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Vineyards and Wineries in Iowa

A STATUS AND ECONOMIC CONTRIBUTION REPORT

Authored by: Brigid Tuck, Extension Center for Community Vitality, and William Gartner, Department of Applied Economics



IN PARTNERSHIP WITH: NORTHERN GRAPES PROJECT



Department of
**APPLIED
ECONOMICS**

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January 2014

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Partners/Sponsors:

Northern Grapes Project

Special Thanks To:

Iowa Wine Growers Association
Scenic Rivers Grape and Wine Association
Western Iowa Grape Growers Association
Michael White, Iowa State University Extension
Tim Martinson, Senior Extension Associate, Cornell University
Chrislyn Patricka, Extension Support Specialist, Cornell University

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Table of Contents

1. NORTHERN GRAPES PROJECT	1
2. VINEYARDS AND WINERIES IN IOWA: EXECUTIVE SUMMARY	2
3. SURVEY METHODOLOGY AND RESPONSE RATES	3
4. VINEYARD CHARACTERISTICS	5
Vineyard Operations	9
Marketing and Grape Utilization	11
Future Plans	13
Grape Varieties	15
5. WINERY CHARACTERISTICS	22
Grape Acquisition	26
Winery Sales and Production	28
Winery Marketing and Collaboration	32
Future Plans	36
6. ECONOMIC CONTRIBUTION OF VINEYARDS AND WINERIES IN IOWA	39
Direct Effects	39
Indirect and Induced Effects	40
Total Economic Effects	40
Cold-Hardy Related Economic Effects	40
Comparing Results to Previous Studies	41
7. SUMMARY AND CONCLUSIONS	42
8. APPENDIX ONE: PARTICIPATING INDUSTRY ASSOCIATIONS	43
9. APPENDIX TWO: COLD-HARDY GRAPE DEFINITION	44
10. APPENDIX THREE: WINERY TOURIST AND EXPENDITURE CALCULATIONS	45

NORTHERN GRAPES PROJECT

The emergence of cold hardy wine grape cultivars in the 1990s created new and rapidly expanding industries of small vineyard and winery enterprises in states across New England, northern New York, and the Upper Midwest. While the North American ancestry of these cultivars confers exceptional climatic adaptation and disease resistance, other challenges to production, processing, and marketing have slowed their successful commercialization in regional and national markets. Because their growth habit and fruit composition differ from traditional grape hybrids, new viticulture and enological practices are needed. Marketing tools are also required to educate consumers unfamiliar with the grapes and the wine styles they produce. Consequently, the long-term viability of these new businesses requires coordinated research and extension to optimize viticulture, enological (winemaking), business management, and marketing practices. To meet the needs articulated by industry stakeholders, the United States Department of Agriculture funded the Northern Grapes Project.

The Northern Grapes Projects brings together researchers, Extension specialists, and industry professionals from 13 states to address viticulture, enological, business management, and marketing issues related to growing cold hardy grapes. After five years, the project teams intend to have accomplished the following goals: 1) production and sales of wines made from cold climate cultivars will have doubled, 2) improved quality resulting from better growing and winemaking practices will have improved customer retention and driven repeat sales, 3) enhanced breeding and cultivar evaluation will have resulted in an accelerated pace of cultivar release, 4) cold climate cultivars will establish unique regional marketing identities in their area, 5) wineries will have understood and applied business and tasting room management practices that drive sales and profitability, and 6) wineries and vineyards will have successfully transitioned from “startup” to “sustainably profitable.”

To measure progress on these goals, one of the first tasks of the project team was to conduct a baseline survey. This survey, sent to grape growers and wineries in the participating states, gathered data on the current status of the grape and wine industries in general and on cold-hardy grape and wine production, specifically. Questions were asked pertaining to sales and production (wineries and vineyards), growing practices (vineyards), and operating practices (wineries).

This document reports the results of the baseline survey for vineyards and wineries in Iowa. It also quantifies the economic contribution of the industries.

VINEYARDS AND WINERIES IN IOWA: EXECUTIVE SUMMARY

- In spring 2012, grape growers and winery owners in 13 states were surveyed under the Northern Grapes Project. Questions asked pertained to sales and production (wineries and vineyards), growing practices (vineyards), and operating practices (wineries). The goal was to establish an industry baseline and quantify the economic contribution of the industries. This report presents the results for Iowa.
- Cold-hardy grapes dominate the wine and grape growing industries in Iowa. Seventy-eight percent of grapes grown are of the cold-hardy varieties and 88 percent of grapes used in wine production are cold-hardy.
- The release of cold-hardy grape varieties fueled growth in the vineyard industry in Iowa. Growth was most rapid in the period from 2002 to 2007. Indications from the baseline survey show growth in the grape growing industry in Iowa is tapering off slightly as the industry begins to mature.
- Vineyard owners are concerned about disease and pests/insects. In addition to listing disease and pests/insects as the top two biggest challenges to the growth and development of their vineyard, grape growers also reported that up to 30 percent of their crop in 2011 was not harvested as a result of disease, pests/insects, and weather.
- Changes in the winery industry in Iowa reflect those in the vineyard industry. The number of wineries in Iowa grew rapidly from 2002 to 2007, but new wineries have not opened at as fast of a pace since then. Growth does continue among established wineries. Over 80 percent of current wineries plan on expanding in the next five years.
- Iowa wineries cite sales and government policies and regulations as the primary challenges to the future growth and development of their wineries. Nearly three-fourths of Iowa wineries are located in rural areas. Nearly half of their sales are from their tasting rooms. Therefore, Iowa wineries need to continue to attract and draw customers to their site. One way to do this may be through increased collaboration. Wineries report overall low levels of collaboration with each other and with other local organizations that might support their marketing efforts.
- In 2011, the winery and grape growing industries in Iowa created \$65.2 million in economic impact. This included the support of 2,210 jobs paying \$19.4 million in labor income. Vineyards contributed \$7.1 million in economic activity, wineries \$37.2 million, and winery tourists \$20.9 million.
- In 2011, the cold-hardy wine and grape growing industries contributed \$56.2 million in economic activity to the Iowa economy, including 1,880 jobs and \$16.6 million in labor income.



SURVEY METHODOLOGY AND RESPONSE RATES

In early 2012, project researchers at the University of Minnesota sent a survey to grape growers and wineries in the participating states. Grower and winery lists were provided to the University of Minnesota by industry associations in each state (see appendix 1 for a list of participating associations). An email was sent to all members of these lists, resulting in 2,746 invitations to participate in the survey. Of these, 501 responded, for an overall response rate of 18 percent. In addition, links to the survey were available allowing individual growers and wineries not directly associated with an industry group, and thus not receiving a direct email invitation, to participate in the survey. These links were also announced during the Northern Grapes Project webinars. The survey links generated 110 responses. In total, there were 611 total responses to the survey.

Table 1-1 lists the participating states, the number of wineries and growers invited based on the industry association lists, the number of respondents using the open links, and the response rate. Minnesota has the highest membership totals.¹ South Dakota had the highest response rate.

The Iowa Wine Growers Association, the Scenic Rivers Grape and Wine Association, and the Western Iowa Grape Growers Association all provided e-mail addresses for their respective membership. In total, 222 invitations to participate in the survey were sent to potential Iowa growers and wineries. Of those, 66 individuals responded, which is a rate of 30 percent.

