Veraison to Harvest

Statewide Vineyard Crop Development Update #2

September 3, 2010

Cornell University Cooperative Extension

Edited by Tim Martinson and Chris Gerling

AROUND NEW YORK…

Statewide- Chris Gerling

May you get what you wish for.

-Ancient Curse

Thompson Seedless grown for raisins drying on the vine near Fresno, California, August 31-Photo Courtesey Tim Martinson

Like a carpool driver who has been teased for slowness one time too many, our "cool" climate has stomped on the gas pedal and stubbornly ignored all pleas for reason or caution. The most frightening aspect of the numbers in this issue is that the samples were taken on Monday afternoon and Tuesday morning. Since then, as Nigel St. Hubbins or Gavin Sacks would put it, the heat has been turned to eleven. Increases on the order of two or more degrees brix were fairly common this week, with a couple of red hybrids (Leon Millot and Noiret) up three. The first sample in 2009 and this week are about exactly a year apart, and the differences are staggering. Chardonnay and Pinot Noir are showing average pH values of 3.5, and Merlot is looking at 3.6 in the rearview mirror. It will be very important (as always) to monitor acid and flavor when sampling in 2010. The weather hasn't slowed down yet, and we don't want delicate aromas to get left in the dust.

I received an e-mail asking me to remind people about the yeast assimilable nitrogen (YAN) measurements that we're including this year. While all of the numbers in V to H are (of course) only representative of the vineyard blocks from which they came, YAN is even more variable than the rest of the data. If you see 16 brix for chardonnay in your area, it's not unreasonable to assume your fruit is somewhere close to that number. (You shouldn't, but it's not unreasonable. Nag over.) With YAN, it wouldn't be impossible for you to have half or twice the amount reported here. The moral, of course, is to always take your own samples. A short article with reminders on sampling is included in this week's issue. Finally, our thoughts are with our Long Island colleagues as they brace for the remnants of Huricane Earl. Here's to hoping all people, animals, property and crops emerge unharmed. -CJG

Lake Erie - Tim Weigle

The warm sunny weather that has dominated the 2010 growing season in the Lake Erie region appears to be taking a reprieve for the upcoming Labor Day weekend with temperatures dropping into the 60's and scattered thunderstorms forecast before rebounding a bit early next week. Harvest is starting to get into full swing with mechanical harvesters becoming a frequent site on area roads moving from one vineyard to the next. The outstanding growing season has led to harvest of early wine varieties, and "green" Concord harvests to have begun approximately two weeks earlier than average. Early season Minnesota varieties such as Marquette are continuing to be harvested. Juice processors are looking at the early Niagara harvest to begin next Wednesday, September 8.

According to Madonna Martin, Research Field Assistant at CLEREL, we have seen a rapid increase in Brix accumulation (average of 2.55) in hybrid varieties being tested as part of the hybrid berry curve project with Traminette at 19.9 Juice Soluble Solids, an increase of 3.7 Brix over last weeks reading. For information on the progression of how the Concord crop is ripening toward an early harvest check out Terry Bates update in this newsletter.

The warm temperatures of the 2010 growing season have also brought about the possibility of a partial fourth generation of grape berry moth and the scattered thunderstorms will increase the opportunity for downy mildew infections to continue in susceptible varieties. While 2010 has provided conditions that have limited populations of disease and insect pests in the majority of vineyards it also has presented some new late season challenges for growers. Selective harvesting of vineyards with a history of grape berry moth damage is a management tool being considered by growers of juice and wine grapes alike.

Long Island - Alice Wise and Libby

Tarleton

After working furiously to get the last of the nets on the previous week growers have almost finished picking for sparkling and have begun evaluating the progression of some of the earlier ripening whites and reds. Particularly the smaller clustered Dijon clones of Chardonnay, Pinot Grigio and Pinot Noir. As of September 1 we are at 2960 GDD, this is well ahead of 2009 which was only 2395 on the same date and 2495 in 2008. We had our annual Plant Science Day here at the research lab this week and growers were able to taste the new varieties that we planted over the last several years in the research vineyard. It's a welcome reprieve before the days of harvest to talk with other growers and either commiserate over the season as was the case last year or celebrate the season so far this year. Everyone agreed that the fruit looks fantastic and can only hope that the approaching hurricane Earl and future storms are kept at bay.

