

Le Vigneron

A newsletter for the grape growers and wine makers of Oklahoma

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Editor:

- Eric T. Stafne



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Farewell My Friends and Colleagues

In case you didn't already know by reading my blog or by some other method, I am leaving my position at Oklahoma State University to take a similar position at Mississippi State University. My final day at OSU is October 14 and I start at MSU on November 1. I realize that leaves a gap in viticulture research and extension at OSU. It is our sincere hope that the position can be filled in the future, although that is not a guarantee. The industry must show their desire to have the position filled. There is a lot to be positive about right now in the industry, so a show of need is important. Leaders within the Oklahoma grape and wine industry must interact with OSU administration and demonstrate a show of confidence and resources to impress upon them that the position needs to be refilled. The pulse of the university system right now is this — can a new hire generate funding to sustain their program? If the answer is no, then there is no hope that the position will be refilled. If the answer is yes, then chances are considerably better. I believe right now it looks very good for funding possibilities within Oklahoma for viticulture research and extension; however, I also believe the industry needs to put up some dollars to make this happen. More than anything it is a show of support and it doesn't need to be big money, but rather a consistent stream from year to year to show administration that the industry is serious. OSU has invested a lot of money in the Oklahoma grape and wine industry and we have gotten good results so far. Keep it up.

2011 OSU Grape Management Short Course Update

Eric T. Stafne

The OSU GMSC finished off in September by visiting The Venue at Redstone run by George and Ann Nemecek and Tres Suenos Winery run by Richard and Rose Kennedy. Both Ann and Richard were gracious hosts. At Redstone, William McGlynn gave his sensory demonstration talk, which is always a favorite of the class. Richard gave us a full tour of his operation, complete with a history and current update on the vineyard situation. Later we tasted his wines. After that the class was finished for another year. No worries about next year, the class will continue! Keep an eye on the website for more information later in the year.

eViticulture.org Social Media

Eric T. Stafne

Our eViticulture project continues to improve as we have recently launched a Facebook page. You can find it here: <http://www.facebook.com/pages/eViticulture/269410903077071>

We also post information and news on Twitter, so you can keep up with the latest in viticulture information. You can find that here: <http://twitter.com/#!/eViticulture>. We have folks from all over the world following us right now and we have only been doing this a few months!

If you prefer a more visual learning experience, visit our YouTube channel. There you can find all kinds of great videos on topics like pruning, diseases, spraying, and other viticulturally related material. You can find it here: <http://www.youtube.com/eViticulture#p/f>

In the coming months we will be adding a blog section to our site and other new, exciting materials. Keep an eye on the site for upcoming changes and enhancements. We now have a membership of over 70 with 30 states and Canada represented. Some of the best viticulturists in the world are members of our community and they are there to bring their knowledge to you in an online format. So, visit <http://eviticulture.org/> for more information. You can also directly access all kinds of articles on viticulture at <http://www.extension.org/grapes>, our eXtension partner site.

Opinion Points — Industry Direction

Eric T. Stafne

- Continue to partner with those who have the best interest of the industry as a whole in mind
- Make good use of opportunities such as the Oklahoma Viticulture and Enology Revolving Fund to enhance the industry
- Learn from surrounding states on what works for them and what does not
- Monitor the national landscape of the grape and wine industry. Believe it or not the happenings outside of Oklahoma can and do affect the industry here.
- Growers and wineries need to stick together and have a united front for legislators and others who have a hand in shaping the direction of the industry
- Keep an open mind to hybrid grapes. Some of them produce very good quality grapes and wine
- Get involved with the state organization that you believe is best representing you. Not only that, but provide some leadership. Strong industry leaders that work well with others and have a genuine desire to see the industry flourish will help Oklahoma's grape and wine industry succeed.
- No one knows everything about viticulture, so further education is crucial to being successful
- Taste lots of different kinds of wine and learn what makes them good (or bad)
- Communication is the real key to having a cohesive group within the state. Emails, newsletters, websites, social media, etc. all can enhance the membership of any state organization
- Take pride in your efforts — develop awards for vineyard growers and winemakers so that they can be recognized by their peers.
- Beware of Charlatans.

