



*Analysis of . . .*

# **Oregon Grapes for Oregon Wines**

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## **Oregon Grapes for Oregon Wines**

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Use of Oregon-grown grape varieties for wine production, especially on a commercial scale, has not been extensive in the past. This has been partly due to lack of information on suitability of many Oregon grape varieties for wine production. This project was started to furnish information useful to commercial and home wine makers in selection of grape varieties which grow well in Oregon and which were judged to yield a good quality wine.

Grapes used in this experimental work were obtained during 1957 and 1958 growing seasons. They represent many better varieties grown in different sections of Oregon. Varieties used for these tests and areas in which they were grown are shown in Tables 1 and 2. These tables also show total sugar and total acid content of the fresh fruit. During 1957, 29 different samples were collected and fermented into wines of approximately 12% alcohol content. A total of 43 samples were collected and made into wines during the 1958 season. Analyses of these wines are given in Tables 3 and 4.

Analyses given in Tables 3 and 4 show alcohol content of the finished wines as well as total acids and total volatile acids for each sample. The Brix reading of unsweetened 1957 grape wines and of sweetened 1958 wines is also included. All grape varieties used in these tests had to be ameliorated by addition of dextrose to obtain the desired alcohol content. In some cases amelioration with water was also required to bring the total acids down to a suitable level.

### **Preparation and Treatment of Wines**

Grapes used in these experiments were analyzed immediately after receipt to determine sugar and acid content. Then approximately five pounds were crushed and placed in wide mouth one-gallon jars. A small amount of each sample was removed and pasteurized, then inoculated with a pure culture yeast starter (Saccharomyces ellipsoides), and incubated at 70°F. until rapid fermentation occurred. The remainder of each sample was treated by adding 150 ppm sulfur dioxide in form of potassium meta-bisulfite), and stored in a cool place until starter could be added. This usually required 24 hours.

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Where acids were high, water was added at this time to bring total acids down to a suitable level.

Grapes were stirred daily during the fermentation period. The total amount of dextrose sugar required for proper fermentation was calculated and one third of this amount was added at three different times as fermentation progressed. When fermentation was nearly complete, each sample was strained through cheese cloth into a clean one-gallon jug and placed under a water seal to prevent acetic acid formation. Each sample was left under the water seal until fermentation had stopped; then the clear young wine was siphoned off to separate as much wine as possible from the sediment which had formed. This young wine (in pint or quart bottles) was then pasteurized for 20 minutes at 145°F. and placed in a cool dark room to age.

After approximately four months of aging, wines were filtered through an asbestos pad, placed into small sample bottles, and repasteurized. These samples were then used for taste testing by selected panel members.

### Evaluation of Wines

Aged and pasteurized wines used during 1957 were not sweetened by addition of sugar prior to taste testing. Samples which did not produce a good ferment, or samples which were too small, were not subjected to taste testing. The taste panel consisted of 11 people active in the Oregon wine industry. Samples which were not tested were the Catawba, in which a poor ferment was obtained, Early Burgundy, Golden Muscat (Medford), Carignane, Seyve Villard 12375, and Seyve Villard 5276 for which the sample size was too small to permit testing by the full panel.

Samples tested during 1957 and their ratings by the panel are given in Table 5. In this table a maximum of 90 points is possible since sweetness was omitted in judging. A score between 80 and 90 would indicate an excellent quality wine, a score from 70 to 80 would indicate a fine quality wine, a score from 60 to 70 would indicate a good quality wine. Scores from 50 to 60 would indicate a fair quality wine, and below 50 would indicate a poor quality wine.

During the 1958 season, it was thought desirable to sweeten all but the characteristic dry wine types prior to taste testing. In addition, these wines were prejudged to select wines of best character and quality. Of the 43 wines available as listed in Table 4, 25 were screened by the authors and judged to be of only fair to good quality. The remaining 17 superior wines were subsequently tested by a larger panel. Scores for the 1958 wines used are given in Table 6. In this table a total of 100 points is possible. The following scale may be used to judge the overall quality of each wine:

Excellent	90 - 100
Fine	80 - 90
Good	70 - 80
Fair	60 - 70
Poor	50 - 60

Wines which were judged best by the taste panel during 1957 and 1958 are described briefly below. These descriptions do not include all wines tested. Many more common grape varieties have been omitted since general characteristics of these grapes are quite well known.