State	Total Number of Contacts from Industry Associations	Number of Responses	Response Rates
Connecticut	32	5	16%
Illinois	272	52	19%
Iowa	222	66	30%
Massachusetts	28	10	36%
Michigan	164	36	22%
Minnesota	1,012	167	17%
North Dakota	54	14	26%
Nebraska	172	46	27%
New Hampshire	51	14	27%
New York	202	32	16%
South Dakota	14	11	79%
Vermont	47	18	38%
Wisconsin	476	97	20%

¹ Responses were categorized by state the grower or winery owner indicated as the state in which their operation is located.

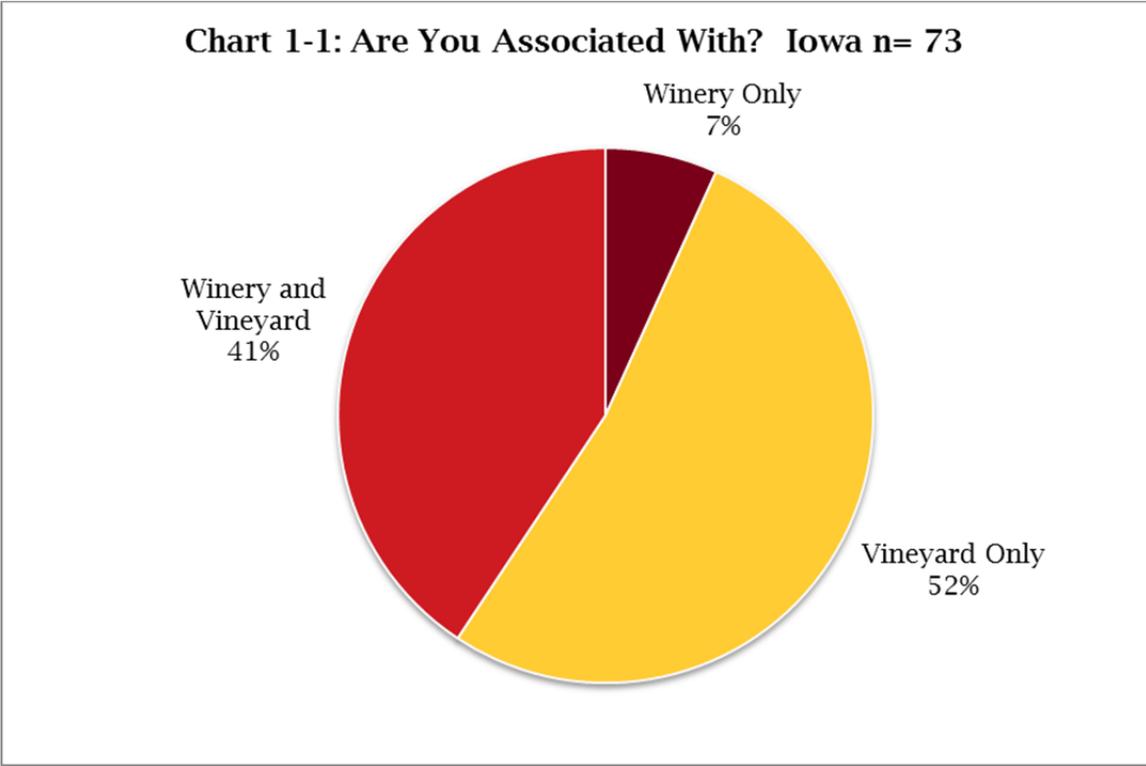
Not all of the survey responses were applicable to the baseline survey. Association memberships are generally open to all interested parties and therefore membership lists include individuals who may be considering growing or producing wine, or individuals who previously grew grapes or produced wines. The lists may also contain people associated with the industry in other capacities than growing and wine-making. Knowing this, the survey was designed to capture basic information on these individuals, even if they did not complete the full survey.

The first survey question asked “Are you associated with....1) a vineyard (past, present, or future), 2) a winery, 3) both, or 4) other. Those responding “other” were directed to the end of the survey.

Those responding “vineyard (past, present, or future)” were asked a follow-up question. Survey takers who indicated they grew grapes in the past or planned to grow grapes in the future were directed to the end of the survey.

The focus of the Northern Grapes Project is on commercial scale grape growers and wineries. Thus, grape growers were asked “Do you grow grapes for commercial sale or use? If you grow grapes exclusively for use in your own winery, answer yes”. Those responding “no” were directed to answer a series of questions about the size of their vineyard and then directed to the end of the survey.

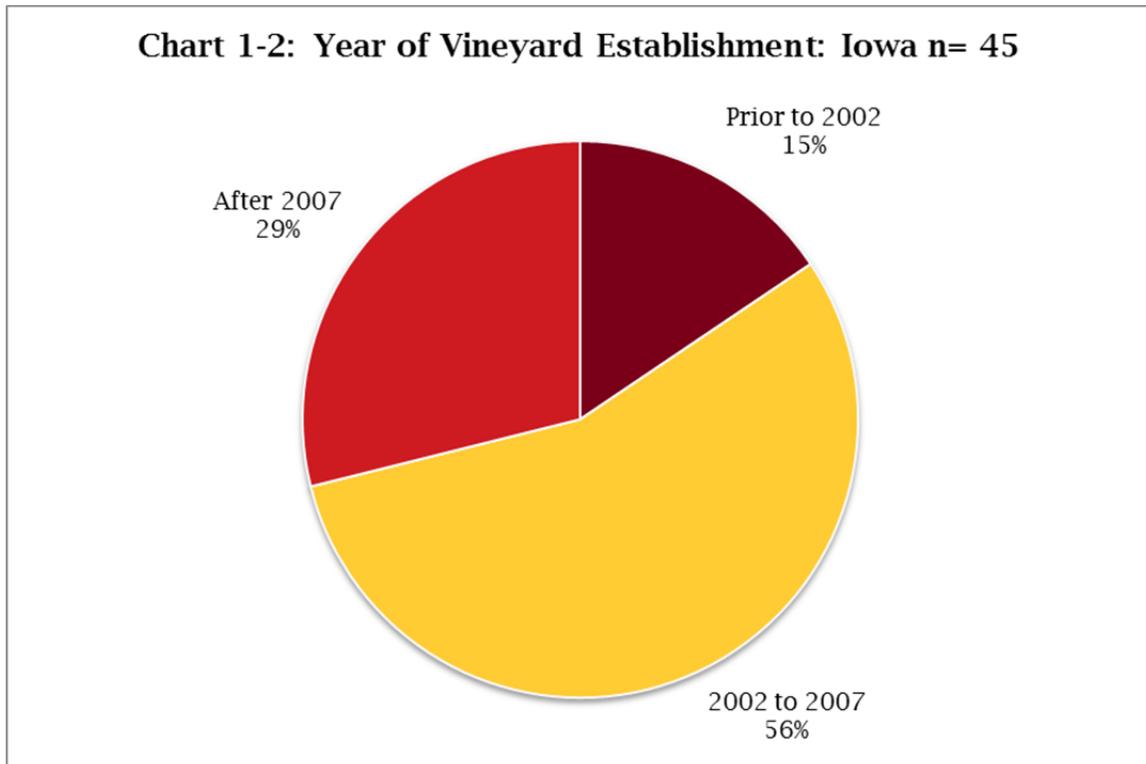
Survey participants could be vineyard operators, winery operators, or operators of a joint vineyard-winery business (see chart 1-1). Over half (50 percent) of survey respondents in Iowa operate a vineyard only. Among winery owners, it is more common to operate a combination of a winery-vineyard operation, with over one-third (41 percent) of survey respondents reporting this arrangement. In total, the survey includes 28 wineries and 45 vineyards.



