

2016 Grape Maturity at OSU Research Vineyards

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In 2015, the OSU Viticulture Program implemented a new outreach activity by posting fruit ripening progression of grape varieties grown at the OSU research vineyards on the program website, "Buckeye Appellation" (ohiograpeweb.cfaes.ohio-state.edu). Based on many testimonials, the service was well received by members of the industry. As a result, the Viticulture Program will continue to share fruit ripening of varieties grown at the research vineyards during the 2016 season. The following tables summarize the fruit composition of several varieties grown at the OARDC-Wooster and AARS-Kingsville vineyards. The date of berry sampling and corresponding heat units or growing degree days (GDD) are included. GDD is a more accurate indicator of fruit ripening than the calendar date and measures the heat accumulation at both locations. The GDD in your location could be higher or lower than that at our sites. For example, at the Wooster research vineyard, grape ripening of similar varieties is typically 1 to 2 weeks behind central and southern Ohio, and 1 to 2 weeks ahead of more northern latitude vineyards and on Lake Erie shores. To learn more about monitoring fruit maturity and berry sampling, please read OSU factsheet at the following link: [Are your grapes ready to pick?](#). As always, please contact Dr. Imed Dami (dami.1@osu.edu) if you have questions regarding this.

Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(1) Sampling Date: 8/8/2016 (GDD=1915)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Chardonnay	114	11.6	2.75	23.1	5
Frontenac	116	14.5	2.82	28.1	5
La Crescent	113	16.1	2.77	26.6	6
Marguette	145	17.3	2.79	15.5	11
Regent	178	13.1	2.98	16.2	8



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Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(2) Sampling Date: 8/15/2016 (GDD=2103)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Chardonnay	151	15.2	2.87	14.4	11
Frontenac	131	16.9	2.86	20.9	8
La Crescent	139	18.6	2.80	20.1	9
Marguette	165	19.0	2.75	17.7	11
Regent	200	14.5	2.98	13.2	11

(3) Sampling Date: 8/22/2016 (GDD=2271)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	172	14.1	2.50	13.4	11
Chardonnay	159	17.6	2.79	10.4	17
Chambourcin	202	15.2	2.69	16.2	9
Frontenac	136	18.3	2.94	17.4	11
LaCrescent	137	19.9	2.63	18.3	11
Marquette	172	21.5	2.69	11.0	20
Regent	222	16.4	2.86	11.1	15
Sauvignon blanc	182	16.2	2.66	14.9	11
Traminette	182	15.7	2.48	18.6	8

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(4) Sampling Date: 8/30/2016 (GDD=2452)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	182	15.8	2.78	11.4	14
Cabernet franc	153	18.4	2.96	7.3	25
Chambourcin	220	17.3	2.87	12.2	14
Chardonnay	155	20.1	3.11	8.7	23
Frontenac	142	20.9	3.00	16.2	13
La Crescent	141	21.8	2.86	16.8	13
Marquette	168	23.7	3.02	12.2	20
Regent	223	17.8	3.23	9.3	19
Riesling	156	18.0	2.86	11.3	16
Sauvignon blanc	181	17.3	2.97	11.4	15
Traminette	180	18.8	2.84	13.2	14

(5) Sampling Date: 9/6/2016 (GDD=2577)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	178	17.8	2.92	9.9	18
Cabernet franc	168	19.6	3.16	6.9	28
Chambourcin	221	19.5	2.87	11.1	18
Chardonnay	157	21.5	3.14	7.5	29
Frontenac	133	22.1	3.15	14.4	15
La Crescent	146	24.6	2.96	15.3	16
Marquette	161	24.8	3.02	11.9	21
Regent	236	19.3	3.30	7.7	25
Riesling	164	17.3	2.86	10.8	16
Sauvignon blanc	195	20.5	3.07	10.1	20
Traminette	186	21.0	2.90	10.8	19

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.
 pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.
 TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.
 SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(6) Sampling Date: 9/12/2016 (GDD=2722)

