We are very hopeful to have in-person meetings sometime this growing season. In the meantime, when making investments like this please feel free to reach out with any questions.

Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Driving around the region one can clearly see that the vines are in the period of rapid shoot growth and berry development. The many vineyards that line Route 20 have full canopies where shoots tickle the ground. Be very careful when suckering and terminating cover crop and weed competition that you avoid contact with the leaves. When I pulled over and lifted up some of those full canopies, I was impressed with the amount of clusters hanging and berries on those clusters. Please use your Viticulture Planning Calendar to record your important events like pre-bloom sprays, bloom date, post-bloom sprays so that you can stay on top of spray intervals not exceeding 14 days, and know when 30 Days After Bloom (DAB) is for your crop estimation.



photo 1. Concord grape berries



photo 2. Concord full canopies

NOAA's National Weather Service Forecast by 12 Hour Period

Notes: Weather forecasts are sourced from National Oceanic and Atmospheric Administration's (NOAA) National Weather Service.

[National Weather Service Forecast \(click to link\)](#)

[NOAA's Disclaimer \(click to link\)](#)

UTC Forecast Time: 2021-06-17T05:37:22+00:00

Overnight: Mostly clear, with a low around 53. South wind around 1 mph. Thursday: Sunny, with a high near 76. Southwest wind 3 to 12 mph.

Thursday Night: Mostly clear, with a low around 61. Southwest wind 6 to 14 mph.

Friday: A chance of rain showers between 9am and 2pm, then showers and thunderstorms likely. Partly sunny, with a high near 77. South wind 14 to 22 mph, with gusts as high as 36 mph. Chance of precipitation is 60%. New rainfall amounts between a tenth and quarter of an inch possible.

Friday Night: Showers and thunderstorms likely. Mostly cloudy, with a low around 65. Southwest wind 9 to 20 mph, with gusts as high as 35 mph. Chance of precipitation is 70%. New rainfall amounts between a tenth and quarter of an inch possible.

Saturday: A chance of showers and thunderstorms before 2pm, then a chance of showers and thunderstorms. Mostly sunny, with a high near 76. Chance of precipitation is 50%. New rainfall amounts less than a tenth of an inch possible.

Saturday Night: A chance of showers and thunderstorms before 8pm. Partly cloudy, with a low around 60. Chance of precipitation is 30%.

Sunday: Sunny, with a high near 77.

Sunday Night: A chance of rain showers after 8pm. Mostly cloudy, with a low around 66. Chance of precipitation is 50%. Monday: Rain showers likely. Partly sunny, with a high near 82. Chance of precipitation is 60%.

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.

In the below figure 1, illustrates the cumulative Growing Degree Days (GDDs) base 50. The 2021 cumulative GDDs from January 1, 2021 up to 6/17/21 is denoted by the thick blue line. As of the 17th, the Cornell Lake Erie Research and Extension Laboratory (CLEREL) has accumulated 646 GDDs, which is 82.2 higher than the five-year average of 563.8. To date, we are tracking along closely to 2017 in regards to GDD.

