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Characteristics and Economic Contribution of the North Dakota Grape Industry

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Introduction

North Dakota's first commercial winery opened in 2002. While North Dakota was the last state to have a licensed commercial winery, since 2003 the number of commercial wineries has increased to 9 and numerous commercial and hobby vineyards are located throughout the state. Interest in commercial wine making has increased considerably in North Dakota, but because the commercial grape and wine industry is so new, little is known about the characteristics and nature of the grape and wine sector in North Dakota. Many nearby states have examined the effect of the grape and wine industry on their state's economy (Folwell et al. (1999), MFK (2001), MFK (2007)), however no comprehensive study of the economic impact of the grape and wine industry in North Dakota has been conducted. Accordingly, this study was undertaken to examine the characteristics of grape growers, vineyards and wineries and measure the economic contribution of the North Dakota grape and wine industry.

Methods

The grape and wine industry in North Dakota can be broken down into two activities; grape growing and wine production (Radke (2009)). Commercial entities can engage in either activity or combine the two activities, however in order to produce and sell wine, wineries must apply for an annual manufacturing license with the state of North Dakota. Currently North Dakota has nine licensed wineries. The remaining grape and wine industry entities in North Dakota are vineyards that do not have a commercial winery component. Accordingly, two questionnaires were developed; one for vineyards and one for licensed wineries (Appendix A). The only difference between the two questionnaires was an additional section in the vineyard and winery survey that addressed winery characteristics. A

mailing list of North Dakota vineyards and wineries was developed from the membership list of the North Dakota Grape Growers Association. One hundred and thirty-four operations were identified. The nine licensed wineries received a questionnaire designed to gather information about both the winery and vineyard components of their operations. All others received the vineyard questionnaire. Six questionnaires were either undeliverable or duplicates and 49 were returned for a return rate of 38 percent. Normally a 38 percent response rate would be considered an excellent response and provide a fair degree of confidence in the statistical validity of the sample, however with such a small population (138) the potential margin of error is larger than would be the case with a larger sample.

Results

Results and conclusions are detailed in the following sections.

Demographics

Two-thirds of survey respondents indicated they consider their vineyard a hobby operation (Table 1). While one-third or 14 respondents indicated they consider their operation a commercial entity, only 2 respondents (12 percent) indicated their vineyard or winery was the primary source of household income. One of the two commercial entities that indicated the winery was the primary source of household income reported the vineyard or winery represented 50 percent of household income, and the other reported the vineyard or winery represented zero percent of household income (data not shown). Most of the vineyards were also very new operations, 27 percent of respondents have been in existence for a year or less and two-thirds have been operating for four or fewer years (Table 1). Sixty-six percent were either sole proprietorship

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or partnerships with only 34 percent organized as a LLC or Corporation. Consistent with what would be expected of a hobby enterprise, 91 percent of respondents used an average of 593

hours of unpaid family labor per year. Only 9 percent of respondents indicated they had an average of 1.5 full time equivalent paid staff.

Table 1. Demographic Characteristics, North Dakota Wineries and Vineyards, ND Grape Growers Association Survey, 2010

Type of Operations	----percent----
Hobby	66
Commercial	34
(n)	(41)
Years of Operation	
	----percent----
One year or less	27
2 - 4 years	39
4 - 6 years	26
7 - 10 years	10
more than 10 years	8
Average years of operation	4.9
Median	3
Mode	1
(n)	(49)
Primary Source of Household Income	
	----percent----
Yes	12
No	88
(n)	(17)
Organizational Structure	
	----percent----
Sole Proprietorship	44
Partnership	22
LLC	17
Corp or Other	17
(n)	(18)
Labor and personnel	

Percent that use unpaid family labor	91
Average number of family members	3
Average annual hours	593
(n)	(43)
Percent with paid staff	9
(n)	(43)
Average number of FTE's	1.5
(n)	(4)

Vineyard Characteristics

The number of vines and the average acreage of vineyard properties also varied considerably. Forty-one percent of respondents reported their vineyard properties were less than

1 acre, while 29 percent had properties that were 1 to 3 acres. Only 15 percent of respondents had vineyard properties of more than 10 acres (Table 2). The average vineyard property was 8.5 acres.