VINEYARD CHARACTERISTICS

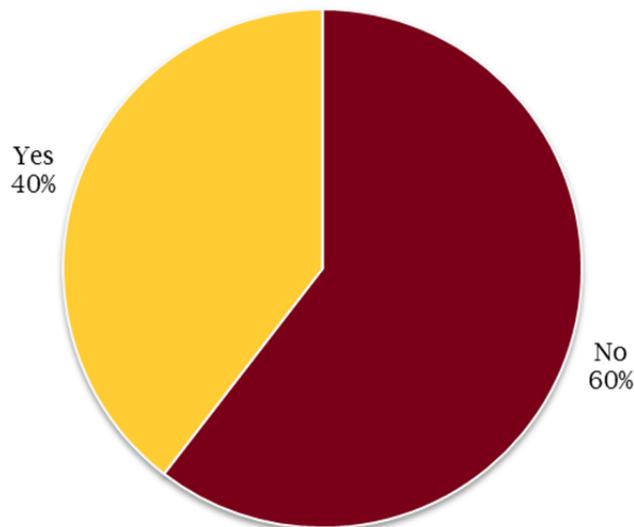
The Northern Grapes Project survey was completed by 45 vineyards in Iowa. The National Agricultural Statistics Service reports 335 vineyards in the state. Therefore, the response rate for this study is 13 percent.

The Northern Grapes Project baseline survey results reinforce the observed trend of rapid growth in the grape growing industry in Iowa (see chart 1-2). Growth appears to have been most rapid from the period from 2002 to 2007. Typically, a vineyard does not reach full production capacity until three to four years after planting. Vines planted after 2007 are just now or have yet to reach maturity and yield to their full potential.



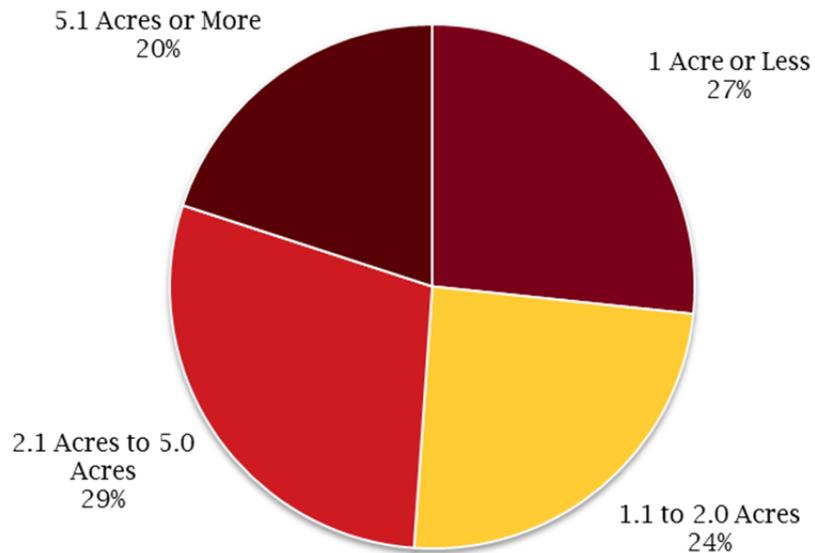
In addition to new vineyards being established, current vineyards have expanded their planted acreage moderately. Forty percent of responding vineyards indicated they had planted additional acreage since the original founding of their vineyard, chart 1-3.

Chart 1-3: Have You Added Acreage Since Your Vineyard Was Established? Iowa n= 43



Just over half of the responding vineyards (51 percent) are less than 2.0 acres in size, as shown in chart 1-4. Twenty percent of the vineyards reported having more than 5 acres planted in grapes. Our survey results, extrapolated out to the entire population of vineyards, indicate there are 1,200 acres planted in grape vines in Iowa. Survey results show that 78 percent, or 930 acres, of the planted vines are of the cold-hardy varieties defined in this study. The varieties classified as “cold-hardy” for purposes of this report are listed in appendix two.

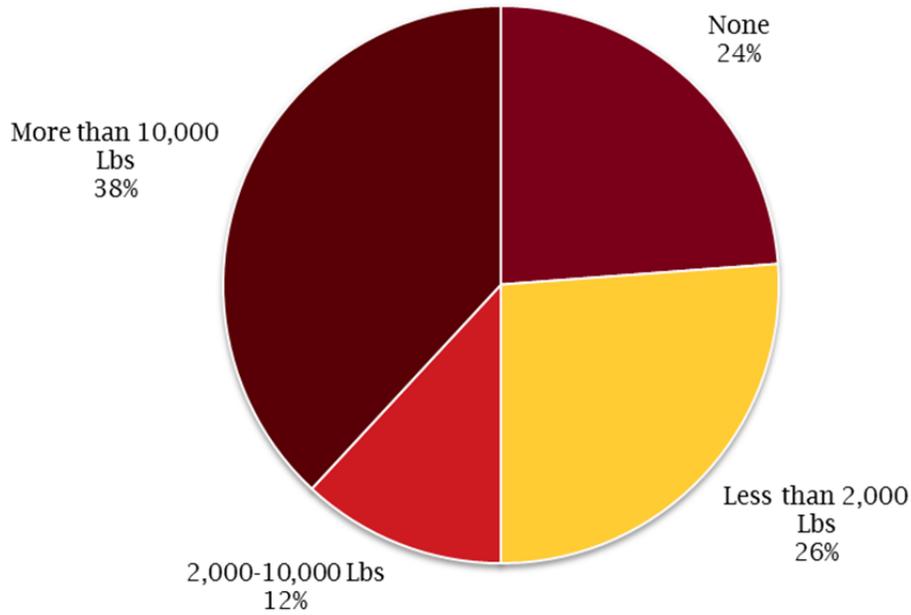
Chart 1-4: What is the Total Planted Acreage of Your Vineyard? Iowa n= 45



Vineyard production reflects the age of vineyards and the size of vineyards in the survey population (see chart 1-5). Nearly one-quarter (24 percent) of the vineyards surveyed indicated they did not produce any fruit in 2011. As depicted in chart 1-2, 29 percent of vineyards were planted after 2007, which means they likely have not yet reached maturity.. Therefore, it is not surprising they have not produced harvestable fruit.

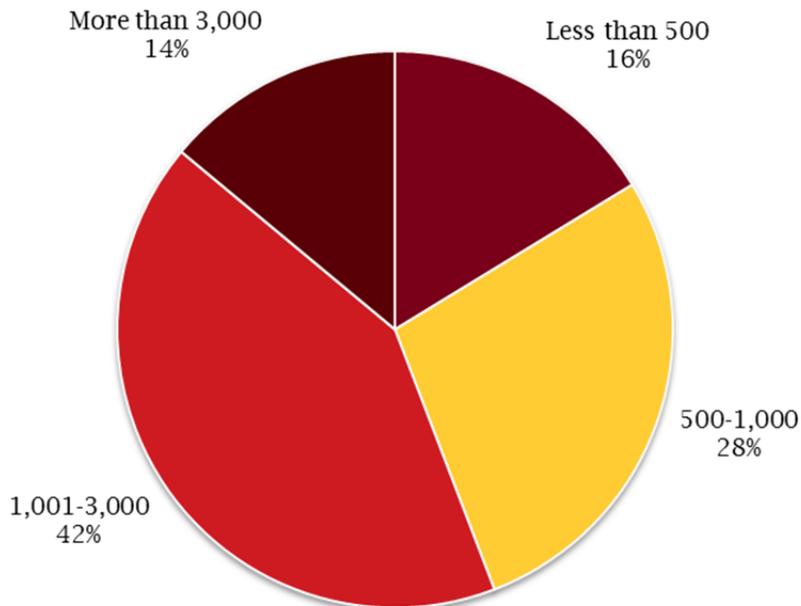
Survey results, extrapolated to represent all growers in the state, reveal Iowa grape growers produced approximately 1,800 tons of fruit in 2011. Average yield on producing acreage was 2.0 tons per acre.

