



# LAKE ERIE REGIONAL GRAPE PROGRAM

## *Electronic Crop Update for September 20, 2012*

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**From the Desk of James  
Taylor, Post-Doctoral Fellow**

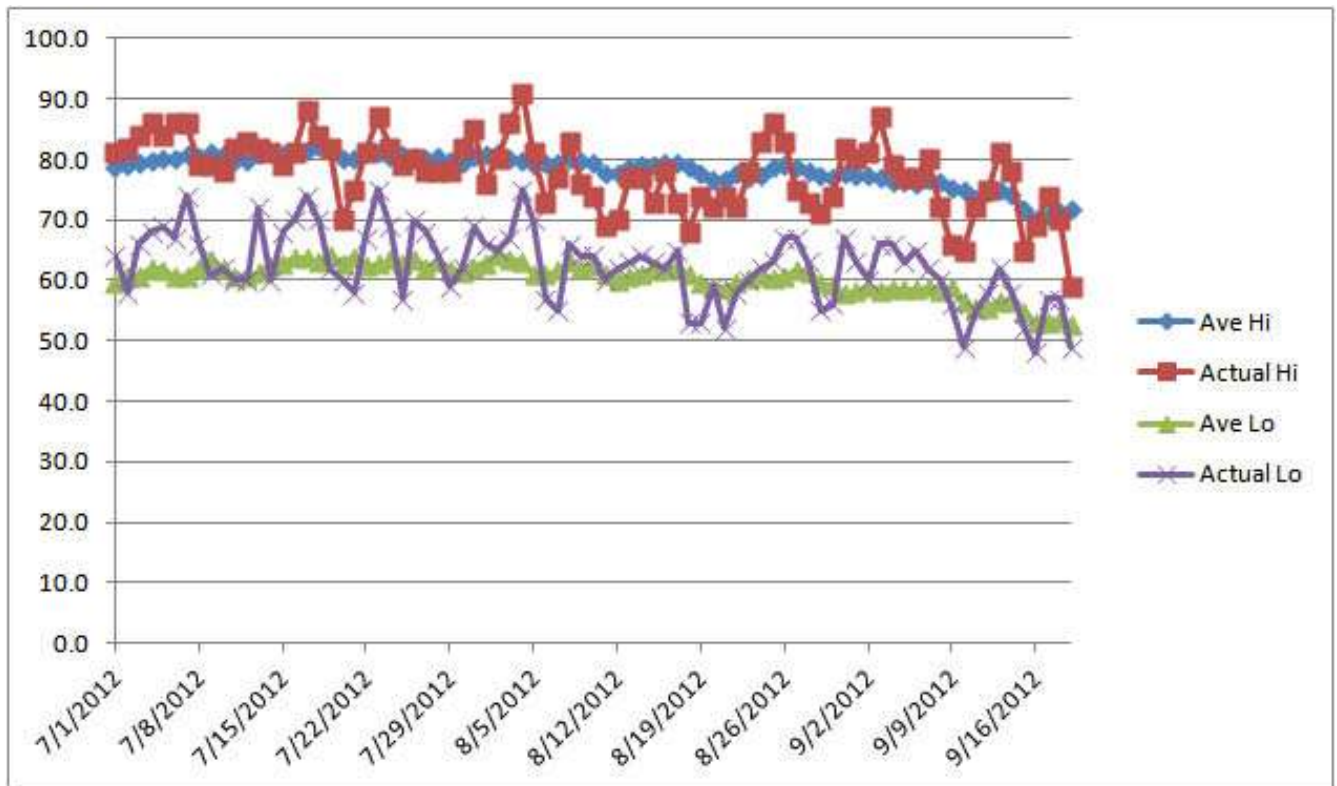
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Please remember to let us know if you have changed or are in the process of changing your email address so we can keep the Electronic Crop Update coming to your inbox!

[Please email Edith at: emb35@cornell.edu.](mailto:emb35@cornell.edu)

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<i>DATE / YEAR</i>	<i>HIGH</i>	<i>LOW</i>	<i>DAILY PRECIP.</i>	<i>GDDS</i>	<i>TOTAL APRIL GDDS</i>	<i>TOTAL JANUARY GDDS</i>
<b>Last Week 9/12/12</b>	75	58	0.00	16.5	2526	2656.5
<i>September 19, 2012</i>	<b>59</b>	<b>49</b>	<b>0</b>	<b>4</b>	<b>2615.5</b>	<b>2746</b>
<i>September 19, 2011</i>	62	48	0.00	5	2445	2453.5
<i>September 19, 2010</i>	64	49	0.02	6.5	2664.5	2668
<b>AVERAGE</b>	<b>71.7</b>	<b>52.6</b>	<b>0.12</b>	<b>12.16</b>	<b>2438.60</b>	<b>2463.51</b>
<b>2012 GDD Accumulation by month:</b>						
<i>Sept. = 306.5</i>	<i>Aug. = 601</i>	<i>July = 725.5</i>	<i>June = 456.5</i>	<i>May = 393</i>		
<b>2012 PRECIPITATION by month:</b>						
<i>Sept. = 2.66"</i>	<i>August = 2.72"</i>	<i>July = 4.46"</i>	<i>June = 2.50"</i>	<i>May = 1.95"</i>		



