

## 2023 Midwest Wine Grape Berry Composition Report: Week 4

I was able to visit several vineyards during harvest since our last report. Some of those locations were machine-harvested, and others were harvested by hand. One of the items that always impresses me with properly adjusted machine harvesters is the number of green/unripe berries that remain on the clusters and do not end up being harvested (*see photo on the right*).



One common topic brought up in some of these visits was that, in general, the reds have a lot of within-cluster variation. Some of this could be crop load-related, weather-related, or cultivar-related. Petite Pearl, Marechal Foch, and Frontenac seem to have some within-cluster variation so far. Our high temperatures could have limited anthocyanin production in some situations. Previous work (Spayd et al. 2002) indicated that Merlot berries in the sun can be more than 20 degrees warmer than the air temperature. That same work showed that anthocyanin production was inhibited by the number of hours the berry temperature exceeded 95F. So, it's possible some berry pigmentation could have been impacted, given our air temperatures recently (and forecast for next week) have been quite warm.

### Berry Report Comments/Highlights

Brianna:

- Most of the sites have been harvested.

Edelweiss:

- Half of the sites have been harvested.
- TA has been dropping 4-5 g/L each week over the last couple of weeks.

Plocher red cultivars (Crimson Pearl, Petite Pearl, Verona)

- The TA on nearly all of these is 10 g/L or less. This is something that growers appreciate about these cultivars and why they have had increasing interest.

Frontenacs

- The TA has dropped to ~15g/L or less at all sites.
- There have been visual reports of shriveling, and the berry weights have been stable to slightly decreasing.

La Crescent

- The TA has dropped to ~15g/L or less at all sites.
- Several sites have been harvested.

Marechal Foch

- The pH at all sites is higher than 3.

Marquette

- The TA at all sites is 14 g/L or less.
- Some growers have harvested Marquette, and others are considering harvesting soon.

Please don't hesitate to contact us with suggestions with how to improve our report!

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**References:**

Spayd, SE, JM Tarara, DL Mee, and JC Ferguson. 2002. Separation of Sunlight and Temperature Effects on the Composition of *Vitis vinifera* cv. Merlot Berries. Am. J. Enol. Vitic. 53:3

<b>Brianna</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	11.6	3.23	12.5	1.85
8/18	Jo Daviess	IL	12.2	3.02	11.2	2.17
8/25	Jo Daviess	IL	15.2	3.24	7.0	2.43
8/14	Mahaska	IA	15.4	3.11	10.0	2.50
8/21	Mahaska	IA	18.7	3.39	6.7	2.79
	Mahaska	IA	*	*	*	*
8/13	Webster	IA	13.9	3.08	12.7	3.00
8/21	Webster	IA	15.6	3.25	9.3	2.61
	Webster	IA	*	*	*	*

<b>Crimson Pearl</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/14	Mahaska	IA	15.7	2.90	13.4	1.25
8/21	Mahaska	IA	18.6	3.09	9.9	1.41
8/28	Mahaska	IA	20.8	3.23	7.5	1.54

<b>Edelweiss</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	11.3	3.12	17.2	2.04
8/18	Jo Daviess	IL	12.1	3.02	12.2	3.00
8/25	Jo Daviess	IL	13.9	3.21	8.4	3.12
8/14	Mahaska	IA	12.0	2.99	15.1	3.29
8/21	Mahaska	IA	14.2	3.22	10.3	3.35
8/28	Mahaska	IA	15.8	3.46	6.8	3.38
	Mahaska	IA	*	*	*	*
8/14	Marion	IA	12.9	3.22	11.4	3.13
	Marion	IA	*	*	*	*
8/13	Webster	IA	11.1	2.86	15.3	2.43
8/27	Webster	IA	13.5	3.17	6.3	2.33

<b>Frontenac</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	17.0	3.13	19.4	0.92
8/18	Jo Daviess	IL	19.2	3.11	14.6	1.04
8/25	Jo Daviess	IL	23.1	3.26	12.2	0.96
8/13	Louisa	IA		2.92	16.1	
8/21	Louisa	IA	18.9	2.95	14.2	1.11
8/28	Louisa	IA	20.6	3.21	13.3	0.89
8/14	Mahaska	IA	21.5	3.01	16.0	1.07
8/21	Mahaska	IA	24.6	3.14	14.4	1.07
8/28	Mahaska	IA	26.8	3.30	11.9	1.04
8/14	Marion	IA	17.5	2.98	17.1	1.05
8/21	Marion	IA	20.5	3.01	15.4	1.01
8/28	Marion	IA	22.2	3.20	13.1	1.05
8/21	Polk	IA	20.5	3.12	15.3	1.03
8/30	Polk	IA	23.4	3.17	14.1	0.96
8/13	Webster	IA	15.2	2.97	18.0	1.19
8/21	Webster	IA	14.4	3.02	15.7	0.98
8/27	Webster	IA	15.5	3.12	13.9	0.93