Variety Trial Results from Perkins

Eric T. Stafne

In this issue I will present some of the results from our Perkins trials. The data itself is nice to see, but without interpretation it can be misleading, therefore I will try to give some perspective to each table presented here. The tables below look at some phenology data, specifically that of budbreak timing. We took budbreak ratings when vines were at 50% budbreak. You can see that using 1103P rootstock delayed the budbreak date, sometimes by a day and sometimes more. Another advantage of using a rootstock (although all may not cause the same effect). We consider the frost-free date in Perkins around April 15. The closer we get to that date the better. There is considerable variation from year to year in budbreak date.

Effect of Variety on Average Budbreak Date - Grafted 1103P, Replicated Wine Grape Variety Trial - Perkins, OK, 2007-2010

Variety	Average Budbreak	Budbreak for 2007	Budbreak for 2008	Budbreak for 2009	Budbreak for 2010
Chardonnay ¹	30-Mar	20-Mar	9-Apr	29-Mar	2-Apr
Sangiovese ²	31-Mar	22-Mar	13-Apr	29-Mar	1-Apr
Viognier ¹	3-Apr	17-Mar	18-Apr	3-Apr	5-Apr
Cabernet Franc ²	3-Apr	23-Mar	14-Apr	4-Apr	2-Apr
Merlot ²	4-Apr	26-Mar	16-Apr	4-Apr	4-Apr
Shiraz ²	6-Apr	26-Mar	20-Apr	6-Apr	5-Apr
Pino Gris ²	5-Apr	24-Mar	17-Apr	5-Apr	6-Apr
Petit Verdict ²	5-Apr	28-Mar	16-Apr	3-Apr	6-Apr
Malbec ²	8-Apr	29-Mar	21-Apr	6-Apr	9-Apr
Ruby Cabernet ²	7-Apr	28-Mar	19-Apr	6-Apr	6-Apr
Cynthiana ³	7-Apr	31-Mar	17-Apr	.	6-Apr
Cabernet sauvignon ²	10-Apr	31-Mar	21-Apr	.	10-Apr

Effect of Variety on Average Budbreak Date - ownrooted, Replicated Wine Grape Variety Trial - Perkins, OK, 2007-2010

Variety	Average Budbreak	Budbreak for 2007	Budbreak for 2008	Budbreak for 2009	Budbreak for 2010
Chardonnay ¹	28-Mar	19-Mar	9-Apr	23-Mar	1-Apr
Sangiovese ²	30-Mar	22-Mar	11-Apr	27-Mar	1-Apr
Viognier ¹	2-Apr	21-Mar	15-Apr	1-Apr	3-Apr
Cabernet Franc ²	2-Apr	21-Mar	14-Apr	2-Apr	2-Apr
Merlot ²	31-Mar	22-Mar	9-Apr	2-Apr	1-Apr
Shiraz ²	5-Apr	24-Mar	18-Apr	6-Apr	6-Apr
Pino Gris ²	3-Apr	23-Mar	13-Apr	4-Apr	3-Apr
Petit Verdict ²	3-Apr	23-Mar	13-Apr	3-Apr	5-Apr
Malbec ²	4-Apr	22-Mar	16-Apr	6-Apr	6-Apr
Ruby Cabernet ²	6-Apr	25-Mar	17-Apr	6-Apr	7-Apr
Cynthiana ³	7-Apr	31-Mar	18-Apr	.	5-Apr
Cabernet sauvignon ²	9-Apr	29-Mar	21-Apr	.	9-Apr
Chambourcin ⁴	5-Apr	29-Mar	14-Apr	6-Apr	5-Apr

Variety Type - 1-Vitifera, white; 2-Vitifera, red; 3-American, red; 4-American, white; 5-Hybrid, red; 6-Hybrid, white

Variety Trial Results from Perkins, cont.

Eric T. Stafne

The table below is for harvest date of own-rooted varieties. As you can see the dates of harvest varied from year-to-year. In a hot year (2006) harvest was earlier than a cooler year (2007) in some cases up to a month or more. In general the white grapes were earlier than the reds. A serious issue we deal with is the timing of fruit maturation and harvest — during the hottest time of the year. This timing, unfortunately, can negatively affect some of the fruit quality characteristics, especially acid levels and anthocyanins. Research is being done in California at Fresno State to look at cultural manipulation of the vine to delay harvest. Early results seem promising for some varieties, but not others.