Average number of vines was 310 vines, with observations ranging from zero to 2,300 vines (Table 3). Responses for the number of vines and vineyard acreage were sufficiently distributed to meet the necessary assumptions to calculate upper and lower mean confidence intervals at 90 percent confidence level. The 90 percent mean confidence interval for the number of vines was between 160 and 460 vines. The 90 percent mean confidence interval for the

average vineyard acreage was between 1.2 and 15.7 acres. The wide range of the upper and lower confidence limits demonstrates the substantial variability in responses and the need for caution when interpreting mean results. Like vineyard acreage there was a great deal of variation in the number of vines. About a quarter of respondents had less than 16 and about a quarter had over 350 vines.

Table 2. Number of Vines and Acreage of Vineyard Properties, North Dakota Grape Growers Association Survey, 2010

Vineyard Acreage		----percent----
less than one acre		41
1 - 3 acres		29
more than 3 - 10 acres		15
more than 10 acres		15
	(n)	(34)
Number of Vines		----percent----
15 or fewer		24
16 - 100		27
101 - 350		24
more than 350		24
	(n)	(45)

Table 3. North Dakota Vineyard Characteristics, North Dakota Grape Growers Association Survey, 2010

Item	Mean	Min	Max	SD ¹	Median	Mode	LCL ²	UCL ³
Number of Vines (n)	310	0	2,300	498	100	4	160	460
				(45)				
Vineyard property acreage (n)	8.5	0	85	21	1	.5	1.2	15.7
				(34)				
Average number of additional vines (n)	205	2	1,100	299	65	200	82	329
				(25)				
Average number of additional acres (12)	.81	0	5	1.4	.25	0	--	1.7
				(12)				

¹Standard deviation, ²Lower confidence interval level, ³Upper confidence interval level

While vineyards were generally located on relatively small acreages, nearly two-thirds of respondents indicated they have plans to expand their vineyard in the next year. Planned expansions range in size from the addition of 2 vines to over 1,000 vines (Table 3) with an

average planned expansion of 205 vines (data not shown). The mean would suggest quite large expansions are planned, however a few large observations distorted the average. About half of the respondents plan expansions of 65 or fewer vines (data not shown). The 90 percent

upper and lower confidence intervals were wide ranging; 82 vines to 329 vines. Vineyard acreage expansions ranged in size from .05 acres to 5 acres, however 75 percent of respondents indicated they planned to expand by less than 1 acre (data not shown). The 90 percent upper confidence limit for acreage expansions was 1.7 acres.

Respondents were also asked to detail how many pounds of grapes and/or grape juice they sold. Only 7 respondents reported selling grapes and only 1 respondent reported selling grape juice. The most frequent response was no response. Normally a non-response is not considered when interpreting results, however considering the large number of hobby vineyards it is likely that rather than responding “zero” to indicate no sales of grapes or grape juice, respondents simply did not respond.

Accordingly, the average pounds of grapes sold per vineyard is likely overstated. Respondents that reported selling grapes sold an average of 280 pounds at an average price of \$0.80 per pound. There were only 14 responses to the question on the average number of pounds of grapes sold and only five respondents completed the question requesting average sales price per pound for grapes. There were no responses to the question regarding average price per pound of grape juice. Upper confidence level mean for price of grapes was estimated to be \$1.09 per pound and the lower confidence level mean was estimated to be \$0.52 (90 percent confidence interval) (Table 4). Confidence intervals for average pounds of grapes sold could not be calculated.