Variety	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	212	17.9	3.04	7.1	25
Cabernet franc	171	21.6	3.19	6.8	32
Chambourcin	236	20.6	3.03	9.8	21
Chardonnay	169	21.7	3.22	6.2	35
Frontenac	127	23.5	3.19	12.8	18
La Crescent	140	25.2	3.10	12.2	21
Marquette	167	25.5	3.11	10.7	24
Regent	226	19.8	3.36	6.8	29
Riesling	166	18.0	3.00	8.4	21
Sauvignon blanc	198	21.0	3.14	9.0	23
Traminette	188	20.4	2.98	9.0	23

(7) Sampling Date: 9/19/2016 (GDD=2836)

Variety	Harvest Date	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella		198	19.6	3.10	6.6	30
Cabernet franc		166	21.4	3.27	7.1	30
Chambourcin		216	21.9	3.13	9.3	24
Chardonnay	19-Sep	162	22.1	3.27	6.5	34
Frontenac		128	23.9	3.29	12.2	20
La Crescent		150	24.9	3.12	12.5	20
Marquette		164	25.2	3.18	10.2	25
Regent	16-Sep	238	19.6	3.23	7.2	27
Riesling		166	17.6	3.00	5.3	33
Sauvignon blanc		183	22.3	3.20	7.4	30
Traminette		198	18.9	2.93	8.55	22

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(8) Sampling Date: 9/26/2016 (GDD=2964)

Variety	Harvest Date	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	21-Sep	194	19.9	3.15	8.6	23
Cabernet franc		171	22.0	3.19	5.7	39
Chambourcin		229	22.9	3.19	8.6	27
Chardonnay	19-Sep	162	22.1	3.27	6.5	34
Frontenac		120	25.1	3.36	11.3	22
La Crescent	26-Sep	139	25.4	3.26	10.7	24
Marquette	21-Sep	162	25.4	3.23	9.2	28
Regent	16-Sep	238	19.6	3.23	7.2	27
Riesling	26-Sep	163	18.2	3.08	7.4	24
Sauvignon blanc	20-Sep	199	21.7	3.33	7.4	30
Traminette		184	21.6	3.09	8.1	27

(9) Sampling Date: 10/3/2016 (GDD=3026)

Variety	Harvest Date	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	21-Sep	194	19.9	3.15	8.6	23
Cabernet franc		169	22.1	3.38	5.7	39
Chambourcin		248	22.8	3.27	7.8	29
Chardonnay	19-Sep	162	22.1	3.27	6.5	34
Frontenac		130	25.4	3.41	11.0	22
La Crescent	26-Sep	139	25.4	3.26	10.7	24
Marquette	21-Sep	162	25.4	3.23	9.2	28
Regent	16-Sep	238	19.6	3.23	7.2	27
Riesling	26-Sep	163	18.2	3.08	7.4	24
Sauvignon blanc	20-Sep	199	21.7	3.33	7.4	30
Traminette		202	21.1	3.15	8.7	24

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Wooster research vineyard in 2016:

(10) Sampling Date: 10/6/2016 (GDD=3061)

Variety	Harvest Date	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	21-Sep	194	19.9	3.15	8.6	23
Cabernet franc	5-Oct	167	22.5	3.55	4.5	50
Chambourcin	6-Oct	243	22.8	3.28	7.6	30
Chardonnay	19-Sep	162	22.1	3.27	6.5	34
Frontenac	4-Oct	131	25.3	3.56	11.1	23
La Crescent	26-Sep	139	25.4	3.26	10.7	24
Marquette	21-Sep	162	25.4	3.23	9.2	28
Regent	16-Sep	238	19.6	3.23	7.2	27
Riesling	26-Sep	163	18.2	3.08	7.4	24
Sauvignon blanc	20-Sep	199	21.7	3.33	7.4	30
Traminette	5-Oct	225	22.0	3.25	5.9	38