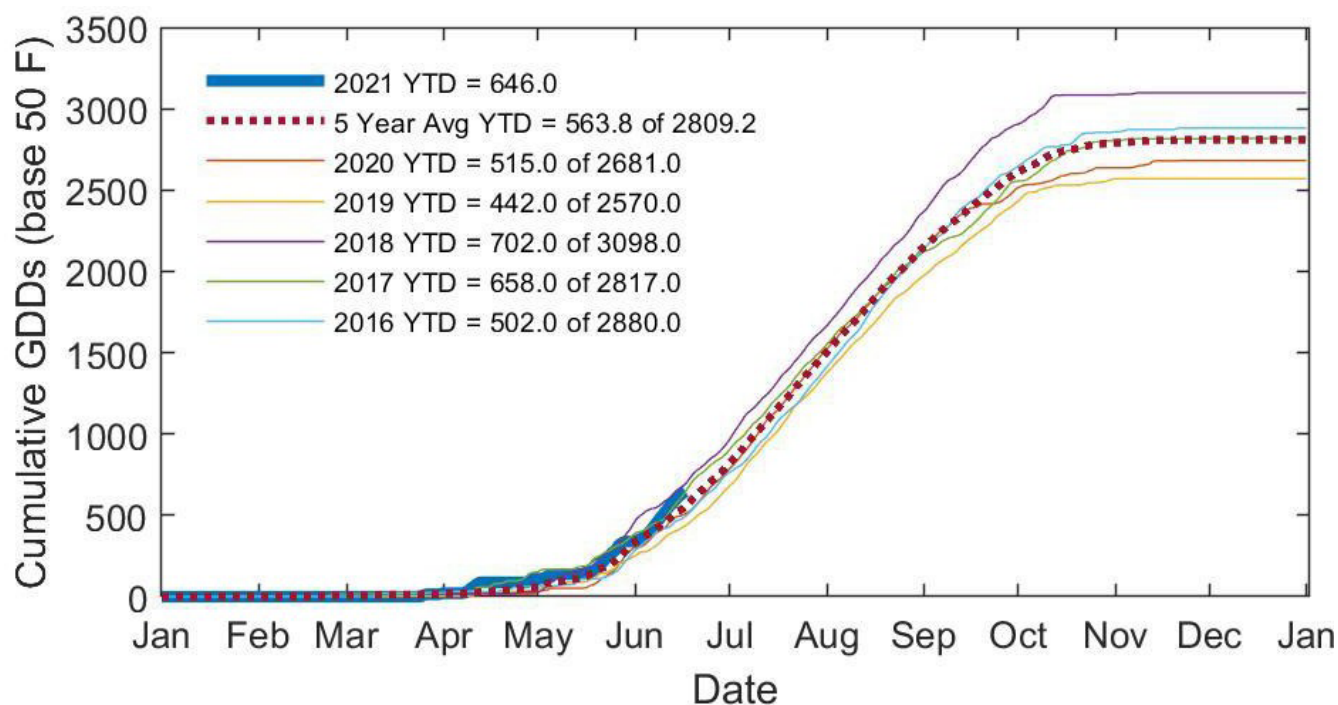


Figure 1. Historical Growing Degree Days (base 50) at Cornell Lake Erie Research and Extension Laboratory in Portland, NY

In figure 2 below, please note the wind speed (mph). I am including this as you plan your immediate post bloom sprays. Friday and Saturday morning are forecasted to have strong winds speeds that may hinder sprays.