Chart 1-5: Vineyard Production: Iowa n= 42



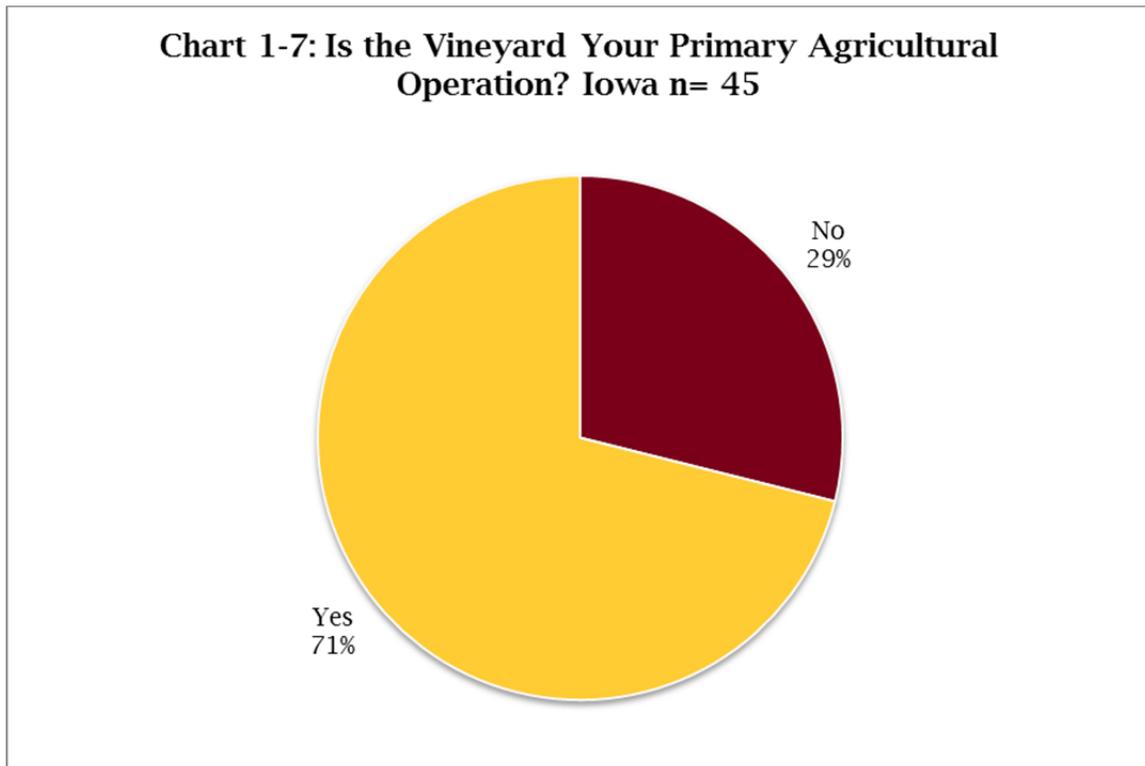
The average participating vineyard has 1,700 planted vines. Forty-two percent of vineyards have 1,001 to 3,000 vines in the ground, as shown in chart 1-6.

Chart 1-6: Total Vines in Vineyard: Iowa n= 43



Vineyard Operations

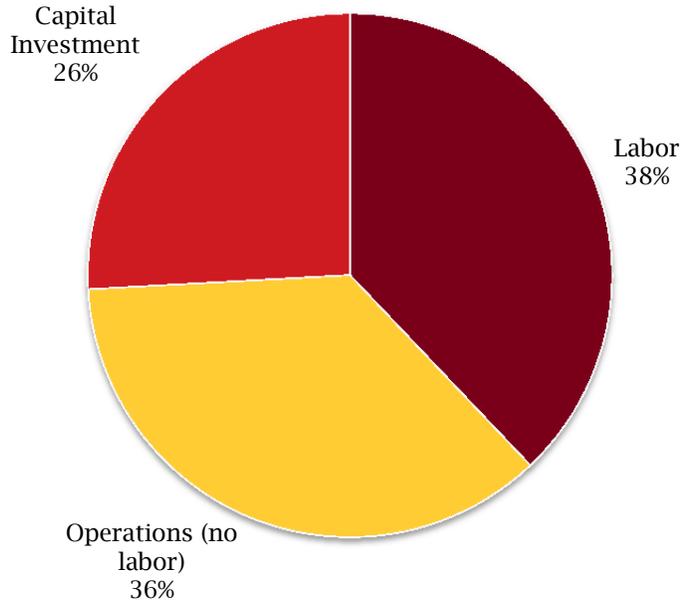
The majority (71 percent) of vineyards operate as stand-alone agriculture enterprises (see chart 1-7). Approximately one-third of vineyards participating in the survey operate as a secondary agricultural operation. All responding grape growers for whom the vineyard is a secondary operation reported their primary agricultural operation is conventional row crop farming (corn and soybeans). One of the responding vineyards operates as a commercial nursery. They use only a small percentage of their total vineyard for nursery activities.



The average responding vineyard spent \$8,700 on operations (of which \$4,400 were labor payments) in 2011. Operating expenses include fertilizers, fungicides, cover crops, water, fuel, overhead costs, marketing, and taxes. Responding vineyards also spent an average of \$3,000 on capital investments, including trellis systems, tractors, crushers, pick-ups, ATV's, and other equipment.

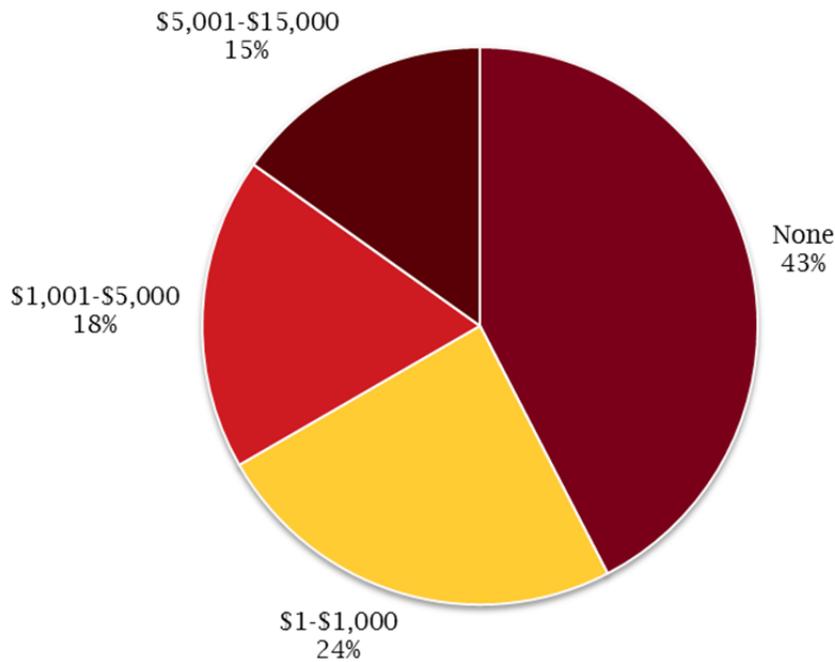
In total, vineyards in the state of Iowa spent \$3.9 million. Of this, \$2.9 million was spent on operating expenses (including \$1.5 million on labor) and \$1.0 million on capital expenditures in 2011, see chart 1-8.