Table 4. North Dakota Vineyard Characteristics, North Dakota Grape Growers Association Survey, 2010

Item	Mean	Min.	Max.	SD ¹	Median	Mode	ULCM ²	LCLM ³
Average pounds of grapes sold (n)	280	0	1,889	572	13.5 (14)	0	na	na
Average price in \$ per pound (n)	.80	.50	1.00	.23	.9 (5)	1	.52	1.09
Average number of cases produced from own grapes (n)	58	1	750	179	6 (17)	2	--	--

¹Standard deviation, ²Lower confidence interval level, ³Upper confidence interval level

Only 18 respondents (40 percent) indicated producing wine from the grapes they raised (Table 4). Again the range of responses was quite dramatic. Eleven respondents (65 percent) produced less than 10 cases of wine. Only 1 respondent (6 percent) indicated making more than 500 cases of wine from grapes produced on their vineyard. The remaining respondents indicated producing 10 to 60 cases of wine (data not shown). Average production was 58 cases per year (Table 4), however if the one extreme high observation (750 cases) is eliminated mean production drops to 14 cases.

Sales and Expenditures

A large majority of respondents (76 percent) reported no annual sales and for those that did, average annual sales varied dramatically. Only 24 percent of respondents reported annual sales ranging from \$60 to \$220,000 (Table 5). Average sales were estimated to be \$7,000. The sum of all observations totaled \$267,000 with a maximum observation of \$220,000. Assuming the average annual sales figure is representative, state-wide total sales for all North Dakota vineyards and wineries was estimated to be \$898,000 annually.

(Total sales equal average annual sales of \$7,000 times survey population of 134.) However, caution should be exercised when interpreting mean values or assuming the sample is representative of the population. Because of the variability in sample observations and the fact that most vineyards and some wineries in North Dakota are hobbies rather than commercial ventures, it is important to recognize the margin of error is quite high and that the mean is likely overstated. At a minimum estimated annual sales could be assumed to be \$267,000 (sum of all survey respondents), however the actual figure is likely higher. Alternately, it seems unlikely total sales were greater than \$898,000. Respondents reported annual sales were primarily from the sale of grapes (54 percent) and wine (28 percent) (Table 5). Zero sales were reported for grape vines and only 7 percent of annual sales were attributable to gifts, visitor expenditures or special events. Ninety-one percent of sales were to individuals or entities within North Dakota (Table 5). No internet sales were reported.

Vineyard Visitation and Special Events

Respondents were queried as to whether or not their vineyard and/or winery had a visitor component. Only 27 percent of respondents indicated they have visitors or held special events at their vineyard (Table 6). The average number of visitors was generally quite small as one-quarter of all respondents had 25 or fewer visitors per year and nearly three-fourths had less than one hundred visitors per year. Average number of visitors was 227, but again a few extreme observations distorted the average. The average number of visitors was based on 11 observations with 38 non-responses. It is likely that many of the non-responses actually represent zero visitors thus overstating the

average number of visitors per vineyard. The sum of all respondents was approximately 2,500 visitors. Two thirds of visitors were from the vineyard's local area, one-fourth were from elsewhere in North Dakota and only 9 percent were from out of state. It is likely more accurate to interpret the results as the average visitation for those respondents with a visitor component rather than generalizing results to the entire population. Only two respondents reported gross sales from visitors. The sum of respondent gross sales was less than \$30,000. Winery Characteristics

Recall that there were only 9 entities that were identified as "wineries" and 4 responded to the questionnaire. All findings in this section on winery characteristics are based on those 4 or fewer observations.

Seventy-five percent of respondents to the vineyard and winery questionnaire indicated they purchase fruit, fruit juice, grapes or grape juice from sources other than their own vineyard (data not shown). Respondents were also asked how many pounds of each were acquired and the price, however respondents simply did not provide responses to the question. There was only one observation to the questions related to winery's purchases of grapes, grape juice, fruit or fruit juice.

Respondents were asked where the fruit, fruit juice, grapes or grape juice used to produce their wine came from. Most of the wine produced was made with grapes or fruit that came from the respondents own vineyard. Respondents indicated that 52 percent of grapes or fruit used to produce wine came from their own vineyard, 31 percent from vineyards elsewhere in North Dakota and only 17 percent from out of state suppliers (Table 7).