Varieties Zinfandel and Concord, produced during 1957 were judged to produce a suitable quality wine. During the 1958 season, wines made from the commonly known grape varieties Tokay and Black Muscat were judged to be of suitable quality. As these wines are fairly well known, no description of them follows below.

In addition, wines obtained from Iona, Ribier, Hamberg, and Black Prince grape varieties, which are described for the 1957 season, again produced suitable quality wines.

### Description and Discussion—1957 Wines and Grapes

Iona. This grape variety produces a light red wine which is easily clarified. It has a unique ester aroma and a mild flavor. The fresh grape has a moderately high sugar content and a medium total acid content.

Siebel 8748, Siebel 8745, Siebel 13053, and Seyve Villard 3-160. These are all quite similar. They produce dark red easily clarified wines. They all have dry wine characteristics, but may also be used for blending. The grapes used were high in total acid content and fairly high in sugar content.

Black Prince. This grape, obtained from Eastern Oregon, has a high sugar content and medium total acid content. Wine produced from it is of rich red color and is suitable as a dry or sweet wine.

### Description and Discussion—1958 Wines and Grapes

Perle de Csaba. This variety produces a light white wine. The grapes have a high sugar content and are low in total acid. These grapes ripen early in Oregon and have a pleasant ester flavor. They would be suitable as a sweet or dry wine.

New York 12997. This is a good quality dessert grape which produces a fine wine. It is dark red in color and is suitable for preparation as a sweet wine.

Red Chasselas. This is a pink grape of mild flavor. Wine produced from it is a pink Rosé type and is suitable for use as a sweet wine.

Muscat Ottonel. This grape has a mild muscat flavor and produces a clear white wine. The grape is of medium total acid and sugar content.

Siebel 11342. This is from a medium size golden grape not very high in sugar content and requires more amelioration with dextrose than some other varieties.

Alden. This is a large reddish black grape with a mild flavor. It is quite low in total sugar content and requires considerable amelioration. Wine produced from it is of a Rosé type and is suitable also as a sweet wine.

Van Buren. This is one of the earliest Concord-type black grapes. Juice obtained from it is very thick and highly colored. For this reason, it should be ameliorated with water. Wines produced from this grape have a dark red color. Sugar content is not very high, and total acid content is moderately high. Wines from this grape have a good balance and were rated high by the panel.

Athens. This is a large blue grape with a flavor similar to Concord. It has a low total acid content and a moderately high sugar content. Wine produced from it had good flavor balance and color. It was rated highest of any wines tested during 1958.

Hamberg. This is a purple grape of mild flavor with medium sugar content and fairly high total acid content. Wine produced from this grape has a dark red color and is suitable as a sweet wine.

Table 1. Analysis of Grape Varieties, 1957 (Fresh Fruit)

Growing area	Date received	Variety	Soluble solids °Brix	Total acids g/100cc
Medford	Oct. 1	White Malaga	22.4	0.675
	"	Ribier	14.2	0.788
	"	Tokay	21.0	0.593
	"	Red Malaga	15.1	0.638
	"	Zinfandel	18.5	0.900
	"	Golden Muscat	17.5	0.600
	"	Iona	21.0	0.728
	"	Delaware	18.9	0.465
	"	Buffalo	21.4	0.578
Hillsboro	"	Mission	19.0	0.675
	"	Catawba	17.1	0.638
	Oct. 9	Hamberg	16.2	0.975
	"	Golden Muscat	15.5	0.645
	"	Niagara	10.5	0.735
	"	Red Mountain	16.0	0.518
Milton Freewater	"	Sweet Water	16.5	0.578
	"	Concord	14.8	1.013
	Oct. 16	Black Prince	20.2	0.795
	"	Siebel 1096	21.0	1.493
Portland	"	Carignane	23.5	0.795
	"	Seyve-Villard 12375	21.8	1.193
	Oct. 21	Siebel 10878	21.5	0.953
	"	Siebel 8748	15.0	0.930
	"	Siebel 8745	18.2	1.755
	"	Early Burgandy	18.4	1.448
	"	Seyve-Villard 5276	22.6	0.893
	"	Seyve-Villard 3-160	12.9	1.163
"	Siebel 13053	22.3	1.463	
"	Siebel 14665	17.2	0.758	

