



LAKE ERIE REGIONAL GRAPE PROGRAM

Electronic Crop Update for September 13, 2012

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

Go to <http://lergp.cce.cornell.edu/EventsCalendar.htm> for a detailed calendar of events including maps via Google calendar! Scroll to the bottom of the page for Google calendar and click on the event. Please remember to RSVP for those events that require one! UPCOMING EVENTS are also listed toward the bottom of this Electronic Update.

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)

FROM NORTH EAST, PA.: Bryan Hed

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Weather: We are closing in on 2700 growing degree days (gdds) from March 1 through September 12 and may top 3,000 before the end of October. Unfortunately, this is about the most exciting thing about 2012; juice grape growers are seeing drastically reduced yields from the frost damage experienced back in April. Weather conditions continue to favor the dry side as we recorded about 2.4 inches of rain during August at our location; about an inch below our 13 year average for that month. However, just over 2 inches of rain fell last weekend to recharge the soil after a 3 and half week dry spell. The short term Skybit forecast for North East PA (Thursday through Saturday) calls for dry, sunny conditions today (Sep 13) with highs around 80 F, followed by rain tomorrow. The longer term Accuweather forecast calls for much the same with relatively dry conditions after tomorrow, and high temperatures hovering right around average for the next week or so; not bad.

Phenology and disease: [Downy mildew](#) has been spotted in isolated places, especially on shoot tips that are continuing to grow. We are not observing it on our Niagara leaves, but it has appeared to a limited extent on shoots of wild grapes at our location. Continue to scout susceptible wine varieties that have yet to be harvested. The wine grape crop suffered far less damage from weather in April, and further sprays for downy mildew may be warranted to keep the ripening process in full swing and to send vines into winter in robust condition.

Tight clustered wine varieties here at the lab (Riesling, Chardonnay, Vignoles, Pinot Noir and Gris) continue to develop cluster rots, mainly [Botrytis](#), as berries try to expand and split in overcrowded clusters. The relatively dry weather has minimized the damage from rots, but if you need to apply a Botrytis specific fungicide, be aware of pre harvest intervals with these materials as they range from 0 days (Elevate) to 14 days (Endura) before harvest. Also, do your utmost to refrain from using any one

chemistry more than once per season. We have a great variety of chemistries to choose from for Botrytis control, and rotation of materials with different modes of action is important for managing the development of resistance.

Brief small project research update: In our Vignoles trial, a fourth year of data continues to show that our 4 cane, upward trained trellis system (sort of a two layered VSP) provides 20-40 % reduction in bunch rots over the high wire, no tie system, all other things being equal. In our 91 vine Concord plots, we tested the value of a single additional post bloom (second post bloom) spray for reduction in leaf powdery mildew: when compared to vines receiving no second post bloom spray, Vivando (new active ingredient excellent for powdery control) reduced mildew by 89, 53, and 37 % when evaluated 4, 7, and 10 weeks after the application, whereas Harvestmore (cheaper, not labeled for powdery mildew control) reduced mildew by 47, 19, and 8 % at those same evaluation timings. Bottom line: you get what you pay for. And finally, when comparing spray intervals (one pre bloom and two post bloom sprays applied at either 10, 15, or 20 day intervals) for powdery mildew control in Concord, the 15 day interval performed the best: it provided slightly better fruit disease control than the 10 and 20 day intervals, and provided control on leaves comparable to the 20 day interval for the Aug 3 and 24 ratings (the 10 day interval provided the least control of leaf disease because mildew on leaves did not start to develop in earnest until after the 10 day spray program was terminated). By Sep 6, there were no differences between treatments with respect to leaf disease. The poor performance of the 10 day interval for fruit disease control was unexpected; we anticipated that shorter intervals would improve control over 15 and 20 day intervals. However, we expected the longer intervals to perform better on leaf disease control, as sprays would be continued longer into the period for leaf disease development.