**Chart 1-8: Vineyard Expenditures by Category:
Iowa n=45**

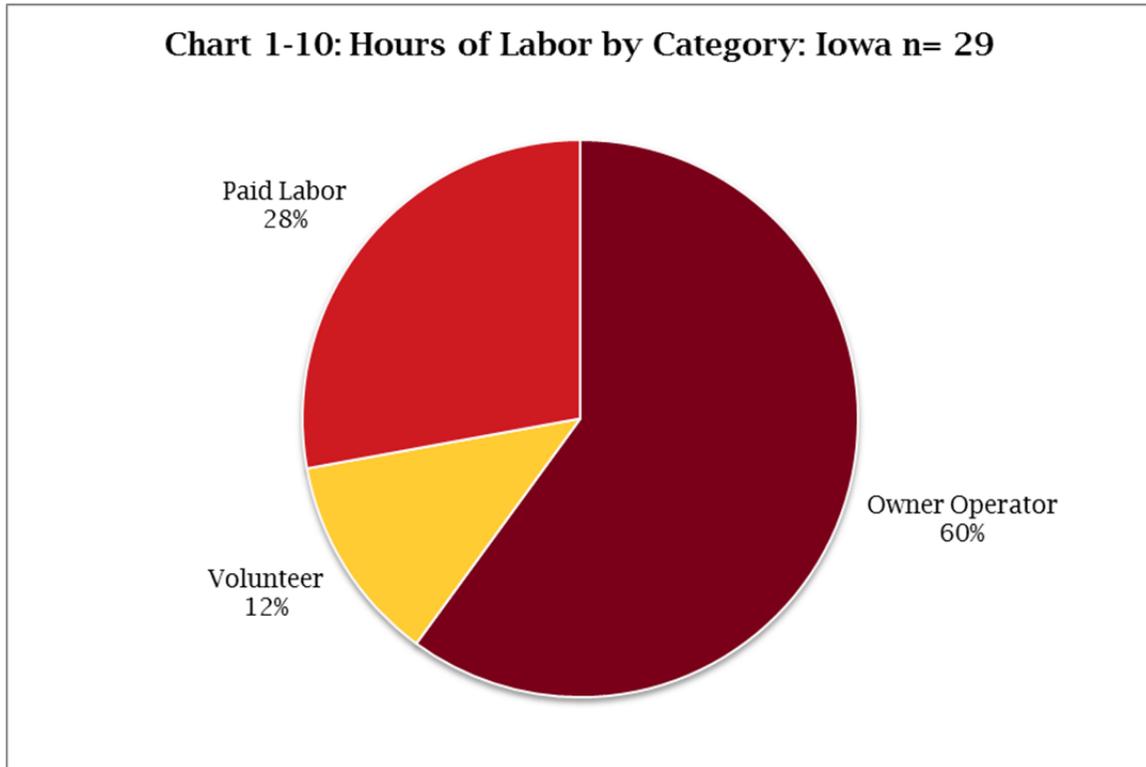


Of the 33 vineyards that responded to the question regarding labor expenditures, 43 percent reported no expenditures for labor (chart 1-9). This is primarily because the owner/operator did all the labor or the vineyard used volunteer or family labor to complete the vineyard tasks.

Chart 1-9: Vineyard Labor Expenditures: Iowa n= 33

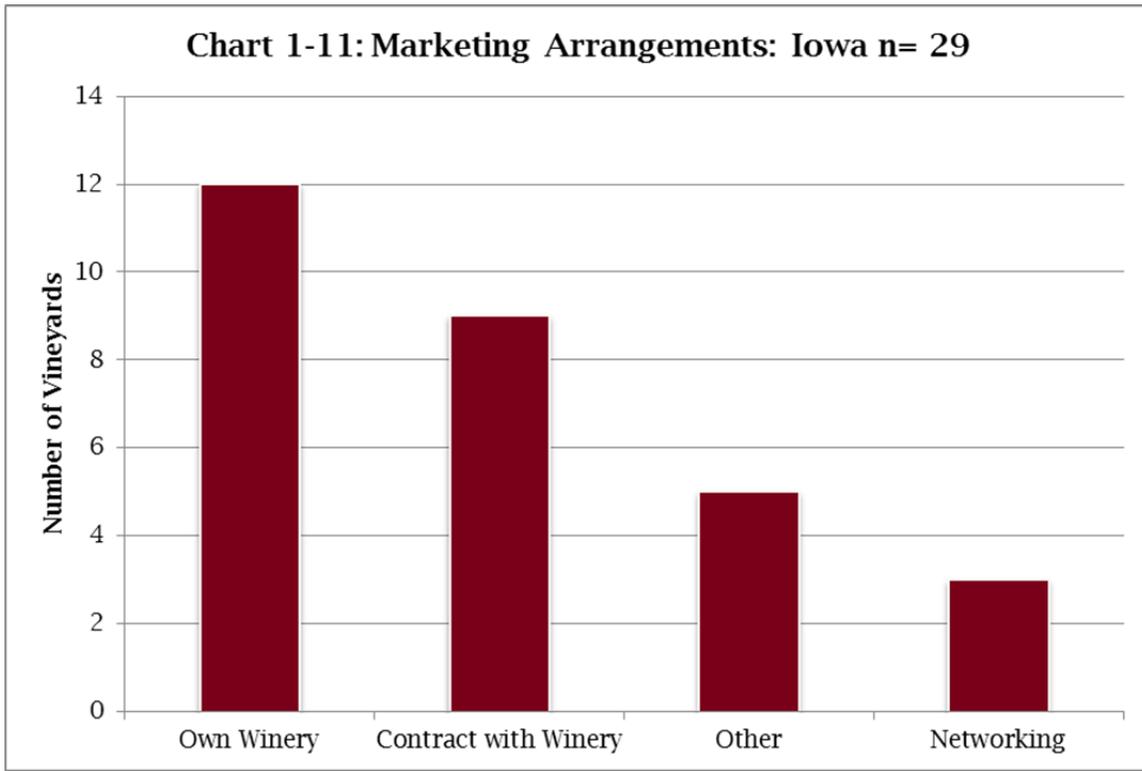


As shown in Chart 1-10, the majority of labor for the responding vineyards was provided by the owner/operator (60 percent). Just over a quarter (28 percent) of labor was supplied by paid employees and 12 percent by volunteer laborers.