Table 2. Analysis of Grape Varieties, 1958 (Fresh Fruit)

Growing area	Date received	Variety	Soluble solids °Brix	Total acids g/100cc
O. S. C Corvallis College Farms	Sept. 4	Perle de Csaba	20.2	0.488
	"	Cardinal	14.3	0.638
	Sept. 8	New York 12997	18.2	0.713
	"	Siebel 13053	21.5	1.020
	Sept. 15	Captivator	19.0	0.818
	"	Chasselas Musque	15.0	0.668
	"	Red Chasselas	15.6	0.615
	"	Muscat Ottonel	18.0	0.675
	"	Early Burgundy	21.0	0.848
	Sept. 19	Vineland 37022	17.9	0.840
	"	LR 4-16	16.4	0.600
	"	Siebel 11342	15.1	0.780
	Sept. 24	US 4606-48	16.5	0.645
"	Alden	12.8	0.638	
Sept. 29	Ruby	13.8	0.683	
Portland	Sept. 15	Athens	15.2	0.533
	"	Seyve-Villard 5276	17.9	0.810
	"	Van Buren	16.1	0.930
	"	Seyve-Villard 3-160	14.6	0.975
	"	Siebel 8745	16.0	1.140
	"	Siebel 13053	20.5	0.825
	"	Siebel 8748	19.8	0.855
Medford- Grants Pass	Sept. 24	White Malaga - Medford	17.0	0.750
	"	Iona	20.0	0.848
	"	Buffalo	18.4	0.608
	"	Mission	17.7	0.735
	"	White Malaga - Grants Pass	19.4	0.750
	"	Tokay	17.7	0.630
	"	Ribier	15.5	0.690
"	Black Muscat	19.7	0.810	
Pendleton- Milton Freewater	Sept. 26	Ribier	12.1	0.540
	"	Zinfandel	13.5	0.878
	"	Mission	18.5	0.570
	"	Carignane	17.5	1.005
	"	Muscatella	20.9	0.755
	"	Black Rose	12.4	0.720
	"	Muscat of Alexandria	17.2	0.615
	"	Rose of Peru	19.0	0.578
"	Black Prince	19.7	0.533	
Hillsboro	Sept. 30	Hamberg	19.5	0.885
	"	Red Mountain	19.5	0.585
	"	Sweet Water	16.6	0.668

Table 3. Analysis of 1957 Wines

Growing area	Variety	Brix	% Alcohol (by vol.)	Total acids g/100cc	Volatile acids g/100cc
Medford-Grants Pass	White Malaga	-2.3	13.9	0.548	0.024
	Ribier	-2.6	14.5	0.698	0.018
	Tokay	-2.3	13.7	0.495	0.024
	Red Malaga	-3.2	16.2	0.600	0.030
	Zinfandel	0.7	10.6	0.803	0.030
	*Golden Muscat	-2.2	13.2	0.840	0.024
	Iona	-1.4	12.6	0.810	0.036
	Delaware	-0.1	12.6	0.773	0.030
	Buffalo	-1.1	11.9	0.638	0.036
	Mission	-2.6	15.0	0.533	0.030
	*Catawba	3.8	9.8	1.350	0.030
Hillsboro	Hamberg	-2.4	13.9	0.893	0.030
	Golden Muscat	-2.3	13.5	0.848	0.030
	Niagara	-2.2	12.9	0.780	0.042
	Red Mountain	-2.5	13.2	0.585	0.042
	Sweet Water	-0.9	13.0	0.638	0.042
	Concord	-2.0	13.5	0.998	0.036
Pendleton-Milton Freewater	Black Prince	-2.3	14.2	0.600	0.030
	Siebel 1096	-0.4	12.7	0.915	0.036
	*Carignane	-0.8	12.2	0.645	0.030
	*Seyve-Villard 12375**	-0.7	12.8	0.750	0.120
Portland	Siebel 10878	-1.4	14.5	0.915	0.030
	Siebel 8748	0.6	12.5	0.825	0.036
	Siebel 8745**	-0.1	13.6	1.282	0.036
	*Early Burgundy**	-1.1	14.0	0.923	0.084
	*Seyve-Villard 5276	-1.2	13.5	0.653	0.054
	Seyve-Villard 3-160**	3.5	12.5	0.810	0.036
	Siebel 13053	-0.2	14.1	0.705	0.018
	Siebel 14665	-0.6	12.7	0.960	0.024

\*These samples were not used for taste test by panel.