IN THE VINEYARD: Andy Muza

Insects

Grape Berry Moth (GBM) – Last week 25 cluster samples/site were obtained from border rows of 6 vineyard sites designated as high/severe risk for GBM. Four of the six sites had a significant number of berries injured due to GBM.

It is important to check areas that you have designated as high or severe risk for GBM to determine injury levels so that you have an idea of the effectiveness of this season's insecticide program. If there is significant injury at these sites then contact Tim Weigle and/or myself over the winter so that we can assist you in customizing a GBM management program for next season.

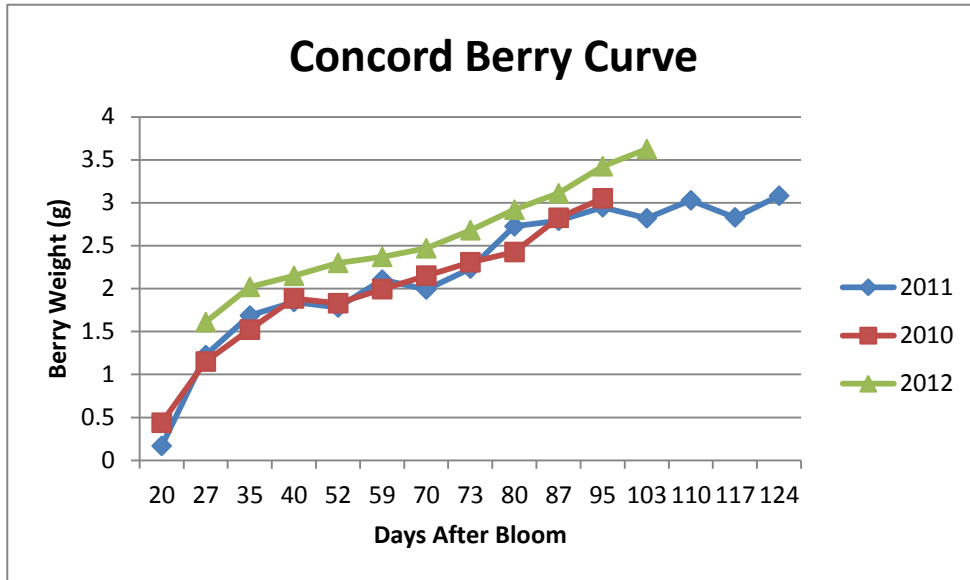
Spotted Wing Drosophila (SWD) – This season a variety of small fruits crops and grapes are being monitored for SWD. On September 1 two SWD traps were moved from small fruit crops and placed at 2 Concord sites. Traps were checked on September 10 and both traps had captured SWD. We are not sure at this point whether this new pest will pose a significant problem in Concords. However, significant infestations and economic losses have occurred in small fruit crops this season in both Pennsylvania and New York.

Brown Marmorated Stink Bug (BMSB) – over the past 2 weeks I have checked apples, strawberries, raspberries, Concord grapes and even soybeans and found no BMSB in any of these crops. We are sure that BMSB is in the Lake Erie Region but have not received any reports this season from growers

concerning this pest. During harvest if you spot BMSB at any of your sites then contact Tim or me.

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

Grape Cultural Practices



In case you have not noticed, the Concord berries are huge this year. We had a few purple 5-gram monsters in our samples this week, which bumped the average size up by quite a bit. Again, the fewer numbers of berries per cluster are thanks to the freezes earlier this year, so the fruit that is out there does not look too pretty. Things are starting to look especially iffy as the integrity of the fruit as it ripens further – berries are starting to split out there. It goes without saying (but I’ll say it anyway) that everyone is trying to get fruit off the vines quickly before shelling becomes an issue.

A quick word on weeds. Late season weed management will be critical in some vineyards this year, especially where little to no control was applied due to the dry weather. It didn’t take much rain, but many vineyards are thigh-deep in weeds – both between rows and under the row. It is essential to get that under control before vines start growing next year.