2004-2010 Harvest Date, own rooted								
Variety	Avg	2004	2005	2006	2007	2008	2009	2010
Cabemet Franc	12-Sep	30-Aug	7-Sep	28-Aug	27-Sep	24-Sep	9-Sep	21-Sep
Cabemet sauvignon	14-Sep	5-Sep	1-Sep	28-Aug	27-Sep	1-Oct	21-Sep	22-Sep
Chambourcin	25-Aug	20-Aug	29-Aug	15-Aug	3-Sep	28-Aug	24-Aug	25-Aug
Chardonnay	24-Aug	13-Aug	18-Aug	4-Aug	13-Sep	3-Sep	26-Aug	3-Sep
Cynthiana	3-Sep	20-Aug	8-Sep	22-Aug	4-Sep	8-Sep	27-Aug	29-Sep
Malbec	7-Sep	2-Sep	30-Aug	22-Aug	13-Sep	19-Sep	10-Sep	15-Sep
Merlot	5-Sep	7-Sep	31-Aug	4-Aug	13-Sep	29-Sep	3-Sep	15-Sep
Petit Verdot	2-Sep	1-Sep	31-Aug	22-Aug	13-Sep	8-Sep	28-Aug	7-Sep
Pinot Gris	13-Aug	11-Aug	15-Aug	25-Jul	23-Aug	17-Aug	22-Aug	11-Aug
Ruby Cabemet	7-Sep	8-Sep	1-Sep	22-Aug	27-Sep	22-Sep	9-Sep	26-Aug
Sangiovese	3-Sep	7-Sep	29-Aug	8-Aug	13-Sep	19-Sep	29-Aug	13-Sep
Shiraz	31-Aug	31-Aug	30-Aug	28-Jul	13-Sep	8-Sep		15-Sep
Viognier	15-Aug	11-Aug	19-Aug	28-Jul	23-Aug	22-Aug	14-Aug	23-Aug

The next table shows the harvest dates when the varieties (except for Chambourcin) are on rootstock 1103P. In many cases the harvest date was not greatly affected by the rootstock. This does not mean that other factors are not influenced by the rootstock though. We did not have any Chambourcin on 1103P in this trial so I do not have that data. The table follows on the next page.

Variety Trial Results, cont.

Eric T. Stafne

2003-2010 Harvest Date, Grafted 1103P rootstock									
Variety	Avg	2003	2004	2005	2006	2007	2008	2009	2010
Cabernet Franc	9-Sep	28-Aug	30-Aug	7-Sep	22-Aug	27-Sep	24-Sep	9-Sep	21-Sep
Cabernet sauvignon	12-Sep	26-Aug	5-Sep	1-Sep	28-Aug	27-Sep	1-Oct	21-Sep	22-Sep
Chardonnay	23-Aug	14-Aug	13-Aug	18-Aug	4-Aug	13-Sep	3-Sep	26-Aug	3-Sep
Cynthiana	1-Sep	19-Aug	20-Aug	8-Sep	22-Aug	4-Sep	8-Sep	27-Aug	29-Sep
Malbec	5-Sep	25-Aug	2-Sep	30-Aug	22-Aug	13-Sep	19-Sep	9-Sep	15-Sep
Merlot	3-Sep	22-Aug	7-Sep	31-Aug	4-Aug	13-Sep	28-Sep	3-Sep	15-Sep
Petit Verdot	31-Aug	21-Aug	1-Sep	31-Aug	22-Aug	13-Sep	8-Sep	28-Aug	7-Sep
Pinot Gris	11-Aug	13-Aug	11-Aug	9-Aug	25-Jul	23-Aug	11-Aug	22-Aug	11-Aug
Ruby Cabernet	6-Sep	26-Aug	8-Sep	1-Sep	28-Aug	27-Sep	23-Sep	9-Sep	26-Aug
Sangiovese	1-Sep	26-Aug	7-Sep	29-Aug	8-Aug	13-Sep	14-Sep	28-Aug	10-Sep
Shiraz	31-Aug	25-Aug	31-Aug	30-Aug	28-Jul	13-Sep	8-Sep	10-Sep	13-Sep
Viognier	14-Aug	8-Aug	11-Aug	19-Aug	28-Jul	23-Aug	22-Aug	14-Aug	22-Aug

The following table is for yields of own-rooted vines. Interpretation on next page.

