

**Summary of Grape Cultivar  
and  
Rootstock Performance Data  
Oklahoma Fruit and Pecan Research Station  
Perkins, OK**

**2003-2006**

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## CONTENTS:

**Table 1A.** Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P rootstock) Grape Vines, Perkins, OK 2006

**Table 1B.** Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P rootstock) Grape Vines, Perkins, OK 2005

**Table 1C.** Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P rootstock) Grape Vines. Perkins, OK 2004

**Table 1D.** Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P rootstock) Grape Vines. Perkins, OK 2003

**Table 1E.** Average Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P rootstock) Grape Vines, Perkins, OK 2003-2006

**Table 2A.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Perkins, OK 2005

**Table 2B.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Perkins, OK 2005

**Table 2C.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Perkins, OK 2004

**Table 2D.** Average Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Perkins, OK 2004-2006

**Table 3A.** Effect of Rootstock on Yield and Quality of Cabernet Franc Grape Vines. Perkins, OK 2006

**Table 3B.** Effect of Rootstock on Yield and Quality of Cabernet Franc Grape Vines. Perkins, OK 2005

**Table 3C.** Effect of Rootstock on Yield and Quality of Cabernet Franc Grape Vines. Perkins, OK 2004

**Table 3D.** Effect of Rootstock on Yield and Quality of Cabernet Franc Grape Vines Perkins, OK 2003

**Table 3E.** Average Effect of Rootstock on Yield and Quality of Cabernet Franc Grape Vines. Perkins, OK 2003-2006

**Table 4A.** Effect of Rootstock on Yield and Quality of Chardonnay Grape Vines. Perkins, OK 2006

**Table 4B.** Effect of Rootstock on Yield and Quality of Chardonnay Grape Vines. Perkins, OK 2005

**Table 4C.** Effect of Rootstock on Yield and Quality of Chardonnay Grape Vines. Perkins, OK 2004

**Table 4D.** Effect of Rootstock on Yield and Quality of Chardonnay Grape Vines.  
Perkins, OK 2003

**Table 4E.** Average Effect of Rootstock on Yield and Quality of Chardonnay Grape Vines.  
Perkins, OK 2003-2006

**Table 5A.** Yield and Quality of Selected Cultivars/lines, Observational Grape Cultivar Trial. Perkins, OK 2006

**Table 5B.** Yield and Quality of Selected Cultivars/lines, Observational Grape Cultivar Trial. Perkins, OK 2005

**Table 5C.** Yield and Quality of Selected Cultivars/lines, Observational Grape Cultivar Trial. Perkins, OK 2004

**Table 5D.** Yield and Quality of Selected Cultivars/lines, Observational Grape Cultivar Trial, Perkins, OK 2003

**Table 5E.** Average Yield and Quality of Selected Cultivars/lines, Observational Grape Cultivar Trial, Perkins, OK 2003-2006

**Table 6.** Effect of Cultivar on Average Budbreak Date - Replicated Wine Grape Cultivar Trial – Perkins, OK, 2003-2006

**Table 7.** Effect of Cultivar on Average Budbreak Date – Observational Grape Planting Perkins, OK 2003-2006

**Table 8A.** Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005

**Table 8B.** Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2006

**Table 8C.** Average Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005-2006

**Table 9A.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2004

**Table 9B.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005

**Table 9C.** Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2006

**Table 9D.** Average Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2004-2006

**Table 10A.** Average Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Burns Flat, OK 2006

**Table 11A.** Average Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Burns Flat, OK 2006

## INTRODUCTION

Variety selection is one of the most important aspects of vineyard establishment. Varieties vary in their yield potential, fruit quality and adaptability under Oklahoma conditions. Localized comparative test results of variety performance are important as Oklahoma growers make vineyard establishment decisions.

Grapes can be grown on their own roots, i.e. rooted cuttings, or grafted onto rootstocks. Various rootstocks can offer benefits such as pest resistance, tolerance of certain soil characteristics and tolerance of salts and salinity. In areas where winter freeze injury is prevalent, rootstocks impart additional risk to the vineyard since vines frozen back below the graft union must be replaced or re-grafted.

Rootstocks commonly used are either selections from hardy native species or plants resulting from crosses of various native species. Vines resulting from crosses would be expected to exhibit traits from one or both of the parents of the cross.

## METHODS

### Replicated Variety Trial:

This trial consisting of 13 varieties on 1103 Paulsen rootstock was established in May, 2001. Vines were planted in rows 12' apart with vines 8' apart within row. The vines were trained to a high cordon trellis. Plots were organized in a randomized complete block design with 5 replications and two vines per plot. In May, 2002 two additional vines grown on their own roots were added to each plot to allow comparison of grafted vs. own rooted vines. Data collection began in 2003 including bud break according to Eichorn-Lorenz rating scale, vigor, fruit yield and quality.

### Observational Variety Trial:

Plantings of various new varieties/lines of interest continue to be made.

### Rootstock Trial:

The rootstock evaluation trial was planted in May, 2001. Grafted vines of 'Chardonnay' and 'Cabernet Franc' in rootstock combinations listed below were planted in rows 12' apart and 8' apart within row and trained to a Geneva Double Curtain trellis. Variety/Rootstock combinations are as follows: 'Chardonnay' – own roots, 1103P, 140R, 3309C, 5BB Kober, Freedom, St. George.  
'Cabernet Franc' – 1103P, 110R, 3309C, St. George

Data collection began in 2003 including bud break, vigor, fruit yield and quality.

## RESULTS:

Results are summarized in the following tables:

**Table 1A. Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P) Grape Vines, Perkins, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 453 pl/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Ruby Cabernet <sup>2</sup>	28-Jul	17916	16.9	109.2	4.18	0.32	21.6
Shiraz <sup>2</sup>	28-Jul	14711	17.1	166.4	3.84	0.52	20.6
Cabernet Franc <sup>2</sup>	22-Aug	12420	14.7	99.1	4.39	0.26	24.5
Petit Verdot <sup>2</sup>	22-Aug	11268	10.4	69.8	4.15	0.34	21.2
Sangiovese <sup>2</sup>	8-Aug	10759	17.5	177.1	3.83	0.37	20.7
Chardonnay <sup>1</sup>	4-Aug	9083	13.3	144.0	3.97	0.47	21.9
Pinot Gris <sup>2</sup>	25-Jul	8621	13.1	86.3	3.98	0.47	20.0
Cabernet Sauvignon <sup>2</sup>	28-Aug	8347	10.6	52.1	4.01	0.38	21.4
Merlot <sup>2</sup>	4-Aug	7826	12.0	133.2	4.20	0.28	22.9
Viognier <sup>1</sup>	28-Jul	7078	13.8	100.2	3.94	0.51	24.1
Cynthiana <sup>3</sup>	22-Aug	5255	9.0	69.1	3.85	0.50	20.7
Malbec <sup>2</sup>	22-Aug	2254	16.5	50.9	4.10	0.41	17.6