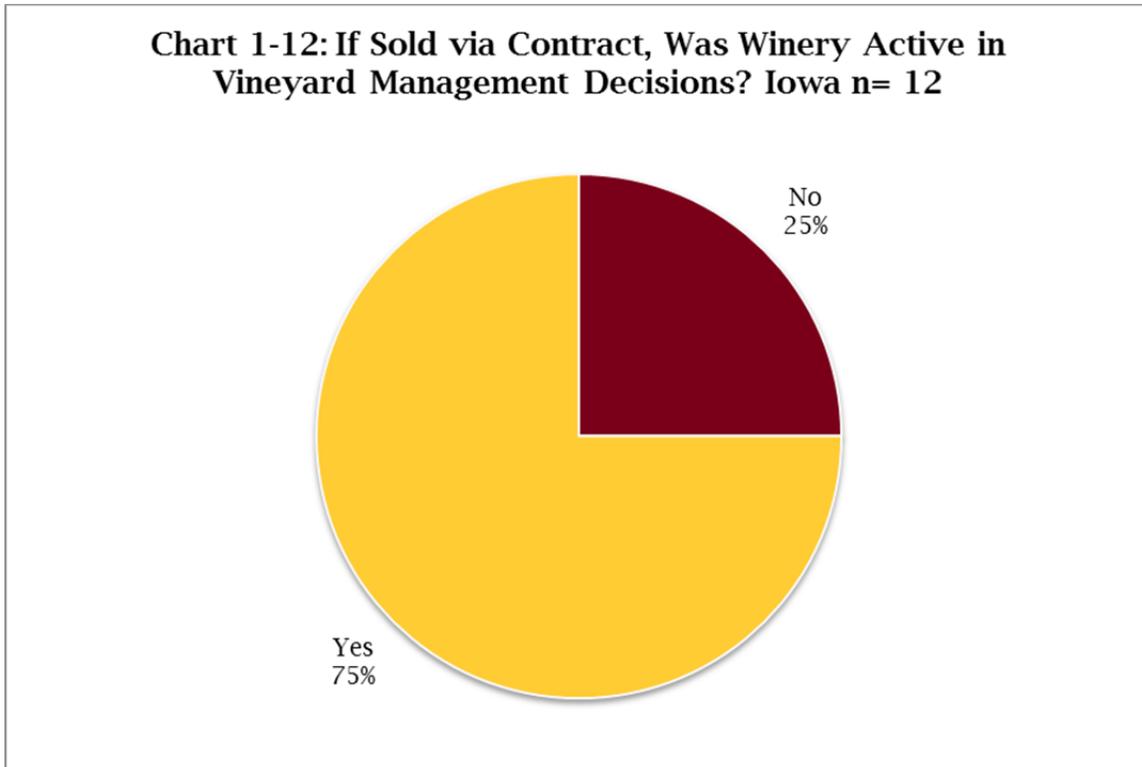


Marketing and Grape Utilization

Grape growers in the survey favor selling to their own winery as the best method for marketing their grapes (chart 1-11). Growers were asked which market arrangements they used to sell their grapes. They could select more than one choice. The most commonly used method, selected by 12 growers, was to sell through their own winery. Also commonly used were sales via contract with a winery. Those indicating they sold via other channels stated in the open-ended explanation that they did not sell due to lack of production or that they used verbal agreements. No growers indicated using a broker to sell their grapes.

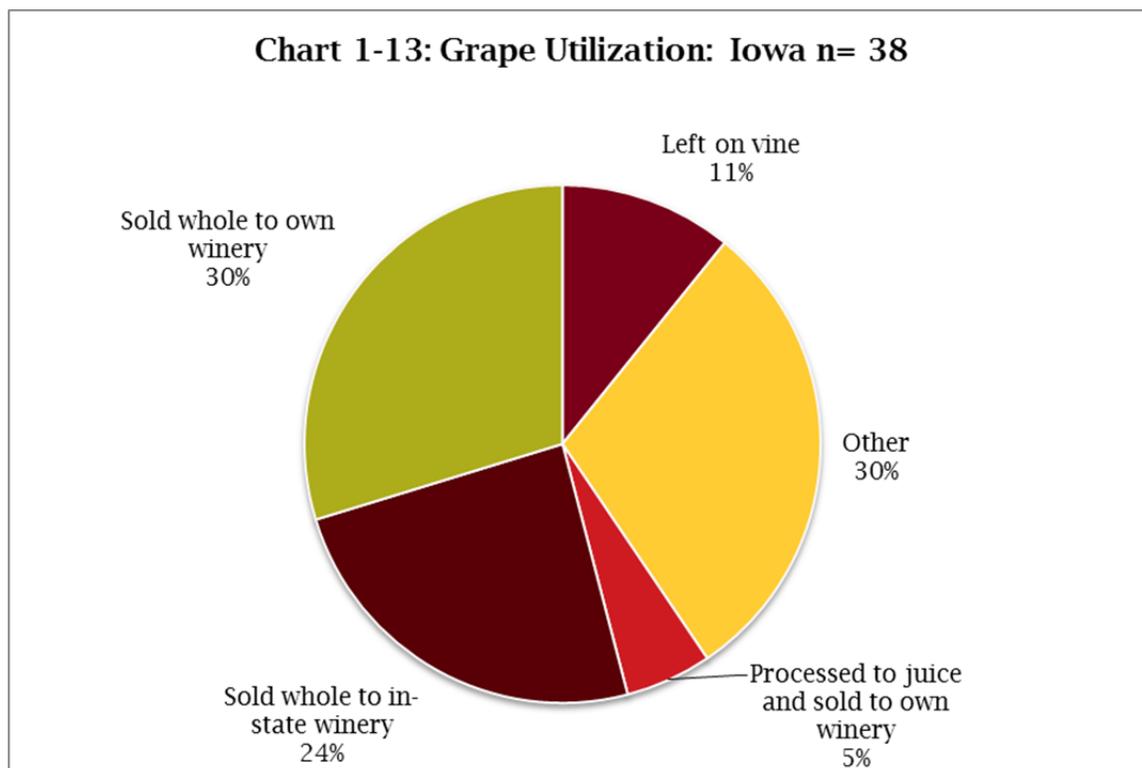


Growers that contract with wineries to market their grapes are interacting with the winery to make management decisions. Three-fourths of growers indicated that the winery to which they sold grapes was active in management decisions in the vineyard, as shown in chart 1-12.



The most common arrangement for responding vineyards is to sell their grapes in a whole berry format (see chart 1-13). Thirty percent sold their berries whole to their own winery. Another 24 percent sold their grapes whole to an in-state winery. This reinforces the knowledge that grape growing and wineries are often local operations, working and contributing to the communities in which they are located. None of the responding grape growers reported selling out of the state.

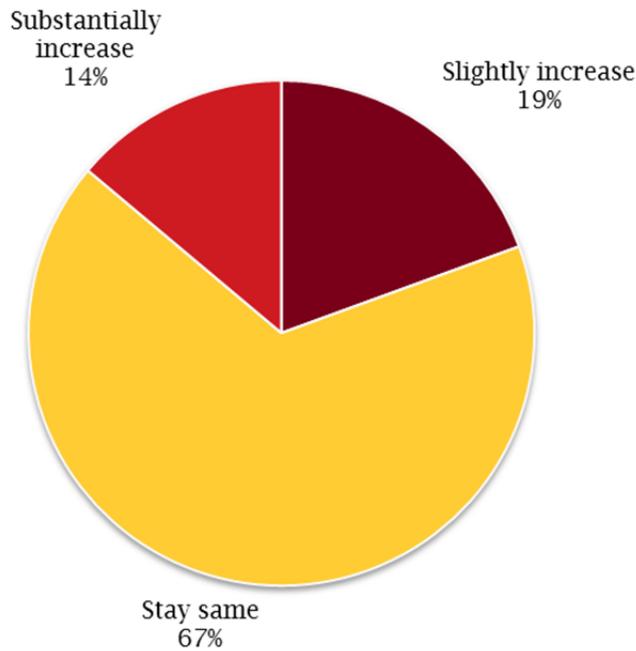
Thirty-percent of the vineyards indicated their grapes went to “other” uses. When asked to specify, responses were primarily either 1) no production due to the vines having not yet reached maturity and 2) grapes were damaged or destroyed by pests, insects, or weather.