2004-2010 Weight/acre (lbs) 453 plts/a, own rooted									
Variety	Avg	2004	2005	2006	2007	2008	2009	2010	
Cabernet Franc	4,656	5,014	9,139	4,236	430	3,624	3,296	6,854	
Cabernet sauvignon	5,846	6,489	12,673	7,826	1,065	3,832	1,687	7,352	
Chambourcin	12,042	16,852	17,644	8,975	6,195	10,655	7,327	16,643	
Chardonnay	4,008	3,751	8,641	3,601	747	5,354	1,133	4,824	
Cynthiana	7,349	2,752	8,041	5,968	7,089	8,670	6,591	12,331	
Malbec	3,661	7,361	6,427	4,417	264	1,914	1,982	3262	
Merlot	8,303	12,458	18,924	8,754	1,518	6,596	1,608	8,263	
Petit Verdot	1,817	849	4,870	2,605	113	1,880	1,227	1178	
Pinot Gris	5,262	4,632	10,159	5,006	2,571	6,401	861	7,203	
Ruby Cabernet	5,720	6,441	8,664	6,993	1,382	4,892	3,327	8,341	
Sangiovese	6,750	5,625	13,401	4,643	725	6,721	3,369	12,763	
Shiraz	5,121	2,850	6,753	12,911	1,099	408		6,704	
Viognier	6,889	6,795	13,783	5,221	2,593	3,298	2,591	13,941	

Variety Trial Results, cont.

Eric T. Stafne

As you can clearly see by the harvest numbers there is a difference between 2005 and 2006. This is attributed to two factors: one, a late fall cold event caused some damage to vines and two, a different pruning strategy was employed to reduce overcropping. Vines were overcropped in 2005 and thus we went to leaving no more than 50 buds per vine on a spur-pruning system. For the most part for 2006 yields were more or less in line with expectations with a little reduction due to the freeze for some varieties. The Easter freeze of 2007 had some devastating effects on a number of varieties with only Chambourcin and Cynthiana producing commercially viable harvest yields. Remember that 2000 lbs is equal to a ton. Some varieties did not recover until 2010 with commercial yield levels and others never did by the end of the trial (Petit Verdot and Malbec). Also, harvest yields and fruit quality are not necessarily equal to look to the next few pages for more on fruit quality.

The next table shows the same varieties on 1103P.

2003-2010 Weight/acre (lbs) 453 pnts/a, Grafted 1103P rootstock									
Variety	Avg	2003	2004	2005	2006	2007	2008	2009	2010
Cabernet Franc	12,002	12,903	18,960	24,066	12,420	963	6,485	9,362	10,857
Cabernet sauvignon	6,439	10,930	9,196	14,881	8,347	1,280	1,703	1,348	3,828
Chardonnay	7,322	6,073	11,993	19,343	9,083	1,087	5,182	1,552	4,258
Cynthiana	7,676	2,382	3,601	12,242	5,255	8,460	8,911	6,829	13,730
Malbec	3,816	6,583	7,475	10,544	2,254	1,133	604	691	1,246
Merlot	9,952	10,035	15,595	21,982	7,826	2,356	6,732	5,196	9,894
Petit Verdot	9,729	7,172	12,797	20,929	11,268	5,006	8,978	6,161	5,518
Pinot Gris	7,269	3,508	10,193	20,314	8,621	3,511	6,636	2,027	3,341
Ruby Cabernet	13,777	13,874	20,623	21,993	17,916	4,247	8,929	7,633	15,003
Sangiovese	10,736	16,068	13,318	26,863	10,759	1,511	6,886	2,265	8,217
Shiraz	9,283	13,148	18,652	20,328	14,711	1,382	788	861	4,394
Vignier	9,744	9,096	17,361	22,140	7,078	3,556	4,548	3,092	11,080

As you can see, yields are far greater on this rootstock for most varieties; however, not all (see Cynthiana, Merlot). Overall, the varieties on a rootstock performed much better. Overall vine survival was far better on a rootstock than without. Recovery after the 2007 freeze was better and some vines even had commercially viable yields in 2007. I believe the early overcropping of Shiraz led to its poor performance after the freeze. I will say this for Shiraz — it is a survivor. It keeps coming back, but with 3 essentially unharvestable years out of 9 and 1 borderline year, that is not good. One thing not included in these tables is 2011 results. The reason for this is because there was little to no harvestable fruit for any variety and many vines died (especially Chardonnay and Merlot). So far we have looked at the yield data, but now let's take a look at some of the fruit quality parameters.

