

KENTUCKY WINEGRAPE GROWERS SURVEY DECEMBER, 2002

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Introduction

This Kentucky winegrape grower survey is a follow-up survey for the Kentucky Wine Market Feasibility Assessment conducted this past summer by Motto Kryla Fisher (MKF), of St. Helena, California. We conducted this survey in October and early November of this year.

Growers Surveyed

We attempted to interview all grape growers in Kentucky who planted a minimum of one half acre of wine grapevines (300 vines). The initial grower list was compiled from the Kentucky Vineyard Society (KVS) membership list current through February 2002, a list current though November 2000, and KVS membership applications received between February and September of this year. We also sent an electronic mail request to all county extension offices requesting the names of grape growers in each county who were known to have planted at least 300 wine grapevines.

We selected 120 potential interviewees from the KVS membership lists and applications. We included growers who reported planting between 50 and 300 wine grapevines, and those intending to plant at least 50 wine grapevines, as some of these growers may have planted additional vines. Thirteen county agents responded to our query, and provided three more contacts. Growers provided nine more growers to contact, producing a list of 132 potential growers to survey. These growers were then screened for the 300-vine minimum during interviews.

Growers were eliminated from this list for several reasons. Twelve growers had not planted the minimum number of vines, their vineyards were neglected or had been reduced to less than 300 vines, or their vineyards had been sold. Fifteen growers were contacted by fax, electronic mail, or met in person who did not provide survey information. We were unable to contact another 30 growers, because we could only reach answering machines, or because of wrong phone numbers or e-mail addresses. In total we surveyed 77 growers.

Winegrape Varieties: Age and Quantity Planted

The number of Kentucky wine grape vineyards has increased approximately four-fold in the last four years. Only 16 of the 77 vineyards accounted for in this survey were at least partially planted by 1998. Nearly half of the 77 have been planted over the last two years.

Survey respondents reported a total of 153,959 vines, or 282 acres, assuming 544 vines per acre. One half (50%) of this acreage consists of French-American hybrid varieties, about one third (38%) are European, or *vinifera*, varieties, and about one tenth (12%) are American varieties (Tables 1-3, and 5). Table 4 is a summary of Tables 1-3, as acres of grapes. This table shows that over half of all vines accounted for in the survey were planted

in 2000 and 2001, the years during which cost share funds were distributed. Table 5 shows the values in Table 4 as percentages.

Table 1. French-American hybrid variety vine count by planting year.

Variety	Planned						Cumulative totals*
	2003	2002	2001	2000	1999	Older	
Chambourcin	0	2,790	3,625	8,934	3,750	750	19,849
Vidal Blanc	260	3,362	6,147	3,328	2,079	3,022	17,938
Seyval Blanc	0	1,660	3,673	2,317	609	910	9,169
Foch	0	400	687	5,033	285	1,150	7,555
Traminette	816	1,046	1,779	1,787	35	500	5,147
Chardonnell	0	500	575	2,982	50	300	4,407
Cayuga	0	772	880	972	1,025	555	4,204
Baco Noir	0	100	518	891	75	50	1,634
Reliance	0	31	0	50	200	1,063	1,344
Vignoles	400	404	400	26	25	25	880
De Chaunac	0	400	150	486	0	110	1,146
All others	420	1,316	111	1,009	167	739	3,342
Total vines planted	1,896	12,781	18,545	27,815	8,300	9,174	76,615 (141 acres)**

*Does not include 2003 planned plantings

**Based on 544 vines/acre

Table 2. *Vinifera* variety vine count by planting year.

Variety	Planned						Cumulative totals*
	2003	2002	2001	2000	1999	Older	
Cab. Sauvignon	3,914	4,474	3,667	2,418	1,200	3,312	15,071
Chardonnay	850	3,302	5,959	1,544	1,688	736	13,229
Cabernet Franc	1,150	1,503	3,320	3,618	1,200	2,187	11,828
Riesling	300	1,567	3,009	2,832	1,200	536	9,144
Merlot	0	1,838	354	1,688	0	136	4,016
Syrah	150	450	150	0	0	500	1,100
Sauv. Blanc	0	0	1,088	0	0	0	1,088
Gewürztraminer	0	120	197	0	0	600	917
All others	3,329	536	850	100	0	1,250	2,736
Total vines planted	9,693	13,790	18,594	12,200	5,288	9,257	59,129 (108 acres)**

*Does not include 2003 planned plantings

**Based on 544 vines/acre

Table 3. American variety vine count by planting year.