Finger Lakes - Hans Walter-Peterson

Like the rest of the state, the Finger Lakes has been hot and dry over the past week, with temperatures pushing 90°F since Monday, which is about 15° above normal for this time of year. Our growing degree day (GDD) accumulation at this point is about 5 weeks ahead of the long term average, and on par with 1991, our warmest growing season over the past 35 years or so. Growers and wineries continue to be cautiously optimistic about the potential quality of this year's crop, always knowing how things can change quickly in this environment. To illustrate just how different this year's season is from last year - as of August 31, 2010, we had accumulated 2413 GDD at Geneva. As of October 31, 2009 (which is when we stop counting GDD), we had accumulated 2311 GDD. With apologies to Dickens, it tells a tale of two vintages.

Most fruit continues to remain pretty clean, thanks at least in part to this week's weather. The rains that are forecast this weekend may actually be helpful in some vineyards with very well drained or shallow soils, some of which are starting to show signs of drought stress.

Several winemakers have commented that they don't ever recall bringing in grapes in August before this year. A few wineries on Seneca Lake started picking Chardonnay and Pinot noir for sparkling wine early this week, and Niagaras and Diamonds are being harvested as well. Constellation continued to bring in Elvira this week, along with Ventura. Some other hybrid varieties like Seyval, Cayuga and Baco noir will probably start being picked by the end of this week or early next week, if they haven't already. Harvest of early Concords is scheduled to start after the Labor Day holiday as well. It wouldn't be surprising to also see Chardonnay being picked for still wine next week.

Hudson Valley - Steven McKay & Steve Hoying

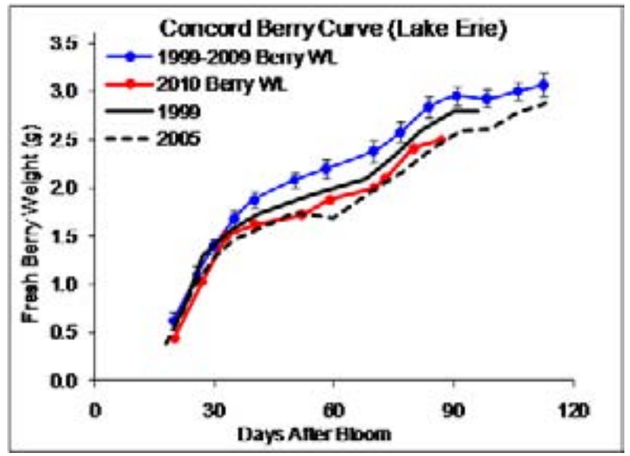
Hot humid weather with no rain has predominated in the Hudson Valley this week. Predictions show that rain is not expected from the hurricane. This has allowed fruit to continue ripening well ahead of normal.

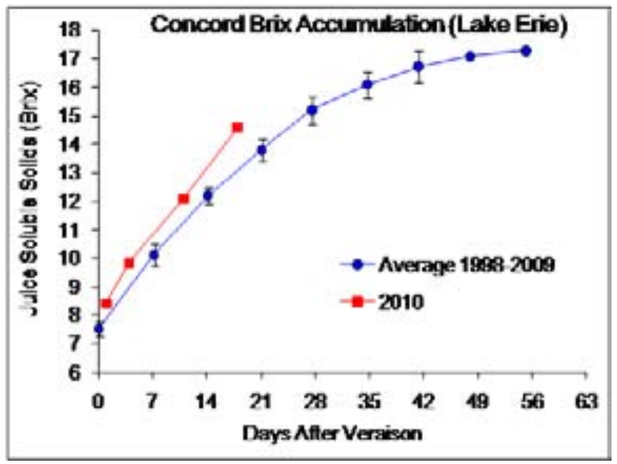
Growers need to be monitoring the development and brix readings of even the midseason varieties, which are nearing ripening. At the Hudson Valley Lab, Foch and Merlot have achieved readings of between 23 and 25 brix. Chardonnay has been harvested for sparkling wine with perfect readings: 19 brix, 3.24 pH, and 8.5 g acid/l. About 1-2% Botrytis was observed in Chardonnay, and there was more in crops that were not sprayed. Leaf-shaded clusters were more infested with Botrytis than were vines with proper leaf thinning. This illustrates the benefit of early leaf pulling. The mildews have not been a problem in general this year. Seyval is projected to be ready for harvest on Monday, and Cayuga White by the end of the week. Pinot Noir will also be ready very soon.

Lake Erie Concord Ripening Profile

Terry Bates
Cornell Lake Erie Research and Extension Laboratory

Small berries – high Brix. Not much else to say.