Variety Trial Results, cont.

Now, let's take a look at sugars (Brix). There is no data for 2010 because we had some issues with lab equipment, but the other years are just as representative. Overall what we see on own-rooted vines is that the soluble solid levels are acceptable in most cases. Some of the reds we would like to see higher levels, closer to 24 but certainly 21-22 is decent. Sugar levels were depressed in 2007 due to the freeze, but also because of the cooler year and significant rainfall that summer.

2004-2010 Avg °Brix (S.S.), own rooted								
Variety	Avg	2004	2005	2006	2007	2008	2009	2010
Cabernet Franc	22.0	23.6	19.8	23.8	19.9	22.9	21.7	.
Cabernet sauvignon	21.0	23.0	20.5	22.3	18.1	20.8	21.2	.
Chambourcin	22.1	21.5	22.1	23.8	20.3	22.6	22.5	.
Chardonnay	20.9	20.5	19.3	21.7	20.1	22.1	21.6	.
Cynthiana	21.4	21.1	21.1	20.2	21.0	22.7	22.6	.
Malbec	20.3	22.1	20.6	20.0	.	19.4	19.3	.
Merlot	21.5	25.1	20.1	23.9	18.1	21.0	20.6	.
Petit Verdot	22.3	23.5	20.0	24.0	.	22.7	21.2	.
Pinot Gris	19.1	18.8	17.8	19.8	19.2	20.0	19.1	.
Ruby Cabernet	21.5	23.7	20.6	22.7	16.8	20.9	24.2	.
Sangiovese	20.6		19.4	20.4	19.2	22.5	21.4	.
Shiraz	19.5	21.2	17.9	21.3	17.5	.	.	.
Viognier	20.0	16.8	16.9	21.6	21.8	20.3	22.7	.

The table on the next page takes a look at these varieties on 1103P. What kind of changes in sugar levels do we expect to see? I would expect to see some kind of positive bump in some of the varieties and in others no change. Because we are only looking at one rootstock there will be a rootstock x variety interaction, meaning that not all varieties react the same way to being on a particular rootstock. If we had other rootstocks we would see different outcomes. Keep in mind that generally acceptable ranges for Brix is 19-22 for white grapes and 22-24 for reds. These are just ballpark numbers and other factors (as we will see in the next few pages) are involved in making an acceptable wine. So far we have looked at yields and sugars and they look like they are in the are generally accepted range.

Variety Trial Results, cont.

Below is the brix for varieties on 1103P. In some cases there was an uptick in sugar levels and in others not much difference. In looking at this I would say that Malbec is of concern because it never regularly achieved the brix levels we would like to see. Most of the others are in the range of acceptability in most years. Again, 2007 was somewhat of an anomaly. To see where the “rubber really hits the road” see the pH table below.

2003-2010 Avg °Brix (S.S.), Grafted 1103P rootstock									
Variety	Avg	2003	2004	2005	2006	2007	2008	2009	2010
Cabemet Franc	22.0	22.5	23.5	20.9	24.5	17.4	23.8	21.3	.
Cabemet sauvignon	20.6	21.9	22.5	20.4	21.4	16.8	21.5	20.1	.
Chardonnay	20.7	21.0	20.8	19.7	21.9	17.9	21.6	22.1	.
Cynthiana	22.0	23.7	21.0	21.4	20.7	21.1	23.2	22.6	.
Malbec	19.2	20.9	21.6	19.6	17.6	17.6	18.4	18.6	.
Merlot	21.1	22.3	25.2	19.7	22.9	16.9	19.8	20.8	.
Petit Verdot	22.0	22.9	23.0	19.1	21.2	20.8	23.0	23.6	.
Pinot Gris	19.4	24.3	19.3	17.3	20.0	18.3	18.7	17.9	.
Ruby Cabemet	20.6	21.7	23.6	19.9	21.6	17.7	19.1	20.9	.
Sangiovese	19.5	18.9	22.3	18.2	20.7	16.7	19.7	20.1	.
Shiraz	19.9	22.4	20.9	17.9	20.6	16.7	20.3	20.7	.
Viognier	20.1	19.4	17.2	17.3	24.1	20.2	20.4	21.9	.