Table 5. North Dakota Vineyard and Winery Sales, North Dakota Grape Growers Association

		Mean	Min.	Max.	SD ¹	Mode	Median
	percent	-----dollars-----					
Average Annual Sales		7,018	0	220,000	35,771	0	0
Zero	76	--	--	--	--	--	--
less than \$1,000	8	--	--	--	--	--	--
\$1,000 - \$10,000	8	--	--	--	--	--	--
More than \$10,000	8	--	--	--	--	--	--
(n)				(38)			
Distribution of annual sales:		-----percent-----					
Wine	--	28	0	98	40	0	0
Grapes	--	54	0	100	52	100	100
Grape Juice	--	9	0	100	30	0	0
Grape Vines	--	0	0	0	0	0	0
Gifts	--	1	0	10	3	1	0
Visitor Expenditures, special events	--	6	0	54	16	5	0
Other	--	1	0	15	4	1	0
(n)				(11)			
Sales made to individuals within ND		-----percent-----					
(n)		91	25	100	23	7	100
				(12)			

¹Standard deviation

Table 6. Vineyard Visitation and Special Events, North Dakota Grape Grower Association Survey, 2010

Respondents with special events	-----percent-----
(n)	27 (44)
Respondents that would like to add visitor component	33
(n)	(30)
Number of Visitors per year	
25 or fewer	27
26 - 100	45
More than 100	27
(n)	(11)
Average number of visitors	-----number-----
Median number of visitors	227
Standard Deviation	50
Range	445
Sum	5 - 1,500
(n)	2,498 (11)
Visitor Residence	-----percent-----
Local area	67
Elsewhere in ND	24
Out of State	9
(n)	(15)

Table 7. Winery Characteristics, North Dakota Grape Growers Survey, 2010

	Mean	Min	Max	SD ¹
Fruit or grape juice used to make wine from:	-----percent-----			
Own vineyard	52	0	100	45
Other ND growers	31	0	70	29
Out of state growers	17	0	70	35
(n)	(4)			
Wine Sales:	-----number-----			
Cases sold at winery	50	34	70	45
Cases sold at festivals	7	0	20	29
Total cases sold	58	49	70	11
Gross sales at winery (\$)	7,800	5,750	9,252	1,826
Gross sales at festivals (\$)	1,180	0	3,360	1,890
Total sales (\$)	8,980	8,010	9,432	734
(n)	(3)			
Average price per bottle	-----percent-----			
less than \$10	20	0	80	40
\$10 to \$15 per bottle	70	20	100	36
\$16 to \$25 per bottle	10	0	31	15
greater than \$25 per bottle	0	0	0	0
	(4)			

¹Standard Deviation

Respondents reported selling an average of fifty eight cases of wine, most of which (50 cases) were sold at their own winery (Table 7). Respondents did not report any retail sales shipped from their winery or any wholesale sales. Average gross sales were \$7,800 at the winery location and \$1,180 at festivals for average total sales of \$8,980. Sum of respondents' total sales was just under \$26,000. Most bottles (70 percent) sold for \$10 to \$15, 20 percent sold for less than \$10 and 10 percent sold for \$16 to \$25. Respondents did not report any sales on bottles priced at more than \$25 per bottle. Only one respondent indicated plans to expand wine production next year.

Marketing and Technical Assistance

Respondents were asked if they used various marketing tools and to rate their effectiveness. However because of the preponderance of hobby vineyards, there were very few respondents that indicated they used any of the marketing tools listed on the questionnaire. For each type of marketing tool listed, over 80 percent of respondents indicated they did not use that particular marketing tool.

Respondents were asked to rate the various tools on a scale of 1 to 5 with a score of 1 being 'not helpful' and 5 being 'very helpful'. Responses were averaged to calculate a mean score. Of those that indicated they used any of the various marketing tools, 'brochures' and the 'internet' received the highest marks in terms of effectiveness with an average score of 4.2 and 4.0, respectively. Results are not detailed because of limited number of observations. There were four or fewer observations for each of the various marketing tools listed.