Fruit Maturation Report: 9/3/2010

Samples reported here were collected on Monday, August 30, 2010. The data from last week is also presented as "Prev Sample." Where appropriate, sample data from 2009, averaged over all sites, is included. Last week's issue, as well as all back issues from previous years, can be found at: http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm

Cabernet Franc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca	1.39	18.3	3.42	8.76	49.8
Finger Lakes	8/30/2010	E Seneca	1.26	15.8	3.22	11.42	35.9
Finger Lakes	8/30/2010	W Cayuga	1.46	16.6	3.29	12.08	100.4
Finger Lakes	8/30/2010	E Seneca	1.48	15	3.35	10.00	60.1
Finger Lakes	8/30/2010	W Cayuga	1.47	15.7	3.28	12.71	96.7
Hudson Valley	8/30/2010	HV Lab	1.41	18.3	3.73	6.64	162.1
Lake Erie	8/30/2010	Fredonia	1.49	18.8	3.38	9.19	63.5
Long Island	8/30/2010	N Fork	1.63	17.2	3.57	10.85	71.4
Average	*8/30/2010*		*1.45*	*17.0*	*3.41*	*10.2*	*80*
Prev Sample	*8/23/2010*		*1.41*	*15.1*	*3.28*	*11.8*	*53*
'09 Average	*8/31/2009*		*1.27*	*11.3*	*2.98*	*24.4*	

Cabernet Sauvignon

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	8/30/2010	Fredonia	1.29	19.0	3.34	11.1	90
Prev Sample	*8/23/2010*		*1.24*	*16.9*	*3.22*	*13.9*	*126*

Catawba

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Cayuga	2.11	12.0	3.13	18.1	196
Prev Sample	*8/23/2010*		*2.02*	*9.8*	*2.94*	*28.0*	*147*
'09 Sample	*8/31/2009*		*2.34*	*7.0*	*2.88*	*36.6*	

Cayuga White

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Keuka	2.95	15.2	3.26	13.2	188
	8/30/2010	W Cayuga	2.87	15.5	3.34	11.0	214
Average	*8/30/2010*		*2.91*	*15.4*	*3.30*	*12.1*	*201*
Prev Sample	*8/23/2010*		*2.85*	*14.8*	*3.30*	*12.1*	*228*
'09 Sample	*8/31/2009*		*2.40*	*10.4*	*2.99*	*19.8*	

Chardonnay

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca - Shoot Th	1.56	17.7	3.33	11.7	242
	8/30/2010	W Seneca - No Thin	1.47	17.3	3.35	11.1	232
	8/30/2010	W Cayuga	1.42	16.9	3.26	12.6	205
Hudson Valley	8/30/2010	HV Lab	1.31	20.8	3.82	6.6	281
Long Island	8/30/2010	N Fork		18.8	3.60	7.9	243
	8/30/2010	N Fork	1.56	17.3	3.75	7.8	205
Average	*8/30/2010*		*1.46*	*18.1*	*3.52*	*9.6*	*235*
Prev Sample	*8/23/2010*		*1.46*	*16.8*	*3.39*	*10.8*	*208*
'09 Average	*8/31/2009*		*1.43*	*12.2*	*3.08*	*19.4*	

Concord

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Keuka	3.05	11.9	3.31	10.3	116
Prev Sample	*8/23/2010*		*2.59*	*9.8*	*3.13*	*18.3*	*150*
'09 Sample	*8/31/2009*	*Cayuga Lake*	*2.81*	*7.5*	*2.84*	*26.7*	

Corot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Cayuga	2.10	14.7	3.35	10.8	149
Prev Sample	*8/23/2010*		*2.11*	*13.5*	*3.27*	*12.9*	*135*
Average	*8/31/2009*		*1.67*	*9.6*	*2.98*	*24.4*	

Delaware

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Lake Erie	8/30/2010	Portland Lab	1.47	18.4	3.40	10.9	147
Prev Sample	*8/23/2010*		*1.43*	*15.9*	*3.28*	*13.5*	*143*

Lemberger

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca	1.89	19.8	3.29	10.4	67
Prev Sample	*8/23/2010*		*1.86*	*17.5*	*3.18*	*12.0*	*61*

Leon Millot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Keuka - Shoot Thin	0.74	25.1	3.33	14.9	148
	8/30/2010	W Keuka - No Thin	0.76	26.4	3.38	13.4	93
Average	*8/30/2010*		*0.75*	*25.8*	*3.36*	*14.1*	*121*
Prev Sample	*8/23/2010*		*0.89*	*22.9*	*3.29*	*14.7*	*106*
'09 Average	*8/31/2009*		*0.83*	*17.6*	*3.05*	*25.9*	