Future Plans

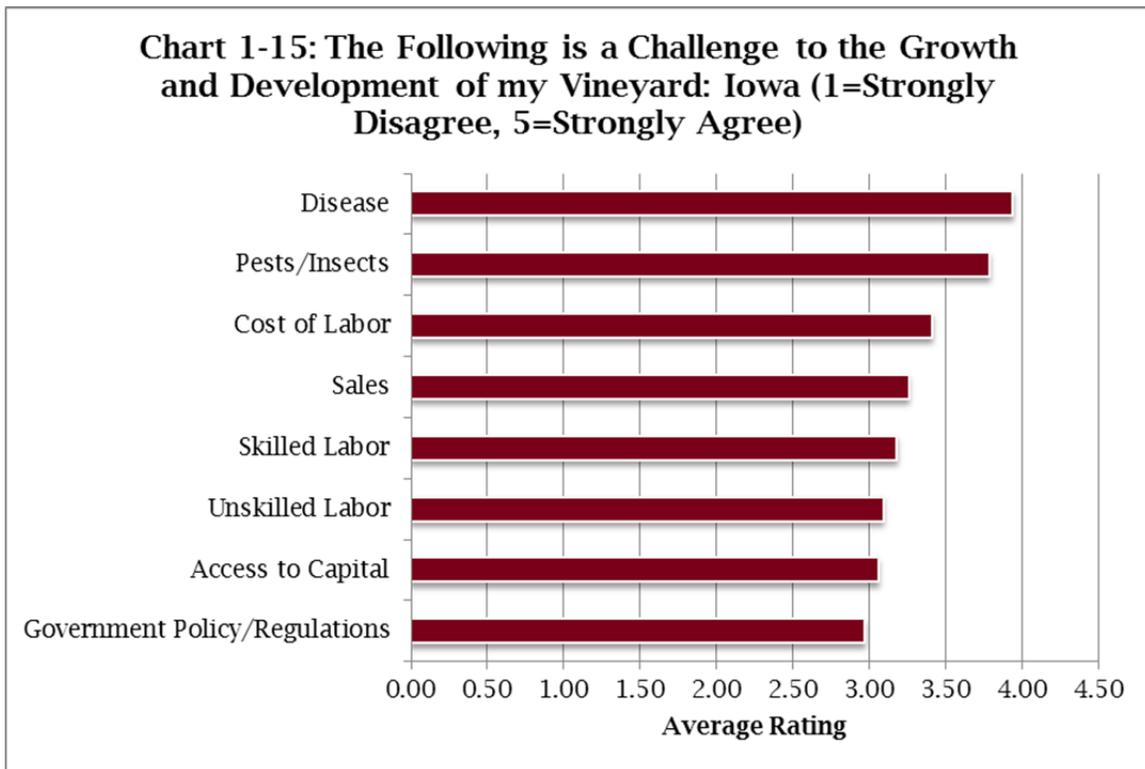
Current grape growers primarily plan to maintain the status quo. Two-thirds of vineyard owners plan on their vineyard staying at its same size in the next two years. One-third plan to expand the size of their vineyard. No growers intend to decrease operations (chart 1-14).

Chart 1-14: Over the Next Two Years, My Vineyard Will... Iowa n= 36



Grape growers responding to the survey indicate that the biggest challenges to their vineyard operations are disease and pests and insects, as depicted in chart 1-15. When asked to answer the question “the following is a challenge to the growth and development of my vineyard”, using a scale where 1 equals “strongly disagree” and 5 equals “strongly agree”, grape growers gave disease an average score of 3.9 and pests/insects an average score of 3.8. Government policies and regulations and access to capital do not appear to be prime concerns of growers in Iowa.

When asked what other challenges they face, grape growers indicated damage from deer populations was a real concern.

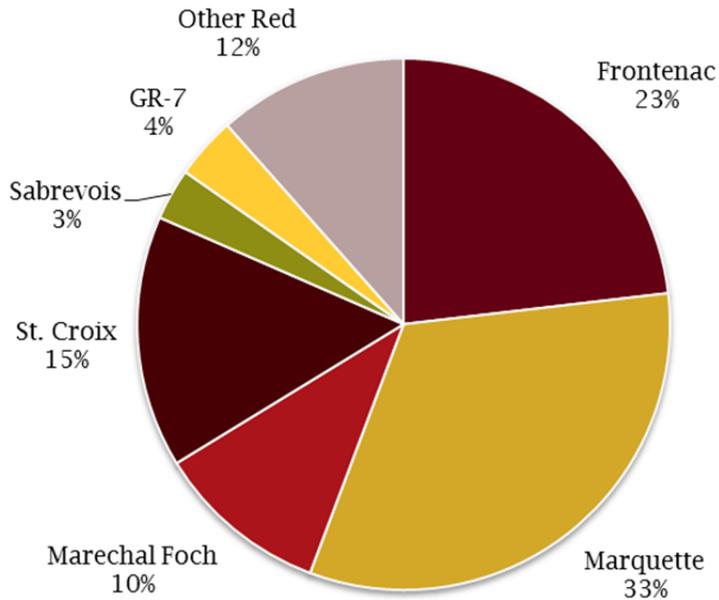


Grape Varieties

Survey participants reported 64,300 planted vines in their vineyards. Of these, the majority (80 percent) are planted in cold-hardy varieties. The majority of these cold hardy varieties (31,900) are red cultivars. The remaining vines(20,200) are white cultivars. Chart 1-16 depicts total reported planted vines of cold-hardy red varieties. Marquette grapes comprise 33 percent of the total planted cold-hardy red varieties. Frontenac and St. Croix comprise 23 percent and 15 percent respectfully. This chart illustrates the sheer popularity of the Marquette grape. This varietal is relatively new (released in 2006), so the fact that it is now one-third of all planted red varieties is remarkable.

Table 1-2 reports the number of reported planted red cultivar vines by age. These figures represent only what the vineyards who answered the survey reported. Responding vineyards reported 2,200 red cultivar vines are older than 10 years of age, 14,600 are between 4 years and 10 years of age, and 15,100 are younger than 4 years old. These figures again represent the rapid growth of the industry. Vines younger than 4 years of age have yet to reach maturity and produce a full crop. The reported results indicate that red cold-hardy grape production will nearly double in the next four years as those vines mature.

Chart 1-16: Total Planted Cold-Hardy Vines, Red Varietals: Iowa



Further, the table reflects the rapid growth of the Marquette grape variety. Ten years ago, there were no Marquette vines in the ground. Within the last four years, the responding vineyards alone report planting nearly 9,500 vines. The other prominent cold-hardy red varieties, Frontenac and St. Croix, have been planted in fewer numbers in recent years.

Table 1-2: Planted Vines of Cold-Hardy Red Varieties by Responding Vineyards, by Age, Iowa

Variety	Vines, Younger than 4	Vines, Between 4 and 10 Years	Vines, Older than 10	Total
Baltica	30	0	0	30
Beta	0	0	0	0
Frontenac	2,426	4,548	400	7,374
GR-7	0	1,200	0	1,200
King of the North	0	0	0	0
Leon Millet	10	750	0	760
Marechal Foch	582	974	1,802	3,358
Marquette	9,456	930	0	10,386
Other Red	355	2,400	0	2,755
Petite Pearl	132	0	0	132
Sabrevois	850	150	0	1,000
St. Croix	1,275	3,602	0	4,877
Valiant	0	0	0	0
Total	15,116	14,554	2,202	31,872

The totals in this table are for responding vineyards only and do not represent the total industry in Iowa.

Table 1-3 lists the estimated number of planted acres of cold-hardy red varieties in Iowa. These numbers have been extrapolated to represent all vineyards in Iowa. In Iowa, there are an estimated 390 acres of grapes planted in cold-hardy red varieties. The Marquette grape is planted on 128 of those acres.

Table 1-3: <u>Estimated</u> Planted Acres of Cold-Hardy Red Varieties for <u>All</u> Vineyards in Iowa	
Variety	Total
Baltica	0.4
Beta	0
Frontenac	90.7
GR-7	14.8
King of the North	0
Leon Millet	9.4
Marechal Foch	41.3
Marquette	127.8
Petite Pearl	1.6
Sabrevois	12.3
St. Croix	60.0
Valiant	0
Other Red	33.9
Total	392.2
The totals in this table have been extrapolated to represent all vineyards in Iowa.	