**Table 1B. Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P) Grape Vines, Perkins, OK 2005**

Variety	Harvest Date	Wt/acre (lbs) 453 pl/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Sangiovese <sup>2</sup>	29-Aug	26,863	20.8	267.7	3.78	0.43	18.24
Cabernet Franc <sup>2</sup>	7-Sep	24,066	16.2	170.5	4.20	0.27	20.93
Viognier <sup>1</sup>	19-Aug	22,140	11.6	156.7	3.75	0.40	17.28
Ruby Cabernet <sup>2</sup>	1-Sep	21,993	16.7	137.5	4.19	0.38	19.91
Merlot <sup>2</sup>	31-Aug	21,982	14.8	192.4	4.36	0.28	19.72
Petit Verdot <sup>2</sup>	31-Aug	20,929	12.4	122.9	3.98	0.58	19.06
Shiraz <sup>2</sup>	30-Aug	20,328	17.2	137.7	4.01	0.38	17.94
Pinot Gris <sup>2</sup>	9-Aug	20,314	10.3	121.0	3.77	0.38	17.26
Chardonnay <sup>1</sup>	18-Aug	19,343	13.8	153.2	3.77	0.46	19.72
Cabernet Sauvignon <sup>2</sup>	1-Sep	14,881	12.9	114.8	3.85	0.42	20.40
Cynthiana <sup>3</sup>	8-Sep	12,242	10.8	84.7	3.90	0.61	21.39
Malbec <sup>2</sup>	30-Aug	10,544	20.3	82.4	4.06	0.41	19.57

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red;  
Planted 2001; High cordon trellis; vine spacing 8x12

**Table 1C. Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P) Grape Vines, Perkins, OK 2004**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Ruby Cabernet <sup>2</sup>	8-Sep	20,623	20.1	151.3	4.12	0.42	23.58
Cabernet Franc <sup>2</sup>	30-Aug	18,960	16.3	141.6	4.30	0.35	23.53
Shiraz <sup>2</sup>	31-Aug	18,652	17.6	135.2	4.11	0.54	20.88
Viognier <sup>1</sup>	11-Aug	17,361	15.8	170.0	3.75	0.54	17.21
Merlot <sup>2</sup>	7-Sep	15,595	15.3	155.3	4.38	0.30	25.20
Sangiovese <sup>2</sup>	7-Sep	13,318	24.7	174.8	3.82	0.42	22.26
Petit Verdot <sup>2</sup>	1-Sep	12,797	11.8	92.0	3.93	0.55	23.03
Chardonnay <sup>1</sup>	13-Aug	11,993	15.8	182.5	3.81	0.61	20.77
Pinot Gris <sup>2</sup>	11-Aug	10,193	14.2	92.9	3.87	0.50	19.34
Cabernet Sauvignon <sup>2</sup>	5-Sep	9,196	14.2	88.4	3.89	0.50	22.45
Malbec <sup>2</sup>	2-Sep	7,475	23.3	91.0	4.13	0.53	21.57
Cynthiana <sup>3</sup>	20-Aug	3,601	10.7	56.1	3.61	1.15	21.03

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red;  
Planted 2001; High cordon trellis; vine spacing 8x12

**Table 1D. Effect of Cultivar on Fruit Yield and Quality from Grafted (1103P) Grape Vines. Perkins, OK 2003**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Sangiovese <sup>2</sup>	26-Aug	16,068	21.3	303.9	3.85	0.61	18.91
Ruby Cabernet <sup>2</sup>	26-Aug	13,874	16.7	202.4	4.13	0.53	21.74
Shiraz <sup>2</sup>	25-Aug	13,148	15.6	246.0	4.17	0.58	22.39
Cabernet Franc <sup>2</sup>	28-Aug	12,903	16.1	177.6	4.28	0.43	22.53
Cabernet Sauvignon <sup>2</sup>	26-Aug	10,930	12.0	137.8	4.01	0.54	21.87
Merlot <sup>2</sup>	22-Aug	10,035	15.2	197.5	4.04	0.52	22.28
Viognier <sup>1</sup>	8-Aug	9,096	13.8	217.8	4.01	0.61	19.38
Petit Verdot <sup>2</sup>	21-Aug	7,172	13.1	125.8	4.07	0.61	22.89
Malbec <sup>2</sup>	25-Aug	6,583	20.0	104.5	4.18	0.54	20.86
Chardonnay <sup>1</sup>	14-Aug	6,073	14.5	171.1	3.96	0.66	21.01
Pinot Gris <sup>2</sup>	13-Aug	3,508	11.7	109.3	4.44	0.57	24.27
Cynthiana <sup>3</sup>	19-Aug	2,382	7.6	47.9	3.76	1.25	23.69

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red;  
Planted 2001; High cordon trellis; vine spacing 8x12

**Table 1E. Average Effect of Cultivar on Fruit Yield and Quality From Grafted (1103P) Grape Vines, Perkins, OK 2003-2006**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Ruby Cabernet <sup>2</sup>	31-Aug	18,602	17.6	150.1	4.15	0.41	21.7
Cabernet Franc <sup>2</sup>	29-Aug	17,087	15.8	147.3	4.29	0.33	22.9
Sangiovese <sup>2</sup>	25-Aug	16,752	21.1	230.9	3.82	0.46	20.0
Shiraz <sup>2</sup>	20-Aug	16,710	16.9	171.3	4.03	0.50	20.5
Viognier <sup>1</sup>	8-Aug	13,919	13.8	161.2	3.86	0.52	19.5
Merlot <sup>2</sup>	23-Aug	13,859	14.4	169.6	4.24	0.35	22.5
Petit Verdot <sup>2</sup>	26-Aug	13,041	11.9	102.6	4.03	0.52	21.5
Chardonnay <sup>1</sup>	12-Aug	11,623	14.3	162.7	3.88	0.55	20.9
Cabernet Sauvignon <sup>2</sup>	30-Aug	10,838	12.4	98.3	3.94	0.46	21.5
Pinot Gris <sup>2</sup>	6-Aug	10,659	12.3	102.4	4.01	0.48	20.2
Malbec <sup>2</sup>	27-Aug	6,714	20.0	82.2	4.12	0.47	19.9
Cynthiana <sup>3</sup>	25-Aug	5,870	9.5	64.4	3.78	0.88	21.7