Variety	Planned						Cumulative totals*
	2003	2002	2001	2000	1999	Older	
Norton	422	1,525	1,720	1,736	2,069	2,194	9,244
Catawba	800	0	1,436	0	0	261	1,697
Concord	400	726	782	1,617	150	286	3,561
Niagara	400	724	575	458	175	272	2,204
All others	800	300	100	794	165	150	1,509
Total vines planted	2,822	3,275	4,613	4,605	2,559	3,163	18,215 (33 acres)**

*Does not include 2003 planned plantings

**Based on 544 vines/acre

Table 4. Acreage of wine grapes by type and planting year.

Grape type	Planned						Cumulative totals*
	2003	2002	2001	2000	1999	Older	
<i>Vinifera</i>	17.8	25.3	34.2	22.4	9.6	17.0	108
Hybrid	3.5	23.5	34.1	51.1	15.3	16.9	141
American	5.2	6.0	8.5	8.5	4.7	5.8	33
Total	26.5	54.8	76.8	82.0	29.6	39.7	282 acres**

*Does not include 2003 planned plantings

**Based on 544 vines/acre

Table 5. Percentage of seasons' planting by grape type.

Grape type	Planned						Cumulative percent*
	2003	2002	2001	2000	1999	Older	
<i>Vinifera</i>	67.2	46.2	44.5	27.3	32.4	42.8	38%
Hybrid	13.2	42.9	44.4	62.3	51.7	42.6	50%
American	19.6	10.9	11.1	10.4	15.9	14.6	12%

*Does not include 2003 planned plantings

Vine quality

Growers were asked to rate each variety's overall quality on a 1-5 scale, with 5 being the best. Vine quality encompassed growth rate, disease resistance, nutritional status, and any other factor that the grower felt influenced vine vigor.

Table 6. Growers variety ratings based on vine quality.

Variety	Avg. vine quality*	Growers that planted variety (No.)	Growers that considered variety one of their best (No.)
Vinifera			
Cabernet Sauvignon	3.9	29	2
Cabernet Franc	3.4	23	5
Chardonnay	3.4	23	3
Riesling	3.3	15	1
Hybrids			
Cayuga White	4.1	17	7
Vidal Blanc	3.8	35	7
Chambourcin	3.7	40	12
Foch	3.5	20	5
Seyval	3.5	17	6
Traminette	3.3	13	1
American			
Niagara	4.2	12	2
Concord	3.9	17	5
Norton	3.5	19	3
Catawba	3.5	8	0

* Vine quality: 1=very low vigor; 5=exceptional vigor

2002 Harvest Yield

Most Kentucky winegrape vineyards have yet to produce a full crop. In fact, 49 of the 77 growers surveyed reported no yield for 2002. Two of these were growers with mature vines that lost the crop to the late spring freezes. Surveyed growers reported a total yield of 160 tons of grapes, or 26,185 gallons of wine, or 130,900 bottles (10,900 cases), assuming a yield of 165 gallons of wine per ton of grapes for all varieties. Just over half (53%) of this was obtained from French-American hybrid varieties (Table 7), about one third (37%) was from *vinifera* varieties (Table 8), and the remainder (10%) was from American varieties (Table 9). Yield percentages were similar to the acreage percentages for each variety type.

Growers reported yields in gallons of juice, pounds or tons of grapes, or tons per acre. All yields were converted to tonnage. Where growers reported one yield sum covering all varieties, yield of each variety was calculated as a percentage of the total vines planted. This assumed equal production per vine across all varieties.

Table 7. French-American hybrid grape and wine yields for 2002, predicted for 2003.

Variety	2002		2003	
	(T)	(gal)*	(T)	(gal)
Vidal Blanc	30.6	(5,049)	68.6	(11,319)
Chambourcin	14.2	(2,343)	67.3	(11,105)
Cayuga White	11.1	(1,832)	16.8	(2,772)
Foch	9.5	(1,568)	32.5	(5,363)
Chardonnell	7.9	(1,304)	20.9	(3,449)
Reliance	3.5	(578)	7.7	(1,270)
Traminette	2.8	(462)	11.0	(1,815)
Seyval	1.9	(314)	27.2	(4,488)
Baco	0.9	(149)	4.1	(677)
All Others	2.3	(380)	10.7	(1,766)
Total	84.7	(13,976)	266.8	(44,022)

* Conversion factor, 1 ton grapes = 165 gal. wine

Table 8. *Vinifera* grape and wine yields for 2002, predicted for 2003.