Merlot

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Hudson Valley	8/30/2010	HV Lab	1.36	18.6	3.73	6.9	158
Long Island	8/30/2010	N Fork	1.87	19.9	3.70	6.4	139
	8/30/2010	N Fork	1.98	16.6	3.51	10.5	155
Average	*8/30/2010*		*1.73*	*18.4*	*3.65*	*8.0*	*150*
Prev Sample	*8/23/2010*		*1.59*	*16.8*	*3.46*	*9.3*	*136*
'09 Average	*8/31/2009*		*1.88*	*12.0*	*3.13*	*17.1*	

Noiret

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca	1.92	13.6	3.21	13.5	98
	8/30/2010	W Seneca	1.49	17.4	3.25	10.3	114
Hudson Valley	8/30/2010	HV Lab	1.53	19.0	3.69	7.5	257
	8/30/2010	W HV	1.77	17.5	3.34	16.4	104
Lake Erie	8/30/2010	Fredonia	1.54	18.0	3.32	10.8	124
Average	*8/30/2010*		*1.65*	*18.2*	*3.45*	*11.6*	*162*
Prev Sample	*8/23/2010*		*1.51*	*15.2*	*3.25*	*13.5*	*140*
'09 Average	*8/31/2009*		*1.55*	*11.4*	*3.01*	*21.2*	

Pinot Noir

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca	1.36	18.4	3.33	10.97	107.8
Hudson Valley	8/30/2010	HV Lab	1.36	20.9	3.74	8.0	226
	8/30/2010	Hudson Valley	-	-	-	-	-
Average	*8/30/2010*		*1.36*	*19.7*	*3.54*	*9.5*	*167.2*
Prev Sample	*8/23/2010*		*1.40*	*17.9*	*3.49*	*9.3*	*169*
'09 Average	*8/31/2009*		*1.77*	*14.6*	*3.16*	*13.4*	

Riesling

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Seneca - LR, sht thin	1.32	17.3	3.17	13.6	40
	8/30/2010	W Seneca – NLR, No thin	1.20	16.6	3.12	15.0	14
	8/30/2010	E Seneca	1.43	16.6	3.11	15.8	93
	8/30/2010	E Seneca-shoot thin	1.35	17.0	3.17	14.8	39
	8/30/2010	E Seneca - no thin	1.16	16.3	3.15	15.3	38
	8/30/2010	W Cayuga	1.32	15.4	3.14	17.7	197
	8/30/2010	W Cayuga	1.54	13.2	3.14	16.9	204
Hudson Valley	8/30/2010	HV Lab	1.56	17.8	3.56	8.4	180
Lake Erie	8/30/2010	Fredonia	1.38	16.3	3.24	12.1	90
Long Island	8/30/2010	N Fork	1.49	15.6	3.39	18.0	68
Average	*8/30/2010*		*1.38*	*16.2*	*3.22*	*14.8*	*96*
Prev Sample	*8/23/2010*		*1.32*	*14.2*	*3.14*	*16.3*	*108*
'09 Average	*8/31/2009*		*1.14*	*8.3*	*2.96*	*31.5*	

Sauvignon Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Long Island	8/30/2010	N Fork	1.88	17.1	3.54	17.0	202
Prev Sample	*8/23/2010*		*1.73*	*16.9*	*3.39*	*11.8*	*188*
'09 Sample	*8/31/2009*		*1.50*	*10.2*	*2.92*	*29.3*	

Seyval Blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Cayuga - clus, sh th	1.84	20.2	3.43	10.2	176
	8/30/2010	W Cayuga - no clus, no th	1.77	19.7	3.40	9.6	173
Hudson Valley	8/30/2010	HV Lab	1.27	16.4	3.61	7.6	160
	8/30/2010	W HV	1.68	16.8	3.39	9.9	171
Average	*8/30/2010*		*1.64*	*18.3*	*3.46*	*9.3*	*170*
Prev Sample	*8/23/2010*		*1.63*	*17.2*	*3.36*	*9.7*	*144*
'09 Average	*8/31/2009*		*1.94*	*14.3*	*3.15*	*12.4*	

Traminette

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Keuka - Shoot Thin	1.67	14.2	3.04	18.7	146
	8/30/2010	W Keuka - No Thin	1.59	13.9	3.08	18.5	130
Hudson Valley	8/30/2010	HV Lab	1.69	19.0	3.52	8.0	173
	8/30/2010	W HV	1.43	19.0	3.46	14.9	60
Lake Erie	8/30/2010	Fredonia	1.65	18.9	3.23	11.0	56
Average	*8/30/2010*		*1.61*	*17.0*	*3.27*	*14.2*	*113*
Prev Sample	*8/23/2010*		*1.55*	*13.8*	*3.14*	*15.7*	*73*
'09 Average `	*8/31/2009*		*1.35*	*5.9*	*2.94*	*33.0*	`