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red;  
Planted 2001; High cordon trellis; vine spacing 8x12

**Table 2A. Effect of Cultivar on Fruit Yield and Quality From Own Rooted Grape Vines, Perkins, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Shiraz <sup>2</sup>	28-Jul	12,911	76.2	15.5	3.63	0.48	21.3
Chambourcin <sup>5</sup>	15-Aug	8,975	172.2	15.8	3.78	0.38	23.8
Merlot <sup>2</sup>	4-Aug	8,754	121.3	12.6	4.06	0.27	23.9
Cabernet Sauvignon <sup>2</sup>	28-Aug	7,826	70.7	10.9	4.10	0.29	22.3
Ruby Cabernet <sup>2</sup>	22-Aug	6,993	66.4	11.7	4.13	0.28	22.7
Cynthiana <sup>3</sup>	22-Aug	5,968	6.0	8.3	3.87	0.46	20.2
Viognier <sup>1</sup>	28-Jul	5,221	75.4	13.0	3.66	0.56	21.6
Pinot Gris <sup>2</sup>	25-Jul	5,006	72.2	12.1	3.93	0.44	19.8
Sangiovese <sup>2</sup>	8-Aug	4,643	155.3	16.2	3.60	0.44	20.4
Malbec <sup>2</sup>	22-Aug	4,417	48.6	15.2	4.01	0.32	20.0
Cabernet Franc <sup>2</sup>	28-Aug	4,236	72.8	13.6	4.28	0.24	23.8
Chardonnay <sup>1</sup>	4-Aug	3,601	80.3	12.5	3.88	0.46	21.7
Petit Verdot <sup>2</sup>	22-Aug	2,605	48.9	8.1	4.28	0.26	24.0

**Table 2B. Effect of Cultivar on Fruit Yield and Quality From Own Rooted Grape Vines, Perkins, OK 2005**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Merlot <sup>2</sup>	31-Aug	18,924	13.4	146.3	4.19	0.31	20.09
Chambourcin <sup>5</sup>	29-Aug	17,644	20.0	141.4	3.95	0.48	22.13
Viognier <sup>1</sup>	19-Aug	13,783	12.0	148.6	3.72	0.45	16.89
Sangiovese <sup>2</sup>	29-Aug	13,401	21.1	233.7	3.84	0.40	19.35
Cabernet Sauvignon <sup>2</sup>	1-Sep	12,673	13.6	117.9	3.84	0.36	20.51
Pinot Gris <sup>2</sup>	15-Aug	10,159	9.3	79.1	3.86	0.39	17.83
Cabernet Franc <sup>2</sup>	7-Sep	9,139	13.2	110.7	4.03	0.26	19.76
Ruby Cabernet <sup>2</sup>	1-Sep	8,664	13.6	83.8	4.09	0.34	20.61
Chardonnay <sup>1</sup>	18-Aug	8,641	12.0	104.9	3.82	0.40	19.27
Cynthiana <sup>3</sup>	8-Sep	8,041	10.8	81.5	3.78	0.70	21.05
Shiraz <sup>2</sup>	30-Aug	6,753	14.7	97.3	3.77	0.30	17.92
Malbec <sup>2</sup>	30-Aug	6,427	19.4	83.7	3.93	0.32	20.60
Petit Verdot <sup>2</sup>	31-Aug	4,870	8.5	91.8	4.06	0.43	19.95

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red; 5- Hybrid, red;  
Own rooted planted 2002; High cordon trellis; vine spacing 8x12

**Table 2C. Effect of Cultivar on Fruit Yield and Quality From Own Rooted Grape Vines, Perkins, OK 2004**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin <sup>5</sup>	20-Aug	16,852	25.1	212.8	3.81	0.55	21.52
Merlot <sup>2</sup>	7-Sep	12,458	14.5	132.4	4.33	0.29	25.08
Malbec <sup>2</sup>	2-Sep	7,361	20.0	86.2	4.15	0.48	22.05
Viognier <sup>1</sup>	11-Aug	6,795	15.0	164.8	3.78	0.52	16.81
Cabernet Sauvignon <sup>2</sup>	5-Sep	6,489	14.6	97.1	4.03	0.38	22.95
Ruby Cabernet <sup>2</sup>	8-Sep	6,441	14.8	99.3	4.11	0.32	23.70
Sangiovese <sup>2</sup>	7-Sep	5,625	23.6	140.4			
Cabernet Franc <sup>2</sup>	30-Aug	5,014	16.5	148.4	4.23	0.32	23.60
Pinot Gris <sup>2</sup>	11-Aug	4,632	14.3	86.2	3.80	0.49	18.76
Chardonnay <sup>1</sup>	13-Aug	3,751	15.4	167.0	3.79	0.64	20.45
Shiraz <sup>2</sup>	31-Aug	2,850	17.9	128.9	4.14	0.40	21.18
Cynthiana <sup>3</sup>	20-Aug	2,752	9.7	49.6	3.61	1.07	21.08
Petit Verdot <sup>2</sup>	1-Sep	849	11.9	58.4	4.21	0.37	23.50

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red; 5- Hybrid, red;  
Own rooted planted 2002; High cordon trellis; vine spacing 8x1



**Table 2D. Average Effect of Cultivar on Fruit Yield and Quality From Own Rooted Grape Vines, Perkins, OK 2004-2006**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin <sup>5</sup>	21-Aug	14,490	20.3	175.5	3.85	0.47	22.5
Merlot <sup>2</sup>	24-Aug	13,379	13.5	133.3	4.19	0.29	23.0
Cabernet Sauvignon <sup>2</sup>	1-Sep	8,996	13.0	95.3	3.99	0.34	21.9
Viognier <sup>1</sup>	9-Aug	8,599	13.3	129.6	3.72	0.51	18.4
Sangiovese <sup>2</sup>	25-Aug	7,890	20.3	176.5	3.72	0.42	19.9
Shiraz <sup>2</sup>	19-Aug	7,504	16.0	100.8	3.85	0.39	20.1
Ruby Cabernet <sup>2</sup>	31-Aug	7,366	13.4	83.2	4.11	0.31	22.3
Pinot Gris <sup>2</sup>	6-Aug	6,599	11.9	79.1	3.86	0.44	18.8
Cabernet Franc <sup>2</sup>	1-Sep	6,130	14.4	110.6	4.18	0.27	22.4
Malbec <sup>2</sup>	28-Aug	6,068	18.2	72.8	4.03	0.37	20.9
Cynthiana <sup>3</sup>	27-Aug	5,587	9.6	64.7	3.75	0.74	20.8
Chardonnay <sup>1</sup>	11-Aug	5,331	13.3	117.4	3.83	0.50	20.5
Petit Verdot <sup>2</sup>	28-Aug	2,775	9.5	66.3	4.18	0.35	22.5