Response rates for questions querying respondents about what type of technical assistance would be most helpful were much better than for questions related to marketing tools. The same 5 point scale where 1 is not helpful and 5 is very helpful was used to rate effectiveness and calculate a mean score. Over 70 percent of respondents indicated technical information on 'grape vine cultivation', 'land management and improvement' and 'wine making' would be helpful or very helpful with average score of 4.1, 3.9 and 3.9, respectively (Table 8). About half of respondents indicated the information on 'marketing/advertising', 'web

site design and internet applications’, ‘business, financial management and strategic planning’, ‘legal’ and ‘industry trends’ would be helpful or very helpful with average scores of 3.2 to 3.4. Only ‘personnel management/guest relations’

had an average score of less than three with only 28 percent of respondents indicating that type of information would be helpful or very helpful.

Table 8. Type of Technical Information that Would be Most Helpful, North Dakota Grape Growers Survey, 2010

Type of Marketing Information	Mean	Not Helpful	Neutral	Helpful or Very Helpful	LCLM ¹	UCLM ²
		-----percent-----				
Business, financial management, strategic planning	3.2	27	21	52	2.7	3.8
Marketing, advertising	3.4	21	21	57	2.9	4.0
Legal	3.4	24	21	55	2.8	3.9
Land management and improvement	3.9	18	6	76	3.4	4.4
Grape vine cultivation	4.1	12	12	76	3.7	4.5
Wine making	3.9	12	15	73	3.5	4.4
Personnel management/guest relations	2.9	38	34	28	2.3	3.4
Industry trends	3.1	25	25	50	2.8	3.8
Web site design, internet applications	3.4	30	15	55	2.9	4.0
Other	3.1	44	11	44	1.6	4.6
	(n)				(33)	

¹Lower confidence level mean, ²Upper confidence level mean, ³Other: defense against spray by neighboring farms, places to sell grapes, refrigerated transportation to larger markets

Expenditures

Overall expenditures by North Dakota vineyards and wineries were very small. Respondents most frequently reported zero expenditures for most categories. For all expenditure categories except ‘grape growing inputs’ and ‘wine making supplies’ 75 to over 90 percent of respondents (depending on expenditure category) indicated they had zero expenditures (data not shown). Fewer respondents (58 percent) indicated they had zero expenditures for ‘wine making supplies’ and only 29 percent had no ‘grape growing expenditures’. Expenditures for ‘grape growing’ averaged about \$500 per year and ‘wine making supplies’ averaged \$1,800 per year (Table 9).

The sum of all expenditures reported by survey respondents totaled \$190,000.

Because of the high degree of variability and the small sample size, caution should be exercised when interpreting the data. In addition to the high degree of variability there were many non-responses. Respondents that did not reply likely assumed the question was not applicable to their winery or vineyard and rather than entering “zero” to denote their level of expenditures they simply did not respond. Because non-responses are not considered in the estimate of the mean, it is likely that the calculated mean overstates average expenditures. Further, one or two large observations distorted the mean.

Table 9. North Dakota Winery and Vineyard Expenditures Sales, North Dakota Grape Growers Association

	Mean	Min.	Max.	SD	Median	Sum
-----dollars-----						
Average Expenditures						
Payroll	1,480	0	41,200	7,393	0	45,900
Worker benefits	129	0	4,013	720	0	4,013
Utilities	185	0	3,600	693	0	5,750
Communications	61	0	1,024	202	0	1,899
Transportation	89	0	2,000	362	0	2,750
Insurance	262	0	3,000	777	0	8,150
Business & Prof	23	0	500	96	0	700
Services						
Interest	96	0	2,000	396	0	3,000
ND taxes	39	0	700	152	0	1,200
Wine making supplies	553	0	7,000	1,462	0	17,167
Grape growing inputs	1,795	0	18,000	3,730	400	55,671
Other ¹	1,411	0	20,000	4,073	0	43,749
Total	3,876	0	55,209	9,898	150	189,950
(n)	(31)					

¹Aronia plants, equipment prospective growers, membership education, supplies, drip irrigation, vines, grapes