Variety	2002		2003	
	(T)	(gal)*	(T)	(gal)
Cabernet Sauvignon	14.9	(2,257)	44.1	(6,933)
Chardonnay	11.2	(1,945)	39.2	(6,533)
Cabernet Franc	10.6	(1,830)	43.2	(7,200)
Riesling	10.5	(1,803)	31.4	(4,900)
Gewürztraminer	2.4	(396)	5.1	(842)
Syrah	2.0	(330)	4.5	(743)
Merlot	2.0	(330)	5.6	(924)
All Others	11.3	(1,883)	29.9	(4,983)
Total	58.5	(9,750)	187.8	(31,299)

* Conversion factor, 1 ton grapes = 165 gal. wine

Table 9. American grape and wine yields for 2002, predicted for 2003.

Variety	2002		2003	
	(T)	(gal)*	(T)	(gal)
Concord	4.6	(767)	12.6	(2,100)
Norton	4.4	(733)	23.6	(3,933)
Catawba	1.8	(300)	7.7	(1,283)
Niagara	3.8	(633)	6.7	(1,117)
All Others	0.7	(124)	2.9	(489)
Total	15.5	(2,583)	53.5	(8,916)

* Conversion factor, 1 ton grapes = 165 gal. wine

2003 Estimated Yields

Approximately one fifth of Kentucky vineyards will be four years old in 2003, and should produce nearly full crops for the first time. More than one fourth of vineyards will produce partial crops for the first time. Thus, the 2003 harvest yield is expected to be considerably larger than the 2002 yield. The 2003 estimated yield values for *vinifera*, French-American hybrid, and American winegrape varieties are more than three times the 2002 yield values (Tables 7 - 9). If yield estimates in Table 10, and surveyed growers' estimates are accurate, and if weather, pests, and diseases are not unusually destructive in 2003, the harvest could yield 509 tons, or 84,000 gallons of wine. This would be equivalent to about 420,000 bottles, or 35,000 cases, of wine.

Most growers who have grape harvest experience provided 2003 yield estimates. Most inexperienced growers were not able to estimate 2003 yields. Some of these growers estimated the yield as a fraction, e.g., a half of a full crop. We constructed a standardized, estimated yield table to obtain tonnage values for such cases (Table 10). Yields-per-acre were chosen from the table based on reported vine age and quality. The yield-per-acre values in the table are assumptions based on past yields in Kentucky, and yield values given in The Mid-Atlantic Winegrape Grower's Guide (Wolf and Poling, 1995). The estimated yields determined this way were usually close to yield estimates provided by the more experienced growers. We assumed equal production per vine across all varieties. We also assumed that 2002 vine quality ratings would not change for 2003.

Growers usually harvest the first crop in the third year. In several cases, three-year-old, low-vigor vines did not produce a crop in 2002. In these cases, we used the three-year-old, instead of the four-year-old, vine yield estimates for the 2003 crop.

Table 10. 2003 yield estimates for young vines.

Vine quality*	Crop load	3 yr. old (T/A)	4 yr. old (T/A)
1	0	0	1
2	0	0	1
3	1/3	1	2
4	1/2	2	3.5
5	Full	3	4.5

* Vine quality: 1=very low vigor; 5=exceptional vigor

2003 Planned Vine Plantings

The data in tables 1 - 3 suggest that the rate of vine acreage expansion will continue to slow compared to the increases of 2000 and 2001. Growers intend to plant 26 acres of winegrape vines in 2003, compared to 55 acres in 2002, 77 acres in 2001, and 82 acres in 2000.

Just under a third (24) of the growers intend to plant more vines next year (Table 11). Nine of these were not sure what varieties they would plant. Nine of the 24 growers plan to plant *vinifera* vines (Table 2).

About half of the survey respondents do not plan to expand their vine acreage in 2003. Nine of these respondents indicated that they might expand plantings later, but were

waiting for either more cost share funding, or to see what varieties the market will eventually demand. Only two growers said they will be removing vines, in both cases entire plantings of one variety.