Variety Type - 1-Vinifera, white; 2-Vinifera, red; 3-American, red; 5- Hybrid, red;  
Own rooted planted 2002; High cordon trellis; vine spacing 8x12

**Table 3A. Effect of Rootstock on Cabernet Franc Yield and Quality. Perkins, OK 2006**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
St George	29-Aug	6,172	12.6	73.8	4.33	0.22	21.2
110R	29-Aug	5,708	13.0	71.4	4.39	0.23	21.8
3309C	29-Aug	5,115	13.5	66.4	4.27	0.33	20.9
1103P	29-Aug	4,983	12.1	57.2	4.45	0.33	22.1

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 3B. Effect of Rootstock on Cabernet Franc Yield and Quality. Perkins, OK 2005**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
1103P	7-Sep	33,182	15.6	142.6	4.06	0.28	19.90
St George	8-Sep	31,132	16.0	146.0	4.25	0.29	20.99
110R	6-Sep	29,354	15.0	117.7	3.94	0.29	20.65
3309C	6-Sep	22,356	13.3	105.6	3.90	0.29	21.23

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 3C. Effect of Rootstock on Cabernet Franc Yield and Quality, Perkins, OK 2004**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
1103P	30-Aug	21,178	14.1	118.4	4.17	0.38	24.50
110R	1-Sep	19,490	16.2	140.5	4.22	0.32	24.18
St George	3-Sep	17,146	16.4	120.6	4.35	0.36	23.00
3309C	30-Aug	12,322	15.5	119.8	4.26	0.30	24.11

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 3D. Effect of Rootstock on Cabernet Franc Yield and Quality, Perkins, OK 2003**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
110R	28-Aug	11,964	16.2	157.1	4.16	0.44	22.07
3309C	28-Aug	8,164	16.8	164.1	4.21	0.42	22.55
St George	28-Aug	7,543	15.6	147.9	4.23	0.43	21.88
1103P	28-Aug	7,185	16.8	180.3	4.25	0.35	21.70

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 3E. Average Effect of Rootstock on Cabernet Franc Yield and Quality, Perkins, OK 2003-2006**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
1103P	31-Aug	16,632	14.6	124.6	4.23	0.34	22.1
110R	31-Aug	16,629	15.1	121.7	4.18	0.32	22.2
St. George	1-Sep	15,498	15.1	122.1	4.28	0.33	21.8
3309C	31-Aug	11,989	14.8	114.0	4.16	0.34	22.2

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 4A. Effect of Rootstock on Chardonnay Yield and Quality. Perkins, OK 2006**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
St George	7-Aug	14822	14.0	130.8	4.07	0.42	22.4
3309C	29-Aug	10385	12.9	100.5	4.03	0.40	24.2
140R	7-Aug	12186	13.2	133.4	4.01	0.39	23.0
Freedom	7-Aug	13228	14.2	177.3	4.01	0.42	22.9
1103P	7-Aug	13062	14.0	154.5	4.01	0.43	22.7
5BBK	8-Aug	13046	14.0	147.5	4.01	0.40	22.0
Own	8-Aug	7758	13.6	126.3	3.99	0.42	22.7

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 4B. Effect of Rootstock on Chardonnay Yield and Quality. Perkins, OK 2005**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
St George	18-Aug	33,465	14.9	123.0	3.66	0.49	19.61
3309C	16-Aug	31,427	14.3	148.3	3.63	0.46	19.18
140R	18-Aug	30,430	13.4	151.6	3.67	0.47	19.16
Freedom	18-Aug	27,542	15.4	143.4	3.70	0.49	20.04
1103P	18-Aug	27,369	14.4	125.2	3.61	0.48	19.75
5BBK	16-Aug	25,798	15.0	172.0	3.60	0.50	19.41
Own	17-Aug	21,937	13.9	154.5	3.69	0.41	16.65

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 4C. Effect of Rootstock on Chardonnay Yield and Quality. Perkins, OK 2004**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
St George	17-Aug	22,537	14.7	138.1	3.66	0.72	21.49
140R	18-Aug	19,037	16.1	135.6	3.67	0.65	21.83
Freedom	17-Aug	18,460	16.4	186.7	3.72	0.67	21.96
3309C	11-Aug	18,177	16.2	193.1	3.79	0.54	20.99
5BBK	17-Aug	16,467	16.2	171.0	3.72	0.68	22.19
Own	16-Aug	13,918	15.4	176.1	3.66	0.66	21.64
1103P	16-Aug	13,515	16.6	163.6	3.72	0.64	21.70

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 4D. Effect of Rootstock on Chardonnay Yield and Quality. Perkins, OK 2003**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
140R	14-Aug	10,534	15.2	216.8	3.96	0.60	20.84
Freedom	14-Aug	9,832	15.6	224.0	3.97	0.58	20.45
St George	14-Aug	9,704	15.3	173.1	3.96	0.64	21.28
5BBK	14-Aug	8,375	15.8	202.8	4.01	0.60	20.98
3309C	14-Aug	5,388	15.7	182.7	4.00	0.60	21.74
Own	14-Aug	3,990	15.3	152.9	3.98	0.65	21.43
1103P	14-Aug	3,454	15.8	162.1	3.95	0.59	20.90

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 4E. Average Effect of Rootstock on Chardonnay Yield and Quality. Perkins, OK 2003-2006**

Rootstock	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
St George	14-Aug	20,132	14.7	141.2	3.84	0.57	21.2
140R	14-Aug	18,047	14.5	159.3	3.83	0.53	21.2
Freedom	14-Aug	17,265	15.4	182.8	3.85	0.54	21.3
3309C	17-Aug	16,344	14.8	156.2	3.86	0.50	21.5
5BBK	13-Aug	15,922	15.2	177.1	3.84	0.54	21.2
1103P	13-Aug	14,350	15.2	151.3	3.83	0.54	21.4
Own	13-Aug	11,568	14.6	150.9	3.83	0.54	20.7