**ACTUAL vs. AVERAGE Highs and Lows (July 1, 2012 through September 19, 2012) - graph above.**

**FROM NORTH EAST, PA.: Bryan Hed**

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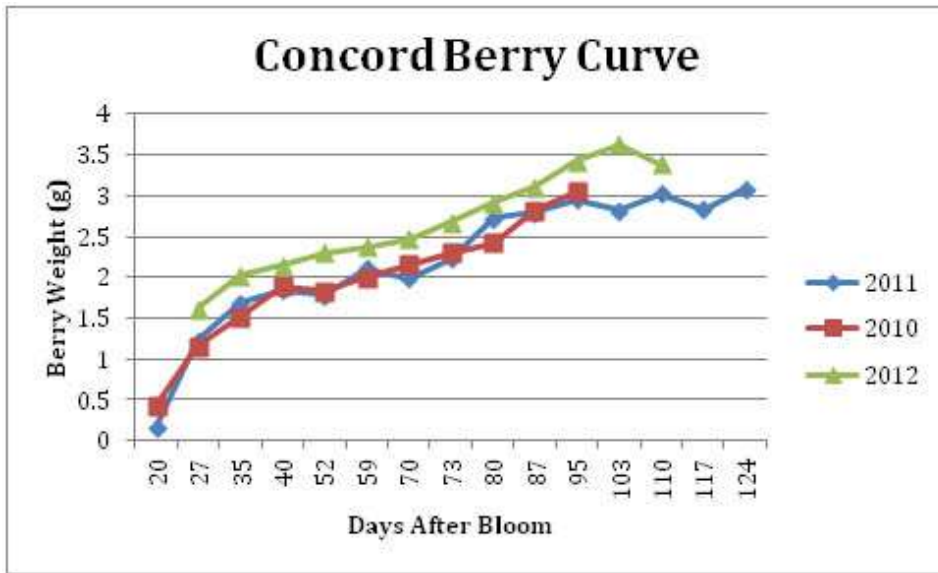
**Weather:** Growing degree day accumulations have definitely slowed (temperatures dipped below 50 F on September 16; the first time since mid June) and currently we have accumulated 2786 growing degree days (gdds) from March 1 through September 19. We have recorded 2.55 inches of rain during September at our location. The short term Skybit forecast for North East PA (Thursday through Saturday) calls for dry, sunny conditions today (Sep 20) with highs around 70 F, followed by rain tomorrow afternoon and into Saturday as temperatures drop into the lower 60s. The longer term Accuweather forecast calls for rain tomorrow (Sep 21) and over the weekend, followed by drier, sunnier conditions through the middle of next week. High temperatures next week will be hovering right around average to slightly below average.

Our Niagara and most of our wine varieties have been harvested and our Concord is being harvested as I write. Concord harvest will probably wrap up next week. The Chambourcin, Vidal, Cabernet Franc, Riesling, and Chardonnay are all that remain. Rots in Riesling and Chardonnay have been minimal so far where measures like cluster zone leaf removal were applied around bloom or shortly after fruit set, and all varieties seem to be holding up very well. Keep scouting for [downy mildew](#) on wine varieties to ensure your vines go into winter with well ripened canes and plenty of storage for maximum cold hardiness.

**GRAPE CULTURAL PRACTICES: Jodi Creasap-Gee, Ph.D.**

We had been waiting all summer for a day-long soak, and Tuesday we finally got rain... during the middle of harvest. This is a less-than-ideal time to get caught up on rain for this season because there are so many problems with a wet harvest – dilution of juice (likely not an issue this year), hazardous and just generally unpleasant conditions. Then there is the additional problem of having any delicate fruit remaining on the vine; fruit with split skins or other damage will not only attract insect and vertebrate pests, but the sugary juice can also lead to development of rots caused by opportunistic fungi and bacteria.

A look at the numbers this week shows that berries seem to be shrinking – in weight and diameter. This could be related to sampling technique, but it is likely due to the loss of water through transpiration.



Concord Berry Weights and Diameters and Brix for ~109 Days after Bloom (DAB) 2010-2012

	Berry weight (g)	Berry diameter (mm)	Brix
<i>2010</i>	<i>(harvested)</i>	<i>(harvested)</i>	<i>(harvested)</i>
2011 (110 DAB)	3.03	16.01	17.8
<b>2012 (109 DAB)</b>	<b>3.38</b>	<b>16.74</b>	<b>18.7</b>
<i>As a reminder, last week's numbers:</i>			
<b>2012 (101 DAB)</b>	<b>3.62</b>	<b>17.5</b>	<b>18.1</b>

It seems as though processors will be finishing up in the next couple of weeks, which should provide plenty of time this year for vines to recover from harvest and to continue to build up carbohydrate reserves for the winter. The silver lining to this year is that we can look forward to the potential for a large crop and vines with plenty of stored carbohydrates, which can be the set up for a phenomenal 2013. But let's not get ahead of ourselves. If you reduced nutrient input this year, then just after harvest is a good time to collect soil samples to start planning for [nutrient needs](#) for 2013. Remember, *where* you get soil tests done does not matter nearly as much as whether you *actually* send them in and use them to make educated calculations on the nutrient needs in your vineyard blocks. Feel free to call the office for more information or with any questions.