2004-2010 Avg pH, own rooted								
Variety	Avg	2004	2005	2006	2007	2008	2009	2010
Cabemet Franc	4.16	4.23	4.03	4.28	4.31	4.18	3.94	.
Cabemet sauvignon	3.97	4.03	3.84	4.10	3.84	4.01	4.03	.
Chambourcin	3.72	3.81	3.95	3.78	3.38	3.66	3.72	.
Chardonnay	3.87	3.79	3.82	3.88	4.00	3.97	3.77	.
Cynthiana	3.69	3.61	3.78	3.87	3.60	3.62	3.68	.
Malbec	4.03	4.15	3.93	4.01	.	3.99	4.08	.
Merlot	4.18	4.33	4.19	4.06	4.14	4.28	4.10	.
Petit Verdot	4.13	4.21	4.06	4.28	.	4.21	3.91	.
Pinot Gris	3.95	3.80	3.86	3.93	4.20	4.01	3.91	.
Ruby Cabemet	4.05	4.11	4.09	4.13	3.79	4.06	4.15	.
Sangiovese	3.73	.	3.84	3.60	3.85	3.78	3.61	.
Shiraz	3.93	4.14	3.77	3.63	4.17	.	.	.
Viognier	3.88	3.78	3.72	3.66	4.11	4.06	3.97	.

Variety Trial Results, cont.

So, what should pH be in grapes? We usually look in the 3.1-3.4 range for white grapes and up to 3.5 for red grapes. The pH of mature grapes directly affects flavor and color of a wine, as well as susceptibility to oxidation, browning, and microbial spoilage. It also mediates cold stability and effectiveness of SO₂. In the table on the previous page we see that not many of the grapes fall into this range. Obviously this is a problem. We tend to wait until the brix levels get to where we want at the expense of pH (and TA as we will see later). Is this a mistake? Is it better to have less sugar and more acid? Good questions. The hot summer temperatures cause the brix to rise high but the acids quickly fall off. Lack of acid leads to flat, unbalanced wines that may have some of the issues mentioned above. The results for vines on 1103P are in the table below.

2003-2010 Avg pH, Grafted 1103P rootstock									
Variety	Avg	2003	2004	2005	2006	2007	2008	2009	2010
Cabernet Franc	4.23	4.28	4.30	4.20	4.39	4.23	4.30	3.93	.
Cabernet sauvignon	3.96	4.01	3.89	3.85	4.01	3.92	4.09	3.97	.
Chardonnay	3.90	3.96	3.81	3.77	3.97	3.78	4.07	3.90	.
Cynthiana	3.70	3.76	3.61	3.90	3.85	3.62	3.68	3.50	.
Malbec	4.11	4.18	4.13	4.06	4.10	4.26	3.96	4.07	.
Merlot	4.28	4.04	4.38	4.36	4.20	4.30	4.41	4.27	.
Petit Verdot	4.03	4.07	3.93	3.98	4.15	4.13	4.04	3.94	.
Pinot Gris	4.02	4.44	3.87	3.77	3.98	4.13	3.93	4.06	.
Ruby Cabernet	4.06	4.13	4.12	4.19	4.18	4.05	3.81	3.93	.
Sangiovese	3.85	3.85	3.82	3.78	3.83	3.95	3.94	3.76	.
Shiraz	4.04	4.17	4.11	4.01	3.84	4.20	3.94	3.99	.
Viognier	3.98	4.01	3.75	3.75	3.94	4.20	4.16	4.06	.

Here too, we have much the same problem so it appears that rootstock is not affecting pH levels in a positive way. Other rootstocks may help, but we don't know that so a different method of controlling pH levels is necessary — this may include things like altering harvest times or manipulating canopy and crop loads.