Planted 2001; Geneva Double curtain trellis; vine spacing 8x12

**Table 5A. Yield and Quality of selected varieties/lines, Observational Grape Variety Trial. Perkins, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
H2 - #211 <sup>3</sup>	9-Aug	9211	29.6	200.3	3.74	0.56	19.3
H3 - Cimarron <sup>3</sup>	5-Aug	226	17.3	40.8	3.75	0.49	18.0
H5 - #125 <sup>3</sup>	9-Aug	7682	29.9	138.3	3.84	0.50	20.2
H1 - #249 <sup>3</sup>	1-Aug	5965	41.4	108.4	3.75	0.43	17.9
H6 - #17-347 <sup>3</sup>	9-Aug	4239	41.2	212.2	4.20	0.51	19.1
*Rubiyat <sup>3</sup>	9-Aug	4813	17.6	58.5	4.03	0.45	19.4
Sunbelt <sup>3</sup>	30-Aug	4926	43.8	104.0	3.72	0.40	17.6
H4 - #12-375 <sup>4</sup>	9-Aug	19479	20.5	146.1	3.99	0.45	22.3
Chambourcin <sup>5</sup>	15-Aug	8069	15.9	178.5	3.76	0.40	24.0
*Frontenac <sup>5</sup>	17-Jul	11467	9.4	110.8	3.45	1.05	24.3
NY70.0809.10 <sup>5</sup>	9-Aug	2775	17.8	60.6	3.80	0.47	17.9
NY73.0136.17 <sup>5</sup>	9-Aug	4417	17.0	87.2	3.90	0.42	19.6
Chardone <sup>6</sup>	25-Jul	11389	15.9	165.3	3.33	0.70	21.4
NY62.0122.01 <sup>6</sup>	9-Aug	2548	19.8	51.9	3.93	0.58	19.9
Vignoles <sup>6</sup>	15-Aug	1757	11.7	67.7	3.79	0.54	25.6
Gamay <sup>1</sup>	28-Jul	2407	15.9	66.7	3.50	0.44	23.0
Sauvignon Blanc <sup>1</sup>	28-Jul	7828	14.2	101.4	4.01	0.40	22.4
Traminette <sup>6</sup>	1-Aug	2680	14.9	127.5	3.83	0.40	21.0
*White Reisling <sup>1</sup>	29-Aug	3001	12.5	88.1	3.76	0.36	20.0
**Montepulciano <sup>2</sup>	30-Aug	2775	18.1	99.4	4.20	0.34	19.0
Zinfandel <sup>2</sup>	8-Aug	14590	22.3	228.4	3.66	0.35	19.3
GG9356	11 Oct	2,888	14.4	106.7	.	0.76	19.9
GG9336	11 Oct	3,001	9.6	70.1	3.55	1.41	21.8
GG9330	11 Oct	8,607	8.6	70.1	3.85	0.76	22.6

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

Planted in 2001, \* planted in 2002; vine spacing 8x12; High cordon trellis;

Own rooted plants, \*\* NJ110R rootstock

**Table 5B. Yield and Quality of selected varieties/lines, Observational Grape Variety Trial. Perkins, OK 2005**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
H2 - #211 <sup>3</sup>	.	.	.	.	.	.	.
H3 - Cimarron <sup>3</sup>	.	.	.	.	.	.	.
H5 - #125 <sup>3</sup>	.	.	.	.	.	.	.
H1 - #249 <sup>3</sup>	.	.	.	.	.	.	.
H6 - #17-347 <sup>3</sup>	.	.	.	.	.	.	.
*Rubiyat <sup>3</sup>	22-Aug	8,777	18.0	82.8	3.78	0.42	19.00
Sunbelt <sup>3</sup>	2-Sep	5,210	41.3	101.9	3.41	0.51	17.20
H4 - #12-375 <sup>4</sup>	.	.	.	.	.	.	.
Chambourcin <sup>5</sup>	27-Aug	8,777	22.7	173.1	3.90	0.53	20.70
*Frontenac <sup>5</sup>	2-Jul	9,456	9.0	111.4	2.99	1.24	22.00
NY70.0809.10 <sup>5</sup>	26-Aug	6,993	23.2	137.2	4.38	0.32	19.60
NY73.0136.17 <sup>5</sup>	26-Aug	2,067	19.3	90.9	4.01	0.43	18.40
Chardone <sup>6</sup>	5-Aug	9,958	18.6	177.8	3.31	0.64	19.53
NY62.0122.01 <sup>6</sup>	22-Aug	5,238	24.4	73.6	4.14	0.40	21.00
Vignoles <sup>6</sup>	28-Jul	5,373	11.0	95.4	3.15	1.02	20.89
Gamay <sup>1</sup>	19-Aug	1,982	11.4	57.9	3.49	0.39	19.00
Sauvignon Blanc <sup>1</sup>	1-Aug	11,651	14.8	158.5	3.52	0.64	15.50
Traminette <sup>6</sup>	1-Aug	2,661	15.7	69.3	3.43	0.56	19.10
*White Reisling <sup>1</sup>	26-Aug	14,241	13.5	99.2	3.60	0.46	16.95
**Montepulciano <sup>2</sup>	9-Sep	2,322	12.7	90.4	3.97	0.40	22.15
Zinfandel <sup>2</sup>	19-Aug	19,604	23.3	242.6	3.31	0.47	13.10

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

Planted in 2001, \* planted in 2002; vine spacing 8x12; High cordon trellis;