Concord Berry Weights and Diameters and Brix for ~101 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 (103 DAB)	3.03	16.01	17.8
2012 (101 DAB)	3.62	17.5	18.1

As a reminder, last week’s numbers:

2012 (94 DAB)	3.42	17.08	17.4
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[Veraison to Harvest](#)

Collections for the Veraison to Harvest newsletter have already begun! The first and second newsletters are available [here](#). As always, the fruit maturation table at the bottom of the newsletter contains berry weight, Brix, pH, TA, and YAN. Regional updates across the state of New York are also provided.

Efficient Harvest

Operating efficiently throughout harvest requires balance. Circumstances of “balance” differ, depending on the operation and yields. A few principals guide the approach most growers take, but when those issues are in conflict, balance becomes challenging. Remaining flexible and changing your operation based on yields allows for the economical harvest of lower yielding vineyards. It also allows one to remain competitive when custom harvesting by the acre.

Equipment

In many years the goal of the operator is to keep the harvester in motion, to maximize the number of acres that can be harvested with a single machine. Success allows for the justification of additional acreage, decreased labor costs and a narrower harvest window.

While some costs are entirely reasonable, at times keeping a harvester in motion can get very expensive. Equipment innovation, preventative maintenance, and equipment replacement all differ across operations. Equipment innovations, such as de-MOG units, bulk hauling, and modern harvesters have added additional capacity while reducing labor costs. The size of your operation dictates exactly how important innovation is. Of course, for many, additional capacity provides very little value. While for others, without this kind of innovation, less acreage or more harvesters would be required. A MOG makes sense when harvesting between 150 and 200 acres. Bulk hauling would be in the same vicinity, except that most processors are not equipped to take bulk deliveries. A MOG’s payback period would be much shorter, as it replaces labor costs. Bulk hauling payback is based on replacing capital expenses (boxes) as well as reduced labor cost. Newer harvesters can harvest more tons per hour and we’ve seen widespread adoption above 200 acres. The payback period on this would be the longest. However, since it is an exchange for one capital investment to another it is easier to plan than bulk hauling.

Labor

In harvest operations the use of labor varies greatly. Harvest operations can efficiently complete 50 tons per day with as few as three people. Most operations harvesting 100 – 125 tons per day use at least four individuals at a time. Others use as many as eight. This is where the amount and type of equipment are balanced by downtime and labor size. One advantage of a smaller workforce is that downtime is considerably less expensive.

Remaining flexible is particularly important. Small crop sizes allow for considerably more downtime. The efficiency of loading and hauling is far less important and justifies far less labor when there are simply fewer loads to be hauled. A typical grower might haul as many as 125 loads. 20 minutes of tying down and an additional 30 minutes of delay in loading translates to an additional 3.5 hours per day. This year, that same harvester may only haul 32 loads. The same inefficiencies in loading and tying down account for only 1.2 hours per day over a shorter season.

While the mindset of the custom harvester is to harvest as many tons as quickly as possible, some accommodation for small crops should be made. Reducing the labor costs balanced with some reasonable delay makes a lot of sense. Gross savings should be as high as \$200 per day, per employee. Reasonable delays in loading and tying down should cost less than \$50. This reduces acreage cost by nearly \$10.

When charging by the acre most growers are on the cusp of breaking even. This change in harvest style should push the more efficient growers right to the line of breaking even.

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

Mapping vine vigor with on-the-go canopy sensors

Unless you have been hiding under a rock or totally ignoring LERGP, you will be aware that we have been trialing canopy sensors this year in the Lake Erie Region. We have now put up a new webpage on the



LERGP website to help growers and industry stakeholders understand how these systems work and how they are being deployed. The [webpage](#) provides some general information on how the sensors operate and the principals behind their deployment in single top-wire sprawl systems. There is also 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 (*other commercial vineyards coming soon*). These are provided as illustrations of the variability in vigor that is being seen in the vineyards around here. 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 20, 2012

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2011 Appellation Cornell Newsletter Index:

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Veraison to Harvest newsletters: <http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm>

NY Grape & Wine Classifieds – New Address! - <http://flgclassifieds.cce.cornell.edu/>

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