The next table shows titratable acidity (TA) for these varieties. We like to see values of 0.6 to 0.8 for white grapes and 0.5-0.7 as optimal for reds (viniferas). With some varieties values outside of these ranges may be acceptable (hybrid and American grapes). If TA is too low then the wine is unstable and taste flat. If the TA is too high, poor color stability could be a problem and tartrates could precipitate out of the wine over time. Excessive acidity will also accentuate the harsh, bitter, and sour flavors of a wine.

Variety Trial Results, cont.

We can see that many of these wines will be flat and lifeless because of the low acidity. Of course acid can be added (as can sugar), but many winemakers resist this idea. The acidity level varies from year to year as well. A hot year (2006) acid levels were low on most of the varieties, whereas in 2007 (a cooler year) they were closer to target levels (although still not where we would like).

2004-2010 Avg Titratable Acidity (% Tartaric Acid), own rooted								
Variety	Avg	2004	2005	2006	2007	2008	2009	2010
Cabemet Franc	0.32	0.32	0.26	0.24	0.42	0.30	0.36	.
Cabemet sauvignon	0.42	0.38	0.36	0.29	0.71	0.38	0.39	.
Chambourcin	0.58	0.55	0.48	0.38	1.04	0.50	0.56	.
Chardonnay	0.53	0.64	0.40	0.46	0.61	0.48	0.59	.
Cynthiana	0.80	1.07	0.70	0.46	0.88	0.75	0.93	.
Malbec	0.37	0.48	0.32	0.32	.	0.33	0.40	.
Merlot	0.30	0.29	0.31	0.27	0.36	0.26	0.33	.
Petit Verdot	0.39	0.37	0.43	0.26	.	0.39	0.50	.
Pinot Gris	0.43	0.49	0.39	0.44	0.42	0.36	0.44	.
Ruby Cabemet	0.43	0.32	0.34	0.28	0.97	0.35	0.35	.
Sangiovese	0.42		0.40	0.44	0.46	0.33	0.46	.
Shiraz	0.36	0.40	0.30	0.48	0.28	.	.	.
Viognier	0.52	0.52	0.45	0.56	0.66	0.40	0.51	.

On the next page we will see the results of having a rootstock on TA. In some cases it looks very positive on many varieties. Again, lots of variability from year to year, but in general we see a positive bump from using a rootstock, although in the case of Cynthiana perhaps 1103P is pushing it too high. Generally Cynthiana is known for having higher than desired acids and thus is somewhat of a difficult grape to make wine from. It can range from awful to sublime depending on the year and the winemaker. I have had some great ones from Missouri and some decidedly mediocre to poor wines as well. It can be luscious and fruity or just plain rank plonk. But, I guess, that can be said for any of these varieties.

Variety Trial Results, cont.

2003-2010 Avg Titratable Acidity (% Tartaric Acid), Grafted 1103P rootstock									
Variety	Avg	2003	2004	2005	2006	2007	2008	2009	2010
Cabernet Franc	0.38	0.43	0.35	0.27	0.26	0.60	0.34	0.40	.
Cabernet sauvignon	0.52	0.54	0.50	0.42	0.38	0.84	0.47	0.46	.
Chardonnay	0.62	0.66	0.61	0.46	0.47	1.01	0.49	0.63	.
Cynthiana	0.86	1.25	1.15	0.61	0.50	0.85	0.71	0.93	.
Malbec	0.51	0.54	0.53	0.41	0.41	0.77	0.48	0.45	.
Merlot	0.32	0.52	0.30	0.28	0.28	0.33	0.24	0.33	.
Petit Verdot	0.59	0.61	0.55	0.58	0.34	0.85	0.53	0.65	.
Pinot Gris	0.50	0.57	0.50	0.38	0.47	0.61	0.52	0.44	.
Ruby Cabernet	0.49	0.53	0.42	0.38	0.32	0.80	0.52	0.49	.
Sangiovese	0.46	0.61	0.42	0.43	0.37	0.46	0.38	0.54	.
Shiraz	0.52	0.58	0.54	0.38	0.52	0.53	0.64	0.49	.
Viognier	0.54	0.61	0.54	0.40	0.51	0.67	0.45	0.58	.