Own rooted plants, \*\* NJ110R rootstock

**Table 5C. Yield and Quality of selected varieties/lines, Observational Grape Variety Trial. Perkins, OK 2004**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
H2 - #211 <sup>3</sup>	31-Aug	2265	42.8	71.4	3.89	0.66	19.90
H3 - Cimarron <sup>3</sup>	31-Aug	1359	17.2	55.1	3.37	1.14	14.50
H5 - #125 <sup>3</sup>	31-Aug	3284	38.8	126.0	3.84	0.52	19.85
H1 - #249 <sup>3</sup>	25-Aug	5549	51.8	91.8	4.10	0.46	18.50
H6 - #17-347 <sup>3</sup>	31-Aug	5096	41.6	132.4	4.27	0.51	19.40
*Rubiyat <sup>3</sup>	31-Aug	9513	19.2	104.7	4.18	0.48	20.05
Sunbelt <sup>3</sup>	9-Sep	5181	38.6	89.0	3.74	0.50	20.80
H4 - #12-375 <sup>4</sup>	30-Aug	20838	30.6	159.6	3.97	0.52	23.30
Chambourcin <sup>5</sup>	20-Aug	5555	25.3	202.7	3.76	0.58	21.55
*Frontenac <sup>5</sup>	26-Jul	11913	11.5	131.3	3.43	1.13	20.15
Chardone <sup>6</sup>	24-Jul	6075	21.9	295.2	3.41	0.80	20.67
Vignoles <sup>6</sup>	24-Jul	5986	15.7	113.3	3.36	1.04	21.67
Sauvignon Blanc <sup>1</sup>	3-Aug	5983	16.5	132.6	3.57	0.67	19.45
*White Reisling <sup>1</sup>	18-Aug	6653	14.4	91.9	3.40	0.64	19.35
**Montepulciano <sup>2</sup>	1-Sep	1586	17.2	61.8	3.85	0.48	22.60
Zinfandel <sup>2</sup>	14-Aug	5502	29.5	144.8	3.41	0.79	15.78

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

Planted in 2001, \* planted in 2002; vine spacing 8x12; High cordon trellis;

Own rooted plants, \*\* NJ110R rootstock

**Table 5D. Yield and Quality of Selected Varieties/lines, Observational Grape Variety Trial, Perkins, OK 2003**

Variety	Harvest Date	Wt/acre (lbs) 453 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
H2 - #211 <sup>3</sup>	27-Aug	9,551	24.4	205.3	3.93	0.53	21.55
H3 - Cimarron <sup>3</sup>	21-Aug	7,366	16.2	83.4	4.37	0.39	23.75
H5 - #125 <sup>3</sup>	27-Aug	7,289	33.7	273.5	4.06	0.58	20.00
H1 - #249 <sup>3</sup>	27-Aug	6,795	39.5	98.6	4.03	0.57	18.65
H6 - #17-347 <sup>3</sup>	27-Aug	5,947	33.9	156.6	3.94	0.64	17.90
*Rubiyat <sup>3</sup>	21-Aug	1,257	20.6	126.0	4.40	0.50	22.15
Sunbelt <sup>3</sup>	.	.	.	.	.	.	.
H4 - #12-375 <sup>4</sup>	21-Aug	10,419	20.8	202.2	3.92	0.75	21.90
Chambourcin <sup>5</sup>	19-Aug	7,723	19.4	123.0	3.90	0.73	23.46
*Frontenac <sup>5</sup>	23-Jul	1,812	8.9	87.3	3.56	0.98	24.15
Chardone <sup>6</sup>	8-Aug	3,709	16.3	159.8	3.76	0.80	24.15
Vignoles <sup>6</sup>	1-Aug	3,142	12.0	105.7	4.06	0.58	21.79
Sauvignon Blanc <sup>1</sup>	15-Aug	6,356	14.6	113.6	4.08	0.52	19.85
*White Reisling <sup>1</sup>	27-Aug	906	13.6	90.6	3.85	0.62	20.15
**Montepulciano <sup>2</sup>	.	.	.	.	.	.	.
Zinfandel <sup>2</sup>	27-Aug	5,899	22.6	300.0	3.92	0.57	17.95

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

Planted in 2001, \* planted in 2002; vine spacing 8x12; High cordon trellis;

Own rooted plants, \*\* NJ110R rootstock



**Table 5E. Average Yield and Quality of Selected Varieties/lines, Observational Grape Variety Trial, Perkins, OK 2003-2006**

Variety	Harvest Date	Wt/acre (lbs) 453 pt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
H4 - #12-375 <sup>4</sup>	20-Aug	16,912	24.0	169.3	3.96	0.57	22.5
Zinfandel <sup>2</sup>	17-Aug	11,399	24.4	229.0	3.57	0.55	16.5
*Frontenac <sup>5</sup>	22-Jul	8,662	11.8	110.2	3.36	1.10	22.7
Sauvignon Blanc <sup>1</sup>	4-Aug	7,954	15.0	126.5	3.79	0.56	19.3
Chardone <sup>6</sup>	31-Jul	7,783	18.2	199.5	3.45	0.74	21.4
Chambourcin <sup>5</sup>	20-Aug	7,531	19.2	169.3	3.83	0.56	22.4
H2 - #211 <sup>3</sup>	22-Aug	7,009	32.3	159.0	3.85	0.58	20.3
*White Reisling <sup>1</sup>	25-Aug	6,200	13.5	92.4	3.65	0.52	19.1
H1 - #249 <sup>3</sup>	17-Aug	6,103	44.2	99.6	3.96	0.49	18.4
*Rubiyat <sup>3</sup>	20-Aug	6,090	18.8	93.0	4.10	0.46	20.2
H5 - #125 <sup>3</sup>	22-Aug	6,085	34.1	179.3	3.91	0.53	20.0
Sunbelt <sup>3</sup>	3-Sep	5,106	41.2	98.3	3.62	0.47	18.5
H6 - #17-347 <sup>3</sup>	22-Aug	5,094	38.9	103.4	4.14	0.56	18.8
NY70.0809.10 <sup>5</sup>	17-Aug	4,884	20.1	98.9	4.09	0.39	18.8
Vignoles <sup>6</sup>	1-Aug	4,064	12.6	95.5	3.59	0.79	22.5
NY62.0122.01 <sup>6</sup>	15-Aug	3,893	22.1	62.8	4.03	0.49	20.5
NY73.0136.17 <sup>5</sup>	17-Aug	6,092	17.6	89.0	3.96	0.42	19.0
H3 – Cimarron <sup>3</sup>	19-Aug	2,984	16.9	59.8	3.83	0.67	18.8
Traminette <sup>6</sup>	1-Aug	2,671	15.3	98.4	3.63	0.48	20.1
**Montepulciano <sup>2</sup>	3-Sep	2,227	16.0	83.9	4.00	0.41	21.3
Gamay <sup>1</sup>	8-Aug	2,194	13.7	62.3	3.50	0.42	21.0

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

Planted in 2001, \* planted in 2002; vine spacing 8x12; High cordon trellis; Own rooted plants,