\*\* Ameliorated by addition of water to lower the total acid content.

Table 4. Analysis of 1958 Wines

Growing area	Variety	Brix	% Alcohol (by vol.)	Total acids g/100cc	Volatile acids g/100cc
College Farms O. S. C. Corvallis	Perle de Csaba	3.3	13.1	0.540	0.030
	*Cardinal	6.8	11.5	0.668	0.048
	New York 12997	7.4	13.0	0.750	0.036
	Siebel 13053**	0.4	11.5	0.615	0.024
	*Captivator**	4.0	13.0	0.585	0.024
	*Chasselas Musque	5.5	12.1	0.668	0.036
	Red Chasselas	6.9	12.7	0.750	0.048
	Muscat Ottonel	5.9	12.4	0.675	0.036
	*Early Burgundy**	1.0	12.1	0.720	0.030
	*Vineland 37022	7.1	12.8	0.803	0.036
	*LR 4-16	4.3	12.4	0.593	0.036
	Siebel 11342	6.6	12.6	0.945	0.024
	US 4606-48	-0.8	12.4	0.990	0.036
	Alden	5.5	12.1	0.645	0.030
*Ruby	4.3	12.7	0.623	0.030	
Medford-Grants Pass	*White Malaga-Medford	4.4	12.8	0.675	0.030
	Iona	5.5	13.5	0.915	0.024
	*Buffalo	3.9	13.0	0.525	0.024
	*Mission	5.2	12.4	0.653	0.024
	Tokay	4.7	13.5	0.668	0.030
	Ribier	5.3	12.4	0.728	0.030
	Black Muscat	5.8	12.2	0.795	0.030
	*White Malaga (Grants Pass)	4.6	13.4	0.670	0.024
Hillsboro	*Sweet Water	4.9	12.2	0.670	0.036
	*Red Mountain	3.7	13.2	0.600	0.030
	Hamberg	5.8	12.7	0.910	0.030
Pendleton Milton Freewater	*Muscat of Alexandria	6.6	12.3	0.590	0.012
	*Muscatella	3.9	13.5	0.533	0.012
	Black Prince	4.8	13.1	0.555	0.018
	*Ribier	4.9	12.9	0.578	0.024
	*Mission	3.7	12.0	0.420	0.024
	*Black Rose	4.9	12.5	0.600	0.030
	Rose of Peru	3.8	12.9	0.480	0.024
	*Zinfandel**	0.2	12.1	0.668	0.030
*Carignane**	3.5	12.8	0.540	0.024	
Portland	*Seyve-Villard 5276**	6.1	12.4	0.698	0.042
	*Siebel 8745**	1.8	11.0	0.734	0.030
	*Seyve-Villard 3-160**	0.2	12.0	0.690	0.024
	*Siebel 10878**	-0.2	11.0	0.668	0.024
	*Siebel 8748	-0.1	12.0	0.840	0.030
	Van Buren**	7.6	11.4	0.780	0.072
	*Siebel 13053**	-0.7	13.9	0.680	0.024
Athens	9.2	12.3	0.765	0.036	

\*These samples were not used for taste test by panel.

\*\*Ameliorated by addition of water to lower the total acid content.



Table 5. Average Scores of Wines, 1957 (11 Tasters)