Conclusions

Winery and vineyard operations in North Dakota are primarily recently established hobby operations that generate very little economic activity. In-state sales of grape and wine products and expenditures for operational inputs are modest at best. Even under the assumption that the sample is representative and the mean is not overstated, applying total mean expenditures to the population of North Dakota vineyards and wineries would yield average total expenditures for all North Dakota wineries and vineyards of approximately \$500,000. The sum of expenditures reported by respondents, \$190,000, could represent a minimum level of expenditures, however the true mean is likely higher. Further, the mean expenditures are likely overstated and actual total expenditures were less than \$500,000 per year. A reasonable conclusion would be to state total sector expenditures are between \$190,000 and \$500,000 per year.

Total sales are similarly small. Again assuming the sample is representative estimated total sales would be just under \$900,000. Like total expenditures the mean is likely overstated. Recall that average sales were estimated to be \$7,000 per operation and one large observation accounted for \$220,000 of the \$267,000 of the

sum of total sales reported by survey respondents. A single observation that accounts for 82 percent of total sales strongly suggests use of mean values be done with extreme caution. Like total expenditures, average total sales are likely higher than the sum of reported sales (\$267,000) but less than what would be estimated using the average sales figure derived from respondent data (\$900,000). Given the current status of this sector and the highly variable survey data, calculating or placing an economic value on the industry is premature at the time.

The economic contribution of the North Dakota grape and wine industry is consistent with an emerging sector. Considering there are only 9 licensed wineries in the state, all of which have been established in the last 8 years, the results are not unexpected. On a positive note, nearly two-thirds of respondents plan expansions in both the number of vines and size of their properties. Further about one-third of respondents would like to add a visitor component to their vineyard or winery operation. Respondents also expressed a strong interest in technical assistance related to 'grape vine cultivation', 'wine making' and 'land management and improvement'. Clearly there is room for substantial growth in the sector in North Dakota. As the sector grows and expands

the economic significance of the sector can be revisited. Findings from this effort will provide an effective baseline with which to measure growth.

References

- Fowell, R., Drei, G., Holland, D. And Wandschneider, P. (1999). Washington Wine Grape Industry Impacts on the State's Economy. Washington State University Pullman.
- MFK (2001). Economic Impact of the Washington State Wine and Wine Grape Industries. MFK: St. Helena, CA.
- MFK (2007). The Impact of Wine and Wine Grape Products on the American Economy 2007. MFK: St. Helena, CA
- Radke, Rudy (2009). Personal conversation with Rudy Radke, Agriculture Diversification Specialist, NDSU Cooperative Extension Service.

APPENDIX A
Survey Instruments



Vineyard Survey

January, 2010

North Dakota Grape Growers Association
Vineyard Survey

Sales and Expenditures

5. What were your total annual sales for 2009? \$_____

If total annual sales were zero, go to question 10.

What percentage of total annual sales were attributed to winery sales _____%

vineyard sales _____%

6. What percentage of total annual sales were for each of the following:

Wine Sales	_____%
Grapes	_____%
Grape juice	_____%
Grape vines	_____%
Gifts	_____%
Visitors expenditures, special events	_____%
Other (specify)_____	_____%
Total	_____ 100 %

7. What percentage of total vineyard and winery sales were made to individuals or entities:

within the state	_____%
outside the state	_____%
Total	_____ 100 %

8. Do you make internet sales?

YES	NO
------------	-----------

If yes, what percentage of total sales are made via internet? _____%

9. Are there constraints for out-of -state sales, that is do you have trouble selling out of state?

YES	NO
------------	-----------

If yes, what are the constraints? _____

10. What were your total vineyard expenditures for each of the following in 2009 and what percentage of each expenditure category was made to entities in North Dakota?