**Table 6. Effect of Variety on Average Budbreak Date - Replicated Wine Grape Variety Trial – Perkins, OK, 2003-2006**

Variety	Average Budbreak	Budbreak for 2003	Budbreak for 2004	Budbreak for 2005	Budbreak for 2006
Chardonnay <sup>1</sup>	27-Mar	1-Apr	27-Mar	1-Apr	17-Mar
Sangiovese <sup>2</sup>	2-Apr	7-Apr	30-Mar	3-Apr	31-Mar
Viognier <sup>1</sup>	4-Apr	7-Apr	30-Mar	5-Apr	7-Apr
Cabernet Franc <sup>2</sup>	4-Apr	7-Apr	2-Apr	5-Apr	3-Apr
Merlot <sup>2</sup>	4-Apr	9-Apr	31-Mar	5-Apr	3-Apr
Shiraz <sup>2</sup>	4-Apr	4-Apr	6-Apr	5-Apr	3-Apr
Malbec <sup>2</sup>	6-Apr	9-Apr	5-Apr	6-Apr	7-Apr
Pinot Gris <sup>2</sup>	5-Apr	7-Apr	8-Apr	5-Apr	3-Apr
Petit Verdot <sup>2</sup>	7-Apr	11-Apr	5-Apr	6-Apr	7-Apr
Cynthiana <sup>3</sup>	9-Apr	14-Apr	5-Apr	8-Apr	10-Apr
Ruby Cabernet <sup>2</sup>	7-Apr	13-Apr	7-Apr	8-Apr	3-Apr
Cabernet Sauvignon <sup>2</sup>	10-Apr	12-Apr	12-Apr	11-Apr	7-Apr

**Table 7. Effect of Variety on Average Budbreak Date – Observational Grape Planting Perkins, OK 2003-2006**

Variety	Average Budbreak	Budbreak for 2003	Budbreak for 2004	Budbreak for 2005	Budbreak for 2006
Chardonel <sup>6</sup>	2-Apr	4-Apr	31-Mar	1-Apr	3-Apr
H2 - #211 <sup>3</sup>	3-Apr	7-Apr	30-Mar	5-Apr	3-Apr
H3 – Cimarron <sup>3</sup>	5-Apr	7-Apr	31-Mar	8-Apr	7-Apr
H6 - #17-347 <sup>3</sup>	3-Apr	7-Apr	31-Mar	5-Apr	31-Mar
H4 - #12-375 <sup>4</sup>	5-Apr	4-Apr	5-Apr	8-Apr	3-Apr
H5 - #125 <sup>3</sup>	4-Apr	7-Apr	4-Apr	5-Apr	31-Mar
Sunbelt <sup>3</sup>	4-Apr	7-Apr	4-Apr	5-Apr	3-Apr
Neptune	5-Apr	12-Apr	31-Mar	5-Apr	3-Apr
White Reisling <sup>1</sup>	4-Apr	9-Apr	3-Apr	5-Apr	31-Mar
Sauvignon Blanc <sup>1</sup>	7-Apr	12-Apr	3-Apr	10-Apr	5-Apr
Frontenac <sup>5</sup>	7-Apr	11-Apr	5-Apr	8-Apr	5-Apr
Chambourcin <sup>5</sup>	7-Apr	12-Apr	5-Apr	6-Apr	5-Apr
H1 - #249 <sup>3</sup>	6-Apr	13-Apr	4-Apr	5-Apr	3-Apr
Zinfandel <sup>2</sup>	7-Apr	13-Apr	4-Apr	6-Apr	7-Apr
Vignoles <sup>6</sup>	10-Apr	14-Apr	8-Apr	11-Apr	7-Apr
Montepulciano <sup>2</sup>	12-Apr	12-Apr	12-Apr	15-Apr	10-Apr
Rubiyat <sup>3</sup>	12-Apr	16-Apr	17-Apr	10-Apr	7-Apr

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

**Table 8A. Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin	25-Aug	11,923	21.4	137.7	3.51	0.58	19.39
Cabernet Sauvignon	25-Aug	9,225	12.2	96.3	3.59	0.42	19.46
Cabernet Franc	25-Aug	8,681	12.7	107.6	3.37	0.53	17.11
Chardonel	4-Aug	7,179	15.9	125.3	3.27	0.86	24.95
Vignoles	29-Jul	4,692	12.6	81.0	3.19	1.11	24.95
Riesling	25-Aug	2,238	14.0	43.0	3.58	0.65	15.70
Chardonnay	18-Aug	1,666	14.3	52.8	3.61	0.53	19.08

**Table 8B. Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin	6-Aug	18,598	16.7	151.7	.	.	.
Chardonel	31-Jul	8,047	16.6	130.9	3.34	0.64	23.03
Vignoles	31-Jul	5,519	13.0	64.4	3.19	1.29	21.10
Riesling	9-Aug	5,236	13.8	63.5	3.70	0.52	16.93
Chardonnay	1-Aug	4,148	11.1	99.6	3.74	0.56	20.78
Cabernet Franc	10-Aug	2,051	10.7	58.2	3.81	0.49	18.53
Cabernet Sauvignon	10-Aug	1,048	9.3	65.9	3.68	0.58	17.70

**Table 8C. Average Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005-2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin	15-Aug	15,260	19.0	144.7	3.51	0.58	19.39
Chardonel	2-Aug	7,613	16.2	128.1	3.30	0.75	23.99
Cabernet Franc	17-Aug	5,366	11.7	82.9	3.59	0.51	17.82
Cabernet Sauvignon	17-Aug	5,137	10.8	81.1	3.63	0.50	18.58
Vignoles	30-Jul	5,106	12.8	72.7	3.19	1.20	23.03
Riesling	17-Aug	3,737	13.9	53.2	3.64	0.59	16.31
Chardonnay	9-Aug	2,907	12.7	76.2	3.67	0.54	19.93

**Table 9A. Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2004**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Sunbelt	16-Aug	6,528	55.3	167.1	3.23	0.89	1375
Chambourcin	14-Aug	6,233	22.0	189.5	3.29	0.83	18.10
Chardonel	9-Aug	6,228	18.8	171.0	3.24	0.87	17.65
Frontenac	2-Aug	5,789	11.4	132.7	3.30	1.06	21.93
Riesling	9-Aug	4,374	12.9	103.8	3.27	0.77	17.24
Vignoles	2-Aug	3,810	14.4	94.6	3.24	0.96	22.98
Cabernet Franc	16-Aug	3,162	13.3	76.6	3.42	0.58	18.08
Cabernet Sauvignon	12-Aug	2,611	.	.	.	.	.
Chardonnay	9-Aug	1,747	13.8	107.3	3.53	0.63	20.19
Cynthiana	16-Aug	544	9.2	27.4	3.25	1.25	20.89