Perfect Score		10	15	15	15	10	10	15	Total
		Average color	Clearness	Bouquet	Vol. acidity by taste	Total acidity by taste	Tannin by taste	General flavor	Grade points
Medford area	Iona	9.3	13.6	12.7	11.7	7.9	7.6	11.3	74.1
	Zinfandel	9.4	11.8	11.7	12.8	7.9	7.5	11.5	72.6
	Ribier	9.0	11.6	10.7	11.4	8.5	7.6	11.3	70.1
	Mission	8.5	12.2	11.4	11.9	6.9	6.3	11.3	68.3
	Delaware	7.6	9.9	11.4	11.2	7.7	6.9	10.4	65.1
	Buffalo	7.5	9.1	10.9	11.4	7.6	7.5	10.2	64.2
	Red Malaga	8.8	11.5	10.2	10.7	7.1	7.4	9.8	63.4
	Tokay	6.7	8.3	10.0	11.4	7.4	6.9	9.4	60.1
	White Malaga	6.3	7.5	9.5	11.1	7.7	7.6	9.2	58.9
Hillsboro	Hamberg	9.4	13.3	11.6	13.0	7.5	6.9	11.6	73.3
	Golden Muscat	8.7	12.0	11.4	10.4	7.4	7.1	10.0	67.0
	Niagara	7.5	10.4	11.6	12.1	7.4	7.8	11.2	68.0
	Red Mountain	8.4	10.1	10.0	10.6	7.7	7.3	10.2	64.3
	Sweet Water	7.8	10.2	10.3	11.7	8.7	7.0	11.1	66.8
	Concord	9.1	12.2	11.9	11.6	8.0	7.1	11.9	71.8
Pendleton The Dalles	Black Prince	9.4	13.1	12.4	11.3	8.1	7.1	11.5	72.9
	Siebel 1096	9.4	11.7	11.5	11.1	7.2	6.5	11.3	68.7
Portland	Siebel 10878	9.3	12.1	11.5	11.1	7.9	7.7	11.4	71.0
	Siebel 8748	9.5	13.9	12.6	12.1	8.3	8.1	13.0	77.5
	Siebel 8745	9.3	12.5	12.4	12.5	7.5	7.6	12.0	73.8
	Seyve-Villard 3-160	9.5	13.9	12.5	13.0	8.4	7.6	12.4	77.3
	Siebel 13053	9.5	13.6	12.9	12.0	9.0	7.5	12.8	77.3
	Siebel 14665	9.2	12.0	12.2	11.6	7.6	7.3	11.2	71.1

Table 6. Average Scores of Wines, 1958 (15 Tasters)

		Perfect score										
		10	10	10	15	10	10	10	10	15	100	
		No.	Color	Clearness	Body	Bouquet and aroma	Volatile acidity by taste	Total acidity by taste	Tannin by taste	Sugar by taste	General flavor	Grade (total points)
O. S. C. College Farms	Alden	14	9.00	9.20	8.40	11.20	8.77	8.20	7.53	7.87	11.29	81.41
	Muscat Ottonel	8	8.80	8.87	8.13	11.00	8.08	7.66	7.40	8.00	11.93	79.87
	New York 12997	3	9.07	7.73	8.43	11.20	8.69	8.00	7.87	7.80	10.67	79.46
	Perle de Csaba	1	8.20	8.54	7.47	9.94	8.75	8.14	7.57	7.43	10.80	78.84
	Red Chasselas	7	8.53	8.87	8.00	11.00	8.54	7.80	7.20	7.64	11.07	78.65
	Siebel 11342	12	8.73	9.33	7.53	9.67	7.51	7.60	7.60	7.53	10.27	75.77
	US 4606-48	13	8.33	8.33	7.20	11.93	7.38	6.33	5.53	5.80	9.27	70.10
	Siebel 13053	4	8.60	8.80	6.93	10.40	7.00	6.27	5.87	6.07	8.53	68.47
Medford	Iona	17	8.60	8.93	7.79	10.80	8.58	8.21	8.14	8.64	10.40	80.09
	Tokay	20	7.80	9.27	7.87	9.93	8.35	7.93	7.40	6.93	10.67	77.15
	Ribier	21	8.79	7.92	8.64	9.71	8.42	7.15	7.36	7.86	10.21	76.06
	Black Muscat	22	8.47	7.22	8.35	11.65	8.50	7.56	7.56	8.00	11.18	78.49
Hills- boro	Hamberg	26	9.00	9.07	7.80	10.53	8.23	7.57	6.64	7.60	10.80	77.24
Pendleton	Black Prince	29	8.87	8.47	7.60	9.87	8.00	7.80	7.07	7.27	9.53	74.50
	Rose of Peru	33	7.93	8.92	7.20	9.27	7.23	7.13	7.14	6.53	9.13	70.49
Portland	Van Buren	41	9.06	8.19	8.50	11.56	8.38	7.94	7.69	8.13	10.88	80.33
	Athens	43	8.93	8.73	8.27	11.60	9.00	8.33	8.47	8.14	11.13	82.60