We talk about the quality parameters such as brix, TA, pH and the yields, but still that does not tell the whole story. Some fruit doesn't ripen evenly (Cabernet franc), some attracts insects earlier than others (Pinot gris), some are not cold hardy (Merlot, Shiraz), some have budbreak too early in the year (Chardonnay, Sangiovese) and others are not desired for winemaking because of name recognition or other factors (Ruby Cabernet, many hybrids). There is no single perfect winegrape variety. They all have flaws. The thing is to find the one (or few) that work in your location, at your site, and in the hands of your winemaker.

My conclusions from this trial are as follows:

- Use a rootstock, although 1103P imparted too much vigor another rootstock may do differently
- The winners in this trial were hands down Cynthiana and Chambourcin. Ruby Cabernet was the best vinifera by far.
- The unabashed losers were Chardonnay, Cabernet franc, ah what the heck, the rest of the vinifera were all pretty poor overall.
- Early budbreak is a problem, but the vines are more fruitful on secondary buds than I would have expected.
- Much more variety trialing needs to be done in different areas of the state, as well as with different varieties.
- Keeping the acid levels right in the vinifera will continue to be a problem.
- This data was not analyzed by statistical analysis, so some varieties that may appear different may not be within an error confidence interval.

Cultivar Spotlight: Symphony

Eric T. Stafne

‘Symphony’ is not a common grape variety. In fact, I don’t know of anyone who grows it in Oklahoma. It is a result of a cross of ‘Muscat of Alexandria’ and ‘Grenache gris’ from California, thus it is an intraspecific hybrid. It was bred to grow in hot regions. The reason I introduce it here is because I recently had the chance to taste wine from this variety in Hawaii. It was being grown at about 4,000 feet elevation there. This white wine was greatly aromatic, having strong tropical fruit aromas. I was pleasantly surprised by the result. ‘Symphony’ maybe worth a try here in Oklahoma. It is a vinifera grape that few have heard of, but the possibilities of making a delicious wine are there. I would suggest starting on a small scale to see if it can hold up to the winters and spring frosts first. If anyone out there has some I would be happy to hear from you about its performance so far.

We have tested one of the other Harold Olmo hybrids at Perkins — Ruby Cabernet. Most of the hybrids that Olmo released were for hot growing regions (especially the Central Valley of California). Ruby Cabernet has done well in our trials, so maybe it would be worthwhile to try some of the other hybrids as well. Olmo also released ‘Rubired’, which produces prodigious amounts of fruit and is most often used for blending. ‘Emerald Riesling’ is a white grape that is for hot growing regions. ‘Carnelian’ is a red grape that has similar characteristics to ‘Cabernet Sauvignon’. ‘Centurian’ is a red grape hybrid that incorporates ‘Grenache’ and ‘Cabernet Sauvignon’. There are some lesser known hybrids as well. These may have a place in Oklahoma, so keep them in mind for the future.



Fig. 1 Symphony grapes with unripe fruit.

Viticulture & Enology OKLAHOMA STATE UNIVERSITY

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We welcome feedback and suggestions. Any responses can be mailed or emailed to the addresses on the left. We will strive to provide useful, pertinent, and timely information.

Initially this newsletter will be published 4 times per year in January, April, July, and October. If warranted the timing can be amended to better serve the grape growers and wine makers of Oklahoma.



'Vigneron' is the French word for someone who grows grapes for use in wine making.

National Viticulture Needs Assessment Survey

Eric T. Stafne

The national eXtension Grapes Community of Practice is asking for your help in completing a national survey. This will help us determine grower needs and future direction of our resources. The survey is very short and can be completed quickly. Please take just a couple minutes and fill it out. We want and need your input. Follow the link below to fill out the survey:

https://okstatecasnr.qualtrics.com/SE/?SID=SV_agjMhFmvr6f4TMo

The information gathered is anonymous. It will give us good information to provide to the leadership of eXtension and our universities on the direction of our web resource. If you have not heard of www.eXtension.org, www.eXtension.org/grapes, or www.eviticulture.org please take a look. More information is available on page 2 of this newsletter.

Thank you for helping us create better resources for grape growers on a national and international scale.