**Table 9B. Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2005**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Frontenac	2-Aug	11,832	10.2	82.4	3.09	1.24	22.45
NY73.0136.18	18-Aug	5,621	19.3	104.4	3.62	0.66	17.42
Vignoles	2-Aug	3,423	9.7	51.5	3.18	1.08	23.95
Traminette	18-Aug	3,317	17.6	68.9	3.42	0.46	18.73
Riesling	24-Aug	2,811	11.1	34.7	3.33	0.84	13.38
Chardonel	4-Aug	2,777	13.3	81.8	3.05	1.23	19.83
NY62.0122.01	25-Aug	2,418	21.2	42.2	4.10	0.47	19.07
Cabernet Sauvignon	25-Aug	2,403	12.4	60.8	3.50	0.43	19.05
Chambourcin	25-Aug	2,391	15.6	81.0	3.27	0.77	18.04
Cabernet Franc	25-Aug	1,927	11.5	64.6	3.51	0.46	17.16
NY70.08909.11	24-Aug	1,768	23.4	79.9	3.66	0.53	18.35
Cynthiana	25-Aug	1,235	9.7	35.6	3.18	1.14	19.81
Sunbelt	25-Aug	1,077	37.3	72.4	3.29	0.70	16.64
Chardonnay	18-Aug	895	12.0	48.4	3.45	0.51	19.35

**Table 9C. Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
NY70.08909.11	6-Aug	13,313	19.2	102.9	.	.	.
Traminette	6-Aug	10,359	14.3	75.2	.	.	.
NY73.0136.18	6-Aug	9,089	17.1	123.1	.	.	.
Riesling	9-Aug	6,086	11.4	68.5	3.14	0.60	14.35
NY62.0122.01	6-Aug	5,863	21.0	50.8	.	.	.
Frontenac	19-Jul	4,919	8.3	80.6	2.91	1.36	22.43
Chardonel	31-Jul	3,859	15.3	88.7	3.21	0.64	22.83
Cynthiana	9-Aug	3,105	6.8	38.0	3.25	0.87	19.28
Chambourcin	7-Aug	1,938	14.6	98.3	.	.	.
Cabernet Sauvignon	10-Aug	1,904	9.1	58.1	3.52	0.52	17.63
Cabernet Franc	9-Aug	1,383	10.8	76.0	3.67	0.45	19.73
Vignoles	31-Jul	1,281	10.8	35.0	2.97	1.37	22.65
Sunbelt	8-Aug	1,031	29.8	83.5	2.93	0.74	16.10
Chardonnay	1-Aug	261	10.7	94.3	3.67	0.62	21.20

**Table 9D. Average Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Woodland Park Vineyard, Stillwater, OK 2004-2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
NY70.08909.11	15-Aug	7,540	21.3	91.4	3.66	0.53	18.35
Frontenac	28-Jul	7,513	9.9	98.6	3.10	1.22	22.27
NY73.0136.18	12-Aug	7,355	18.2	113.7	3.62	0.66	17.42
Traminette	12-Aug	6,838	16.0	72.0	3.42	0.46	18.73
Riesling	14-Aug	4,423	11.8	69.0	3.25	0.74	14.99
Chardonel	4-Aug	4,288	15.8	113.8	3.17	0.91	20.10
NY62.0122.01	15-Aug	4,140	21.1	46.5	4.10	0.47	19.07
Chambourcin	15-Aug	3,521	17.4	123.0	3.28	0.80	18.07
Sunbelt	16-Aug	2,879	40.8	107.7	3.15	0.78	15.50
Vignoles	1-Aug	2,838	11.6	60.3	3.13	1.14	23.19
Cabernet Sauvignon	15-Aug	2,306	10.7	59.4	3.51	0.48	18.34
Cabernet Franc	16-Aug	2,157	11.9	72.4	3.53	0.50	18.32
Cynthiana	16-Aug	1,628	8.6	33.7	3.23	1.09	19.99
Chardonnay	9-Aug	968	12.1	83.3	3.55	0.59	20.25

**Table 10A. Average Effect of Cultivar on Fruit Yield and Quality from Grafted (3309C) Grape Vines, Burns Flat, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Chambourcin	3-Aug	8,551	14.0	95.8	3.55	0.59	19.20
Riesling	4-Aug	7,667	9.4	55.9	3.69	0.54	18.73
Chardonel	23-Jul	5,440	10.1	60.4	3.51	0.61	19.33
Cabernet Franc	3-Aug	4,275	11.4	59.6	3.89	0.46	20.43
Vignoles	23-Jul	2,078	9.0	26.1	3.71	0.70	24.37
Cabernet Sauvignon	2-Aug	1,850	8.6	39.6	3.75	0.56	19.23
Chardonnay	27-Jul	861	7.9	31.5	3.69	0.60	18.87

**Table 11A. Average Effect of Cultivar on Fruit Yield and Quality from Own Rooted Grape Vines, Burns Flat, OK 2006**

Variety	Harvest Date	Wt/acre (lbs) 544 plt/a	Avg Wt. of 10 Berries (g)	Avg Cluster wt (g)	Avg. pH	Titrateable Acidity (% Tartaric Acid)	°Brix Avg S.S.
Traminette	3-Aug	8,523	10.4	83.3	3.81	0.47	19.40
Frontenac	23-Jul	7,469	7.5	67.1	3.81	0.90	24.63
Vignoles	23-Jul	7,231	10.5	43.0	3.65	0.85	24.50
Chambourcin	2-Aug	6,823	16.0	153.4	3.50	0.75	18.88
Chardonel	23-Jul	5,332	14.3	84.2	3.49	0.80	19.28
Cabernet Sauvignon	2-Aug	5,174	10.2	55.0	3.75	0.47	18.40
Cynthiana	2-Aug	4,707	7.9	55.2	3.19	1.46	19.00
Chardonnay	2-Aug	3,808	7.0	57.4	3.83	0.52	19.73
Riesling	4-Aug	3,672	8.0	38.4	3.66	0.49	19.25
NY73.0136.18	3-Aug	2,622	12.8	71.7	3.86	0.58	17.13
Cabernet Franc	2-Aug	1,918	11.5	77.4	3.89	0.44	19.95
Sunbelt	1-Aug	1,493	21.9	49.6	3.29	0.60	14.77
NY70.08909.11	2-Aug	1,284	11.5	39.2	3.72	0.56	17.60
NY62.0122.02	30-Jul	374	11.2	21.1	4.05	0.42	19.90