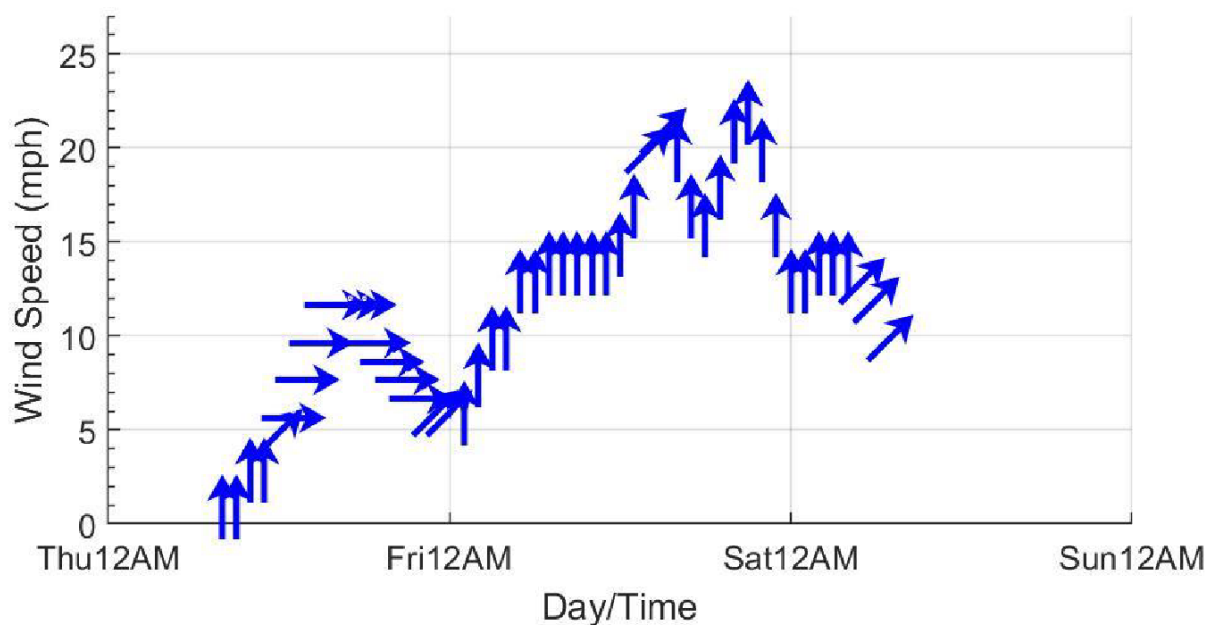


Figure 2. Wind Speed and Arrows denote direction of wind flow (e.g. a southern wind flows from south to north and indicated by an arrow pointing north).

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 Northeast Regional Climate Center (NRCC) high resolution gridded data service.

Figure 3 below, has the cumulative precipitation in inches for the CLEREL in Portland, NY since January 1, 2021. Following the GDD graph, this year is the thick blue line. Note that this year we have 14.4 inches which is 8.1 inches below the five-year average of 22.5 inches at this time.

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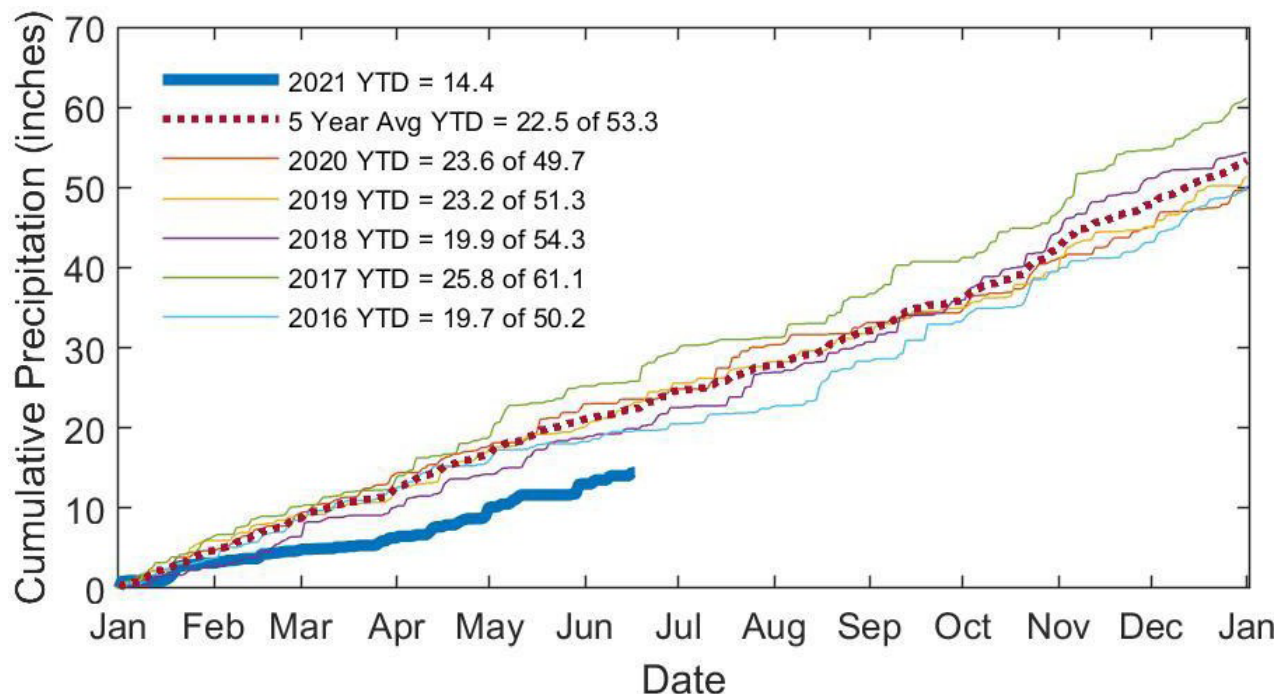



Figure 3. The Cumulative Precipitation in inches for Cornell Lake Erie and Extension Laboratory in Portland, NY and historical five-year average



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PA Update

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

In the Vineyard (6 -17- 21) –

This week (Tuesday - 6/15/21) at least 14 different vineyard blocks were scouted in the eastern and western portions of Erie County, PA. We are about 6-10 days past full bloom (i.e., clusters on primary shoots) depending on your vineyard location.