Example:	Expenditure	%
ND Widgets	10,000 \$	
80 %		
Payroll	Expenditure	% ND
Worker benefits	_____ \$	_____ %
Utilities	_____ \$	_____ %
Communications	_____ \$	_____ %
Transportation	_____ \$	_____ %
Insurance	_____ \$	_____ %
Business & professional services	_____ \$	_____ %
Interest payments	_____ \$	_____ %
North Dakota taxes	_____ \$	_____ %
Wine making supplies & inputs	_____ \$	_____ %
(crusher-destemer, bottles, labels,)	_____ \$	_____ %
Grape Growing Inputs (trellis, growtubes, cable fertilizer, pesticides, etc)	_____ \$	_____ %
Other (please specify): _____	_____ \$	_____ %

11. Does your vineyard use unpaid family labor?

YES	NO
If yes, on average how many hours per year for all family members combined? _____	
How many family members? _____	

12. Does your vineyard have paid employees?

YES	NO
If yes, how many FTEs _____	

Vineyard Characteristics

13. Vineyard information:	
How many vines do you have?	_____ vines
What is the total acreage of your vineyard property?	_____ acres

14. How many pounds of each of the following did you sell in 2009 and what was the average price per pound?		
Grapes	_____ pounds	\$_____ per pound
Grape juice	_____ pounds	\$_____ per pound

15. Do you plan to expand your vineyard in the next year?	
YES	NO
If yes, how many additional vines _____	
If yes, how many additional acres _____	

16. Did you produce wine from the grapes produced in your vineyard?	
YES	NO
If yes, how many cases of wine did you produce? _____	

Vineyard Visitation

17. Do you have visitors or host special events at your vineyard?		
YES	NO	
If yes, approximately how many people visited your vineyard in the last year? _____	If no, would you like to add a visitor/special event component to your vineyard?	
	YES	NO
	If no, please go to question 23.	

18. Approximately what percentage of your visitors are from each of the following:	
the local area	_____ %
elsewhere in North Dakota	_____ %
out of state	_____ %
Total	_____ 100 %

19. Would you like to increase the number of visitors to your vineyard?	
YES	NO
If yes, what do you plan to do increase the number of visitors to your vineyard? (specify) _____ _____	

20. Would you like to increase the number of visitors to or special events held at your vineyard?	
YES	NO
If yes, by how many? _____	

21. What percentages of your visitors in 2009 fall into the following categories (N/A if a category does not apply to your vineyard)?	
Winery visitors	_____ %
Special event visitors	_____ %
Gift shop visitors	_____ %
Restaurant visitors	_____ %
Other (describe _____)	_____ %
Total	_____ %

22. What was your gross revenue from visitor sales in 2009? _____

Marketing and Technical Assistance

23. How do you market your vineyard? Please rate each type of advertising that you use on a scale of 1 to 5 with 1 being <i>not effective</i> and 5 being <i>very effective</i> .											
	Please Circle One		Not Effective	1	2	Neutral	3	4	5	Very Effective	N/A Hobby Vineyard
	YES	NO									
Brochures	YES	NO		1	2	3	4	5	6		
Printed media (newspapers/magazine)	YES	NO		1	2	3	4	5	6		
Radio	YES	NO		1	2	3	4	5	6		
Television	YES	NO		1	2	3	4	5	6		
Travel Guides	YES	NO		1	2	3	4	5	6		
Internet	YES	NO		1	2	3	4	5	6		
Other (specify) _____	YES	NO		1	2	3	4	5	6		

24. What type of information or technical assistance would be helpful to you? Please rate each item on scale of 1 to 5 with 1 being <i>not helpful</i> and 5 being <i>very helpful</i> .					
	1	2	3	4	5
Business and/or financial management; strategic planning	1	2	3	4	5
Marketing/advertising	1	2	3	4	5
Legal (insurance, liability, contracts, state/local regulations)	1	2	3	4	5
Land management and improvement	1	2	3	4	5
Grape vine cultivation	1	2	3	4	5
Wine making	1	2	3	4	5
Personnel management/guest relations	1	2	3	4	5
Industry trends and updates	1	2	3	4	5
Web site design, internet applications	1	2	3	4	5
Other (Please specify.) _____	1	2	3	4	5

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Additional Comments

Please feel free to offer any additional thoughts or comments. This is your opportunity to address any issues not covered in this questionnaire. Your response is important and will be kept strictly confidential.
Additional comments:

Please return the questionnaire in the enclosed postpaid envelope.