Table 11. Planting intentions of survey respondents

Does the grower intend to plant vines in 2003?					
Yes, variety chosen	Yes, variety unknown	No	No, waiting	Not sure	No response
15	9	30	9	5	9

Reason for Planting More Vines in 2003

Of the growers who intend to plant vines in 2003, five will plant to supply their own, existing, wineries, and nine will plant to supply their own, future, wineries. The remaining 11 will expand their acreage in order to sell more grapes.

Market for The Product

We asked growers if they had a contract to sell their grapes. There were 43 growers who sold or will sell grapes, and 28 of these said they had a contract. Only two growers who sell grapes chose not to answer this question. Most sellers volunteered the names of wineries with which they contracted.

Fourteen survey respondents were owners of licensed wineries, ten of which are selling wine. All 14 have wine grape vines, and grow to supply their wineries. We did not ask if they sold any of their grapes, or intended to sell next year. Twelve respondents indicated that they planned to start a winery, and were growing vines to eventually supply their winery. Three of these growers are selling the grapes for now. Thus, 58 growers (75%) have contracted for their crop or use their grapes themselves, and 19 growers (25%) do not yet have a market.

Table 12. Markets for Grapes.

Have Market for Grapes	Growers (No.)	Acreage*		
		<i>Vinifera</i>	Hybrid	American
Have Contract to Sell	28	44	41	7
Growing for own existing winery	14	36	39	15
Growing for own future winery	12	19	25	6
Growing for wine making hobby	4	3	6	1
Totals	58	102	111	29

Do Not Have Market for Grapes				
Growing to sell	15	4	17	3
No Reply/Not Sure	4	2	14	0
Totals	19	6	31	3

*Does not include 2003 planned plantings; based on 544 vines/acre

Grower Comments

Growers were invited to comment about noteworthy problems or observations regarding any aspect of their vineyard. Fifty growers made comments. Most comments could be classified under pest problems, vine quality, or other.

Pest problems were reported by 23 growers. Japanese beetle damage was the most often reported pest problem (seven times). Another seven growers reported serious losses to deer and birds. Eight growers reported the diseases black rot and crown gall.

Four growers noted good performance from specific grape varieties: Norton, Cayuga White, Cabernet Franc, and Cabernet Sauvignon. Surprisingly, three growers reported poor growth from Vidal Blanc.

Two growers felt that newer growers needed “more help”, and one suggested the University should establish more demonstration plots. Another grower noted that, “...900 vines are not enough to attract wineries.”

Comparison to The MKF Survey

A total of 77 growers were interviewed for this survey, while 87 growers responded to the MKF survey. Twenty four growers were not interviewed in this survey that were included in the MKF survey because these vineyards did not have at least 300 vines, or we were unable to contact the growers. Fourteen growers were interviewed in this survey that were not interviewed by MKF.

This survey reports a total of 282 acres of winegrapes, while the MKF survey reported 215 acres. The calculations in this survey are based on an average of 544 vines per acre, while MKF used 640 vines per acre. If we convert acreage into vine numbers, this survey is based on a total of 153,400 vines, and the MKF survey is based on a total of 137,600 vines. There were 101,700 non-bearing vines counted in this survey, which compares favorably with the 99,800 non-bearing vines counted in the MKF survey.

MKF conducted their survey in May and June of 2002, and thus could not collect 2002 yield data. However, they did collect 2001 yield data, and projected 2002 yield data.

MKF also projected the 2007 yield, when all vines currently planted will produce full crops. This data is summarized in table 13.

Table 13. Actual and projected wine production, in cases of wine*.

2001 (MKF)	2002 projected (MKF)	2002 actual (UK)	2003 projected (UK)	2007 projected (MKF)
4,764	8,042	10,900	35,100	33,691

*1 case=12 750ml bottles

The five winegrape varieties with the highest acreage were the same for both surveys, although their rankings differed, as shown in table 14.

Table 14. The five most-planted winegrape varieties.

Variety	UK		MKF	
	vine count	ranking	vine count	ranking
Chambourcin	19,800	1	14,400	3
Vidal Blanc	17,900	2	11,800	5
Cabernet Sauvignon	15,000	3	15,600	2
Chardonnay	13,200	4	13,800	4
Cabernet Franc	11,800	5	16,200	1