Insects

Rose Chafer – Low populations of beetles are still hanging around in Concord, Fredonia, Niagara and Delaware blocks in the western portion of Erie County, PA. However, the threat of any economic losses due to rose chafer are over for this season.

Grape Berry Moth – Again this week, finding a few clusters with webbing (from grape berry moth larvae) (Figure 1). An insecticide, timed with the first postbloom fungicide application, may be useful in vineyards experiencing significant crop loss from grape berry moth on a yearly basis or in high value *V. vinifera* blocks.



Figure 1. Young Concord berries webbed together by grape berry moth larva. Photo – Andy Muza, Penn State.



Figure 2. Colonies of powdery mildew on Concord leaf. Photo – Andy Muza, Penn State.

Diseases

Powdery Mildew – This week, I was able to find at least some leaves with small colonies of powdery mildew at about 50% of the sites examined (Figure 2). In addition, I continue to find powdery developing on rachises and pedicels (berry stems), more than usually found at this time of the season (Figure 3).

Fruit is extremely susceptible to powdery mildew through fruit set. This is **the most critical period to protect from fruit infections**. Management programs should be at their peak, emphasizing the use of effective fungicides, full rates, appropriate spray intervals, and superior spray coverage.

Black Rot - The early postbloom period is critical for management of black rot. Fruit are highly susceptible to infection for 2-3 weeks after cap fall.



Figure 3. Powdery mildew on pedicel of young Concord berry. Photo – Andy Muza, Penn State.

Downy Mildew – Last week, Bryan Hed found numerous sporulating lesions on sucker growth in a Chancellor block. So far, I have not found any downy mildew in any vineyard blocks. However, an effective fungicide for downy mildew should still be included in the First Postbloom spray for the management of this disease.

Phomopsis - Fruit and rachis infections can still occur from early bloom through the postbloom period. Maintain fungicide protection through pea-sized berry period, especially if the weather is wet during this time.

First Postbloom Fungicide Application – By now some growers have already applied the First Postbloom fungicide application. If this application

has not been applied yet, **then be sure to make this application within 10–14 of your Immediate Prebloom spray. DO NOT** stretch spray intervals beyond 14 days during this critical period for protection of the clusters.

Fungicide products which are **highly effective** against Phomopsis, Black Rot, Downy Mildew and Powdery Mildew should be used.

Honeyvine Milkweed (HvM) – This persistent, perennial, weed has gained a foothold in a number of Concord vineyard blocks in Erie County, PA. Three weeks ago (Crop Update – 5/27/21), HvM was observed, in vineyards around the Rt. 5 area, with growth ranging from just emerging to about 9” in length. This week some HvM were already wrapping around grape trunks on their way into the canopy (Figure 4). Do not allow this weed to grow into the grape canopy.

Scout frequently to identify areas with HvM and record these areas on your vineyard maps. Spot spray with glyphosate or glufosinate (read the label for restrictions/precautions/rates) using highest labelled rate before HvM starts wrapping around grape trunks. **Be careful not to allow sprays to contact green, grape tissue.** Continue spot spraying throughout the season.



Figure 4. Honeyvine milkweed wrapping around Concord trunk. Photo – Andy Muza, Penn State.

PA Update

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

Weather: Our June precipitation has come within three wetting periods: June 2-3, 7-8, and 13-14, for a total of 0.88" during the first half of the month; well below average. We have accumulated about 328 growing degree days so far in June (ahead of average) and we now have 697 gdds as of April 1. The 3-day forecast looks to be clear and dry today (June 17), but with a 70-80% chance for thunderstorms on Friday, falling to 50% chance of rain on Saturday, 40% chance of rain on Sunday night, and finally 70% chance of rain Monday. High temperatures in the 70s to low 80s.