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

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Grape maturity of grape varieties at the Kingsville research vineyard in 2016:

(1) Sampling Date: 9/7/2016 (GDD=2425)

Variety	SS (%)	pH	T.A. (g/L)	SS/TA*10
Chardonnay	17.9	3.16	11.3	16
Pinot gris	17.0	3.20	12.3	14
Pinot noir	17.0	3.30	9.2	19
Regent	18.0	3.27	9.2	20

(2) Sample Date: 9-13-16 (GDD=2558)

Variety	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc	171	16.0	3.18	10.3	16
Chardonnay	166	18.8	3.33	9.0	21
Frontenac	229	21.0	3.18	16.1	13
Gamay noir	202	16.0	3.25	8.5	19
Pinot noir	133	17.2	3.34	10.2	17
Regent	230	18.0	3.41	8.1	22

(3) Sample Date: 9-19-16 (GDD=2657)

Variety	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc	180	17.0	3.19	8.8	19
Chardonnay	169	19.2	3.32	7.9	24
Concord	307	14.5	3.06	8.70	17
Frontenac	130	22.0	3.22	13.10	17
Gamay noir	199	17.0	3.23	8.00	21
Pinot gris	158	19.0	3.38	5.70	33
Pinot noir	168	18.2	3.25	8.00	23
Regent	228	18.6	3.32	7.40	25
Sauvignon blanc	191	18.2	3.07	9.10	20
Teroldego	263	17.0	3.06	13.00	13

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Kingsville research vineyard in 2016:

(4) Sample Date: 9-26-16 (GDD=2771)

Variety	Harvest Date	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc		162	19.5	3.22	7.4	26
Chardonnay		164	20.0	3.38	6.8	30
Frontenac		133	22.5	3.24	12.2	19
Gamay noir		209	17.5	3.35	7.2	24
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent		237	19.2	3.49	6.2	31
Sauvignon blanc		200	19.2	3.25	7.8	25
Teroldego		247	18.0	3.23	10.5	17

(5) Sample Date: 10-3-16 (GDD=2856)

Variety	Harvest Date	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc		176	20.2	3.33	7.3	28
Chardonnay		170	20.0	3.49	6.9	29
Concord		314	16.2	3.22	6.1	27
Frontenac		125	23.8	3.22	13.1	18
Gamay noir		206	18.0	3.29	7.1	25
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent	27-Sep	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	190	19.8	3.25	8.7	23
Teroldego		248	19.0	3.26	10.1	19

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Kingsville research vineyard in 2016:

(6) Sample Date: 10-10-16(GDD= 2924)

Variety	Harvest Date	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc		160	21	3.38	7.2	29
Chardonnay	5-Oct	169	20.8	3.47	7.3	28
Concord		347	17.0	3.33	6.1	28
Frontenac		126	24.2	3.36	13.1	18
Gamay noir	5-Oct	248	17.6	3.36	7.2	25
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent	27-Sep	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	190	19.8	3.25	8.7	23
Teroldego		286	19.2	3.29	10.6	18

(7) Sample Date: 10-17-16(GDD= 2966)

Variety	Harvest Date	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc			22	3.41	6.0	37
Chardonnay	5-Oct	169	20.8	3.47	7.3	28
Concord		342	17.8	3.28	5.6	32
Frontenac	17-Oct		24.4	3.17	13.6	18
Gamay noir	5-Oct	248	17.6	3.36	7.2	25
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent	27-Sep	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	190	19.8	3.25	8.7	23
Teroldego		227	20.8	3.20	10.0	21

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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Grape maturity of grape varieties at the Kingsville research vineyard in 2016:

(8) Sample Date: 10-24-16(GDD=3031)

Variety	Harvest Date	100 bwt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc		149	23.0	3.61	5.5	42
Chardonnay	5-Oct	169	20.8	3.47	7.3	28
Frontenac	17-Oct		24.4	3.17	13.6	18
Gamay noir	5-Oct	248	17.6	3.36	7.2	25
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent	27-Sep	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	190	19.8	3.25	8.7	23
Teroldego		239	21.0	3.27	10.1	21