<b>Frontenac Blanc</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	16.2	3.11	19.7	0.88
8/18	Jo Daviess	IL	18.8	3.01	15.4	1.15
8/25	Jo Daviess	IL	22.8	3.11	12.1	0.90
8/13	Louisa	IA		3.18	14.5	
8/21	Louisa	IA	21.0	3.21	12.9	0.99
8/28	Louisa	IA	23.0	3.26	12.7	0.80
	Louisa	IA	*	*	*	*
8/21	Polk	IA	19.5	3.10	13.5	0.98
8/30	Polk	IA	21.2	3.19	14.7	1.10
8/13	Webster	IA	13.6	2.84	19.9	1.14
8/21	Webster	IA	14.2	2.92	16.8	1.07
8/27	Webster	IA	16.9	3.04	15.5	0.93

<b>Itasca</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/14	Mahaska	IA	22.0	3.03	9.6	0.98
	Mahaska	IA	*	*	*	*

<b>La Crescent</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/21	Jasper	IA	21.5	3.03	15.2	1.23
	Jasper	IA	*	*	*	*
8/11	Jo Daviess	IL	17.1	3.10	18.6	0.90
8/18	Jo Daviess	IL	20.1	2.92	14.8	1.13
8/25	Jo Daviess	IL	21.9	3.06	12.9	1.28
8/13	Louisa	IA		3.03	13.8	
8/21	Louisa	IA	18.5	3.06	12.2	1.21
8/28	Louisa	IA	20.4	3.04	13.7	1.16
	Louisa	IA	*	*	*	*
8/14	Mahaska	IA	19.3	3.01	16.1	1.51
8/21	Mahaska	IA	21.1	3.11	15.5	1.34
8/28	Mahaska	IA	23.8	3.23	12.7	1.42
8/14	Story	IA	14.8	2.99	22.0	1.12
8/22	Story	IA	19.3	2.87	16.6	1.24
8/28	Story	IA	20.2	2.91	15.5	1.24
8/21	Webster	IA	20.2	3.16	14.2	1.05
8/27	Webster	IA	21.1	3.31	11.6	1.00

<b>Marechal Foch</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	13.7	3.07	19.6	0.91
8/18	Jo Daviess	IL	15.3	2.94	15.4	0.90
8/25	Jo Daviess	IL	17.4	3.09	11.3	0.97
8/14	Marion	IA	19.4	3.15	11.7	0.93
8/21	Marion	IA	20.7	3.23	9.4	0.87
8/28	Marion	IA	22.2	3.45	7.7	0.96
8/13	Webster	IA	15.6	2.80	15.0	0.67
8/21	Webster	IA	17.7	2.97	11.7	0.59
8/27	Webster	IA	19.1	3.07	9.5	0.71

<b>Marquette</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	17.1	3.11	18.1	1.26
8/18	Jo Daviess	IL	19.1	2.93	14.4	1.23
8/25	Jo Daviess	IL	21.8	3.09	12.3	1.60
8/14	Mahaska	IA	21.7	3.03	16.6	1.59
8/21	Mahaska	IA	23.4	3.03	13.8	1.64
8/28	Mahaska	IA	24.4	3.16	12.1	1.63
8/14	Story	IA	17.6	3.08	19.1	1.66
8/22	Story	IA	19.9	2.86	15.1	1.72
8/28	Story	IA	22.1	2.92	13.9	1.72
8/13	Webster	IA	18.4	2.88	16.9	1.42
8/21	Webster	IA	19.6	2.98	14.5	1.20
8/27	Webster	IA	22.3	3.17	12.6	1.44