If you have any questions you may contact Larry Leistriz at 701-231-7455 or Nancy Hodur at 701-231-7357.

For a copy of the study results, please provide your name and mailing address below or contact the Department of Agribusiness and Applied Economics at North Dakota State University, Fargo, ND, phone 701-231-7442, FAX 701-231-7400 or email: nancy.hodur@ndsu.edu or visit our departmental listing of research reports on the web at <http://ageconsearch.umn.edu/>.

Name: _____

Address: _____

City, State, Zip: _____

Thank you for taking the time to fill out the questionnaire. Your cooperation is sincerely appreciated.



Winery & Vineyard Survey

January, 2010

Winery Characteristics

23. Did your winery acquire fruit, fruit juice, grapes or grape juice from sources other than your own vineyard for wine production in 2009?

YES

NO

If yes, how much of each did you acquire and at what average price?

_____ pounds of fruit	\$ _____ average price per pound
_____ pounds of fruit juice	\$ _____ average price per pound
_____ pounds of grapes	\$ _____ average price per pound
_____ pounds of grape juice	\$ _____ average price per pound

24. In 2009 what percentage of fruit, fruit juice, grapes or grape juice that were used to produce wine came from each of the following:

own vineyard	_____ %
other North Dakota growers	_____ %
out of state growers	_____ %
Total	_____ 100 %

25. In 2009 how many cases of wine were sold through your winery in the past year, and what were the dollar sales in each category?

Sold at winery	_____ # of cases	Sales \$ _____
Sold at festivals	_____ # of cases	Sales \$ _____
Retail sales shipped from winery	_____ # of cases	Sales \$ _____
Wholesale sales (liquor store, restaurants, wineries)	_____ # of cases	Sales \$ _____
Other (please specify) _____	_____ # of cases	Sales \$ _____
Total wine sales by your winery	_____ # of cases	Sales \$ _____

26. In 2009 what percentage of your retail wine sales were in each of the following price ranges? If no retail sales, check here and go to question 27 _____	
Less than \$10 per bottle	_____ %
\$10-15 per bottle	_____ %
\$16-25 per bottle	_____ %
More than \$25 per bottle	_____ %
Total	_____ 100 %

27. Do you plan to expand wine production next year?	
YES	NO
If yes, by how much? _____ %	
If yes, how much of the expansion will come from:	
Other vineyard _____ %	
Own vineyard _____ %	
Total _____ 100%	

Marketing and Technical Assistance

28. How do you market your vineyard? Please rate each type of advertising that you use on a scale of 1 to 5 with 1 being <i>not effective</i> and 5 being <i>very effective</i> .							
	Please Circle One		Not Effective		Neutral		Very Effective
Brochures	YES	NO	1	2	3	4	5
Printed media (newspapers/magazine)	YES	NO	1	2	3	4	5
Radio	YES	NO	1	2	3	4	5
Television	YES	NO	1	2	3	4	5
Travel Guides	YES	NO	1	2	3	4	5
Internet	YES	NO	1	2	3	4	5
Other (specify) _____	YES	NO	1	2	3	4	5

29. What type of information or technical assistance would be helpful to you? Please rate each item on scale of 1 to 5 with 1 being <i>not helpful</i> and 5 being <i>very helpful</i> .					
	Not Helpful		Neutral		Very Helpful
Business and/or financial management; strategic planning	1	2	3	4	5
Marketing/advertising	1	2	3	4	5
Legal (insurance, liability, contracts, state/local regulations)	1	2	3	4	5
Land management and improvement	1	2	3	4	5
Grape vine cultivation	1	2	3	4	5
Wine making	1	2	3	4	5
Personnel management/guest relations	1	2	3	4	5
Industry trends and updates	1	2	3	4	5
Web site design, Internet applications	1	2	3	4	5
Other (Please specify.) _____	1	2	3	4	5

Additional Comments

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Contact Information:

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