## BUSINESS MANAGEMENT: Kevin Martin

### *NDVI Update: Striving to give growers access to vine size data economically*

This winter the crew as well as cooperating farmers will be gathering pruning weights to help us continue to improve our understanding of NDVI data. To formulate an action plan that will have real economic impact the relative NDVI data needs to be correlated with actual vine size. We are confident that with a correlation we will be able to improve the vine health of smaller vines thereby increasing yields while maintaining a balanced crop load.

Relative NDVI readings identified significant variation within vineyard blocks. Generally, this variation amounted to 20-25%. We are theorizing that the variation is contributing to significant (severe) economic inefficiencies. When we have a better idea of how small the small vines are and how large the large vines are we cannot accurately measure the degree of economic inefficiencies. Dr. Taylor and Dr. Bates have put together a protocol to take pruning samples that should be much less time consuming than in the past. Rather than trying to identify vine size variation with pruning weights, we are merely using pruning weights to calibrate NDVI data. Therefore, the number and density of samples can be dramatically reduced. We would like to think that NDVI might be able to stand on its own. It would certainly make it easier for growers to adapt the technology. It would also be able to provide in season data, rather than waiting until pruning weights can be taken. In the meantime, we can still make a real difference in production practices with relative NDVI data, followed up by a small number of pruning weight samples. I don't view this process as a barrier to commercialization, so long as the grower is willing to do a bit of legwork.

Data processing continues to be a barrier to commercialization. We have some ideas and will continue to work through this problem. The data processing could be automated, but that may turn out to be a significant portion of the project. Hopefully the scope of the software remains narrow. If it does, the programming will be relatively affordable.

The preliminary data gathered from commercial vineyards appears to show a significant percentage of vines that could be below two pounds of pruning weight the potential yield is significantly reduced by vines of this size and if substantial improvements can be made in vine size potential yields on those vines could easily increase by 20-25% while maintaining a balanced crop load. That 20-25% increase in yield allows for investment including additional production practices. Those production practices could be rather expensive and additional two or three hundred dollars per acre allocated towards reducing vine size variability could easily be recouped by an increase in yields.

The initial investment in the NDVI sensor would be extremely affordable if we can show that it improves our ability to identify vine size variability. Once we identify the variability the next step is to diagnose the problem. We have already used NDVI data to improve soil test samples while reducing the amount of soil test taken. This savings alone amounted to \$2.00 per acre. While this technology is not ready for prime time, it certainly shows promise.

**FROM THE DESK OF... James Taylor, Ph.D., Post-Doctoral Fellow**

**Mapping vine vigor with on-the-go canopy sensors – ONE MORE WEEK**



In case you missed last week’s Crop Update or haven’t had a chance to check this out... a reminder that a webpage is now available on the LERGP website on trialing canopy sensors! The webpage is to help growers and industry stakeholders understand how these systems work and how they are being deployed. There is a clickable and zoomable Google Earth inset with vine vigor maps from the LERGP vineyards as well as a few commercial vineyards in the region. You will need to navigate around a little to find the vineyards.

We are continuing to work on protocols and calibrations to translate these vigor maps into actual pruning weight maps. This will allow the canopy sensor information to be used in agronomic decision making (and hopefully present in a manner that is easy for growers to act on). We will of course keep you updated as we progress down this path. In the meantime, have a look around the webpage (link below) and please feel free to contact LERGP with any questions on this work that you have.

**Adapting Canopy Sensing Systems into Juice Grape Production webpage:**

<http://lergp.cce.cornell.edu/Canopy%20sensing/Canopy%20sensing.htm>



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***PLEASE NOTE: Next Electronic Crop Update will be Thursday, September 27, 2012***

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**Lake Erie Regional Grape Program Team Members:**

[Andy Muza](#), Extension Educator, Erie County, PA Cooperative Extension, 814.825.0900

[Tim Weigle](#), Grape IPM Extension Associate, NYSIPM, 716.792.2800 ext. 203

[Jodi Creasap Gee](#), Viticulture Extension Associate, CCE, 716. 792.2800 ext. 204

[Kevin Martin](#), Business Management Educator, 716. 792.2800 ext. 205

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**THE LAKE ERIE REGIONAL GRAPE PROGRAM at CLEREL**

**6592 West Main Road**

**Portland, NY 14769**

**716-792-2800**