Vidal blanc

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	E Seneca	1.49	16.2	3.24	13.8	103

Vignoles

Region	Harvest Date	Description	Ber. Wt. g.	% Brix	pH	TA g/L	YAN (ppm)
Finger Lakes	8/30/2010	W Keuka-VSP, Shoot thin	1.62	18.5	3.16	17.6	246
	8/30/2010	W Keuka-VSP, No Thin	1.55	17.7	3.19	17.5	197
	8/30/2010	W K high cordon, sht thin	1.53	20.5	3.20	18.0	214
	8/30/2010	W K-high cordon, no thin	1.45	20.4	3.27	15.8	222
Average	*8/30/2010*		*1.54*	*19.3*	*3.21*	*17.2*	*220*
Prev Sample	*8/23/2010*		*1.58*	*16.8*	*3.17*	*17.1*	*206*
'09 Average	*8/31/2009*		*1.07*	*12.2*	*2.97*	*24.4*	

Thoughts on Sampling and Harvest Decisions

Chris Gerling

Hamlet: To pick, or not to pick- that is the question:
Whether 'tis nobler in the mind to suffer
The storms and fungi of outrageous fortune
Or to take arms against a sea of hybrids
And by some crushing end them.

Pelonius: Quit whining and go get a sample.
(Excerpted from Hamlet II: Revenge of the Chiller Compressor)

Berry sampling is the way that most of us get information about the relative ripeness of the grapes in question, and the eternal challenge is getting representative, consistent samples. We know that the numbers are not the whole story, but the numbers are a relatively objective measure that we can all talk about. Regular measurements (weekly or at some consistent interval) are also helpful as an indicator of how ripening is progressing. Here are a few tips for getting results that might mean something:

- Consistency is key. Try to have the same person using the same method at the same time of day. Maybe you're a little high or low compared to the "real" levels, but you stand a better chance of accurately reflecting the week-to-week changes.

- Morning, after dew is dry but before lots of hot sun, is generally thought to be a pretty good time (it's probably more important to be consistent than at any particular time, though). People generally use the high precision tool kit of gallon size sealable plastic bags and coolers with cold packs. Using sealable (zip top) bags becomes very important to the person who is squishing the samples by hand.

- Larger samples are better than smaller samples. We know that. But samples with larger berries are not better than samples with smaller berries, especially if the vineyard block doesn't skew that way. We want the largest sample that can be reasonably gathered in a representative way. Think hundreds as opposed to tens (or, heaven forbid, ones) of berries.

- Walk the vineyard. Skip the end rows and move around enough that the entire block is being represented. End rows and panels can be influenced by drifting sprays from other blocks, dust from nearby roads, leftover Chardonnay vines planted into the Cab Franc, etc. Also, the more time you spend in the rows, the better equipped you are to notice changes of any kind.

- Most people recommend sampling blind. The idea is not to look at the vine while picking the berries (or clusters). However, not looking should be combined with awareness of:

- Vine and cluster positioning. The position of the cluster on the vine and the berry in the cluster will influence the result. In the protocol given for the Veraison to Harvest project, samplers are asked to pick 3 berries top or mid-cluster for every 1tip berry. Mark Chien at Penn State prefers whole cluster sampling because now you've eliminated the cluster position problem.

As I said earlier, numbers are not the whole story. There are other considerations that will indicate that the berries are becoming mature. Visual cues like browner stems, looser, softer berries and the presence of birds and bees (they're not stupid) can complement regular tasting to determine maturity. When tasting, take note of the condition of the skins and how they break down, the color and texture of the seeds, etc. In a year like 2010 where we're seeing such advanced numbers so soon, it makes sense to pay special attention to pH and TA. Some varieties and styles may benefit from retaining acid (it can be added back if necessary, however). Above pH 3.5, microbial stability is lost and the amount of SO_2 required for adequate molecular protection increases.

Bruce Giles and Son of Rainbow Vineyards in Lockport, NY netting table grapes for protection against bird damage. Photo Courtesy of Tim Weigle

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Veraison to Harvest is a joint publication of:

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Statewide Viticulture Extension Program

Long Island Grape Program

Finger Lakes Grape Program

Lake Erie Regional Grape Program

Hudson Valley Regional Fruit Program

The warm, relatively dry growing season has provided perfect conditions for wasps and hornets. Hornet nests are being found more often within the grape canopy this season. Photo Courtesy of Tim Weigle