(8) Sample Date: 10-26-16(GDD=3031)

Variety	Harvest Date	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc	26-Oct	175	19.6	3.41	7.3	27
Chardonnay	5-Oct	169	20.8	3.47	7.3	28
Frontenac	17-Oct		24.4	3.17	13.6	18
Gamay noir	5-Oct	248	17.6	3.36	7.2	25
Pinot gris	26-Sep	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	165	18.2	3.36	8.1	23
Regent	27-Sep	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	190	19.8	3.25	8.7	23
Teroldego	26-Oct	227	20.4	3.31	9.3	22

*SS: soluble solids, which estimate sugar concentration in grape juice using a refractometer.

pH: measures active acidity (strength of H⁺ ions) in grape juice using a pH meter.

TA: titratable acidity, or total acidity, measures actual amount of organic acids in grape juice.

SS/TA: fruit ripening index.



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2016 Harvest data summary of grape varieties in Wooster and Kingsville:

Wooster

Variety	Harvest Date	GDD	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Aromella	21-Sep	2874	194	19.9	3.15	8.6	23
Cabernet franc	5-Oct	3046	167	22.5	3.55	4.5	50
Chambourcin	6-Oct	3061	243	22.8	3.28	7.6	30
Chardonnay	19-Sep	2836	162	22.1	3.27	6.5	34
Frontenac	4-Oct	3033	131	25.3	3.56	11.1	23
La Crescent	26-Sep	2964	139	25.4	3.26	10.7	24
Marquette	21-Sep	2874	162	25.4	3.23	9.2	28
Regent	16-Sep	2775	238	19.6	3.23	7.2	27
Riesling	26-Sep	2964	163	18.2	3.08	7.4	24
Sauvignon blanc	20-Sep	2855	199	21.7	3.33	7.4	30
Traminette	5-Oct	3046	225	22.0	3.25	5.9	38

Kingsville

Variety	Harvest Date	GDD	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc	26-Oct	3031	175	19.6	3.41	7.3	27
Chardonnay	5-Oct	2867	169	20.8	3.47	7.3	28
Frontenac	17-Oct	2966		24.4	3.17	13.6	18
Gamay noir	5-Oct	2867	248	17.6	3.36	7.2	25
Pinot gris	26-Sep	2771	145	20.0	3.45	5.0	40
Pinot noir	23-Sep	2732	165	18.2	3.36	8.1	23
Regent	27-Sep	2781	205	21.5	3.51	5.2	23
Sauvignon blanc	28-Sep	2792	190	19.8	3.25	8.7	23
Teroldego	26-Oct	3031	227	20.4	3.31	9.3	22



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2016 Harvest data summary of same grape varieties in Wooster and Kingsville:

Variety	Location *	Harvest Date	GDD	100 Berry wt (g)	SS (%)	pH	T.A. (g/L)	SS/TA*10
Cabernet franc	W	5-Oct	3046	167	22.5	3.55	4.5	50
Cabernet franc	K	26-Oct	3031	175	19.6	3.41	7.3	27
Chardonnay	W	19-Sep	2836	162	22.1	3.27	6.5	34
Chardonnay	K	5-Oct	2867	169	20.8	3.47	7.3	28
Frontenac	W	4-Oct	3033	131	25.3	3.56	11.1	23
Frontenac	K	17-Oct	2966		24.4	3.17	13.6	18
Regent	W	16-Sep	2775	238	19.6	3.23	7.2	27
Regent	K	27-Sep	2781	205	21.5	3.51	5.2	23
Sauvignon blanc	W	20-Sep	2855	199	21.7	3.33	7.4	30
Sauvignon blanc	K	27-Sep	2781	205	21.5	3.51	5.2	23

*W: Wooster, K: Kingsville



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