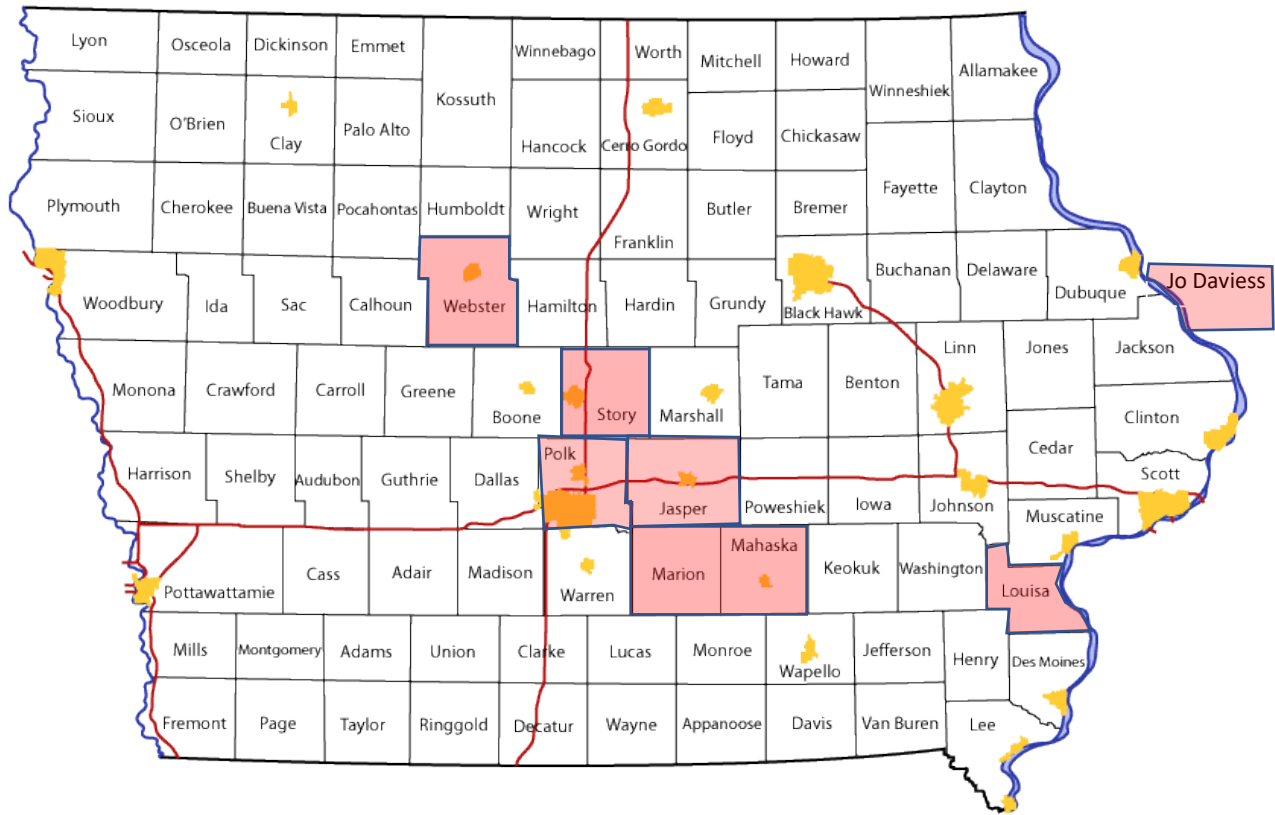
<b>Petite Pearl</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/11	Jo Daviess	IL	11.1	3.04	15.1	0.65
8/18	Jo Daviess	IL	13.0	2.93	11.1	0.77
8/25	Jo Daviess	IL	15.7	3.02	8.3	0.69
8/13	Louisa	IA		3.01	10.9	
8/21	Louisa	IA	14.6	3.07	8.9	0.91
8/28	Louisa	IA	15.5	3.14	8.5	0.89
8/14	Mahaska	IA	12.5	2.94	14.2	1.11
8/21	Mahaska	IA	15.4	3.02	11.3	1.01
8/28	Mahaska	IA	17.5	3.24	8.9	1.18
8/21	Polk	IA	15.4	3.14	9.1	0.96
8/30	Polk	IA	19.0	3.29	7.9	1.10
8/13	Webster	IA	11.3	2.80	17.9	0.73
8/21	Webster	IA	12.1	2.91	14.4	0.73
8/27	Webster	IA	12.9	3.19	10.1	0.66

<b>St. Croix</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/13	Webster	IA	11.8	2.87	15.9	1.34
8/21	Webster	IA	14.6	3.05	11.3	1.49
8/27	Webster	IA	16.5	3.29	9.2	1.49

<b>St. Pepin</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/14	Mahaska	IA	17.2	3.00	14.4	2.09
8/21	Mahaska	IA	18.8	3.12	11.2	2.11
8/28	Mahaska	IA	20.5	3.31	8.8	2.28
8/13	Webster	IA	14.0	2.85	15.9	1.24
8/21	Webster	IA	16.5	3.08	11.5	1.39
8/27	Webster	IA	17.7	3.23	8.9	1.41

<b>Verona</b>						
<b>Sample Date</b>	<b>County</b>	<b>State</b>	<b>Brix</b>	<b>pH</b>	<b>TA (g/L)</b>	<b>g/berry</b>
8/14	Mahaska	IA	13.4	2.72	16.4	1.33
8/21	Mahaska	IA	15.1	2.81	13.2	1.38
8/28	Mahaska	IA	18.2	2.96	10.7	1.50
denotes samples that were held up in shipping						
*	denotes vines confirmed (or likely) harvested					

## 2023 Midwest Wine Grape Berry Composition Report Sampling Locations



<https://iowadot.gov/maps/Digital-maps/City-and-county-maps>