Phenology: Here by the lake, we are about 5-6 days past bloom for Concord.

Diseases: June rainfall has resulted in three infection periods for all the major diseases in many places along the lake belt. Although these infection periods were relatively short, the period shortly after bloom is critical for protecting fruit from all diseases. If your scouting reveals black rot on leaves in the fruit zone, your risk of fruit infection during early fruit development is high if conditions turn wet. These lesions are in prime position to release spores onto developing fruit during rain periods after capfall, and that first and second post bloom spray will need to be applied in a timely fashion to avoid losses from black rot, especially if conditions turn wet. New infections from the wetting periods generally take 10-14 days before lesions become visible.

Continue to scout for downy mildew on leaves near the ground, especially sucker growth. "Oil spots on leaves will become visible in as little as 4-5 days from an infection period. Our last wetting period over June 13-14 was a relatively minor one for downy mildew and I do not expect to see much new disease from that wetting period. However, there is more rain in the forecast, particularly for Friday (June 18) and the following Monday (June 21) that could result in more downy mildew infections.

At this particular time, fruit of all grape varieties have entered that period when they are most susceptible to all the major diseases, that is, from the time that flower caps come off, to about 3-4 weeks later. Most of you have probably already applied that first post bloom spray and are beginning to contemplate what, if anything, to apply for the second post bloom spray. A second post bloom spray will depend heavily on how well you've controlled diseases to date, based on the presence/absence of active disease on leaves and fruit (determined by scouting) and the fact that fruit will remain susceptible to powdery mildew for another 2 (Concord, Niagara) to 4 (sensitive hybrids, *Vitis vinifera*) weeks, to downy mildew for another 2 (Concord) to 4 (Niagara, sensitive hybrids, *Vitis vinifera*) weeks, and to black rot for another 5 (Concord/natives) to 7 (*Vitis vinifera*) weeks. So, over the next week or two, take the time to make that assessment, starting with your blocks most at risk.

Research at Cornell has shown that in most years, lightly cropped Concord vines will benefit little from continued control measures against powdery mildew, once fruit are resistant (about when Concord fruit are a quarter inch in diameter). Conversely, Concord vines with above average to large crops will benefit from continued efforts to control powdery mildew, to keep canopies operating at maximum fitness and ensure that you reach minimum sugar standards by harvest. Note the use of the term, "in most years". This is a reference to the wild card, the weather. In other words, if conditions turn poor for ripening (cloudy and wet), all bets could be off. As for more sensitive hybrids and *vinifera*, a second post bloom spray (and well beyond) for powdery mildew is a must, even if condi-

tions remain relatively dry. Remember that, unlike the other diseases, powdery mildew secondary cycles do not require rainfall to continue fueling to epidemic proportions.

As I stated last week for premium wine varieties, now is the time to do leaf removal in the fruit zone. Leaf removal can be done by machine or by hand and generally provides sizable reductions in bunch rot on rot susceptible wine varieties (Riesling, Vignoles, Pinot noir and gris, Chardonnay, etc). It can even help improve control of other disease as well, like powdery mildew. In a preliminary trial we ran last season, air pulse technology (to remove leaves) at pre bloom or fruit set, reduced bunch/sour rots by about 50% at harvest, with no reduction in yield. So, timing didn't matter, but the decision to apply leaf removal resulted in a 50% reduction in rots over not applying it at all. Leaf removal can also improve fruit quality and may even reduce manual harvest costs (the clusters are easier to see and remove if you're hand harvesting).



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Information for you

Kate Robinson, Administrative Assistant, LERGP

Coffee Pot Meeting June 23@ 10:00am

Join us for a Nutrition talk by Dr. Terry Bates-

Senior Research Associate, School of Integrative Plant Science
Horticulture Section, Director, Cornell Lake Erie Research and
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Wednesday, June 23 @ 10:00am



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[Efficient Vineyard:](#)

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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:

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