Chart 1-17 illustrates the total planted vines of cold-hardy white varieties. La Crosse (23 percent) and La Crescent (20 percent) are the most commonly planted vines by the reporting vineyards. Within the white cold-hardy cultivars, there is no clear favorite cultivar.

Chart 1-17: Total Planted Cold-Hardy Vines, White Varieties: Iowa

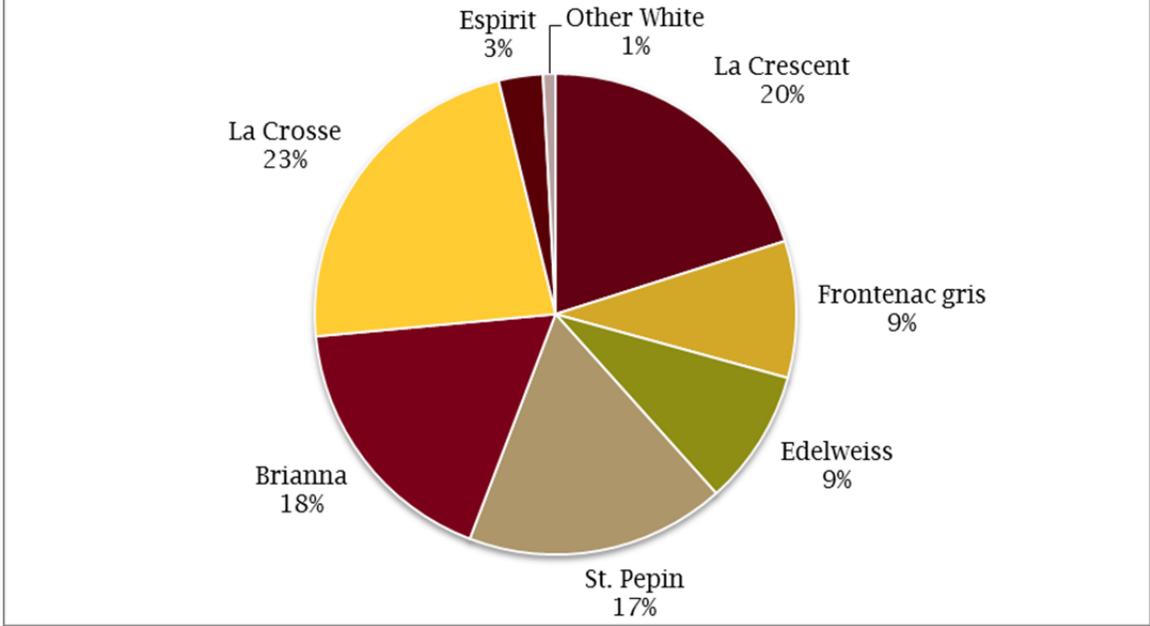


Table 1-4 reports the total reported planted vines of cold-hardy white cultivars. These figures represent only what the vineyards who answered the survey reported. Responding vineyards report 470 vines older than 10 years in the ground, 11,800 vines of age between 4 and 10 years, and 7,900 vines younger than 4 years. Unlike the red cultivars, plantings of cold-hardy white grapes have declined in recent years.

Table 1-4: Planted Vines of Cold-Hardy White Varieties by Responding Vineyards, by Age, Iowa

Variety	Vines, Younger than 4	Vines, Between 4 and 10 Years	Vines, Older than 10	Total
La Crescent	2,104	1,947	0	4,051
Frontenac Gris	1,152	697	0	1,849
Frontenac Blanc	15	0	0	15
Prairie Star	10	0	0	10
Edelweiss	145	1,629	60	1,834
Brianna	2,270	1,301	0	3,571
La Crosse	443	3,822	302	4,567
St. Pepin	1,607	1,838	0	3,445
Louise Swenson	0	0	75	75
Espirit	0	600	0	600
Kay Gray	0	0	0	0
Petite Amie	15	0	0	15
Other White	100	0	30	130
Total	7,861	11,834	467	20,162

The totals in this table are for responding vineyards only and do not represent the total industry in Iowa.

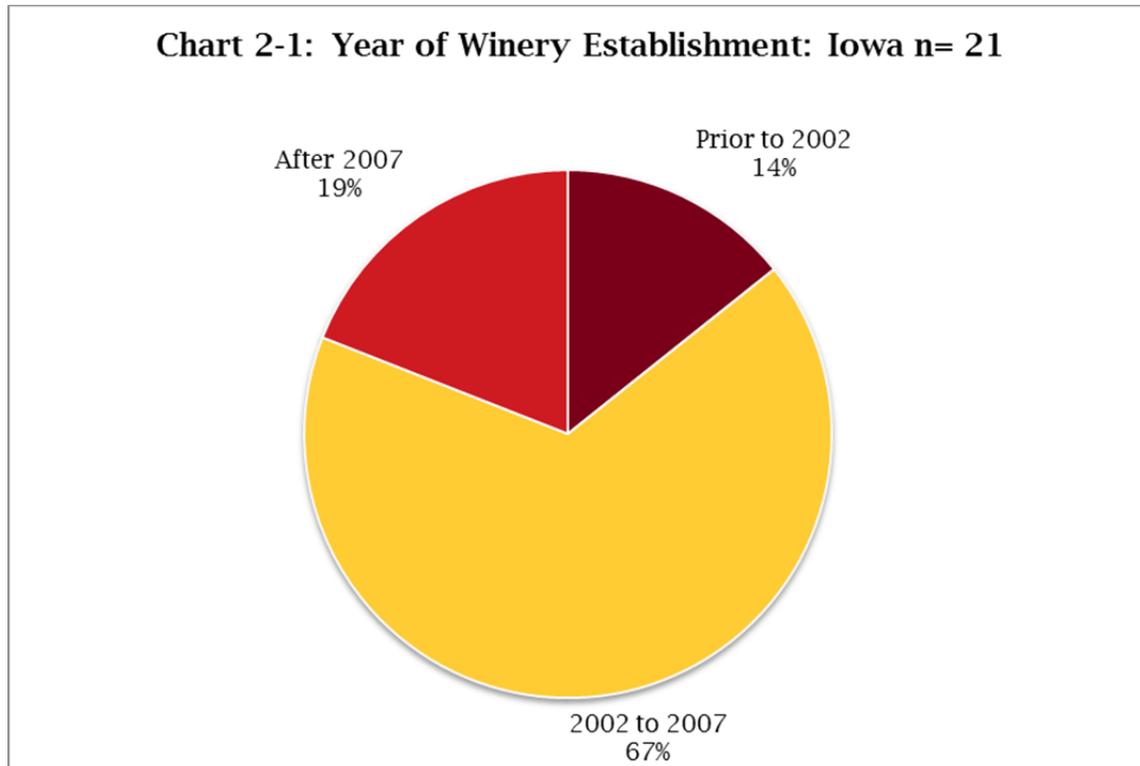
Table 1-5 lists the estimated number of planted acres of cold-hardy white cultivars in Iowa. These numbers have been extrapolated to represent all vineyards in Iowa. In Iowa, there are an estimated 250 acres of grapes planted in cold-hardy white varieties. The La Crosse grape is planted on 56 acres and the La Crescent on 50.

Table 1-5: <u>Estimated</u> Planted Cold-Hardy Acres of White Varieties for <u>All</u> Vineyards in Iowa	
Variety	Total
La Crescent	49.8
Frontenac Gris	22.8
Frontenac Blanc	0.2
Prairie Star	0.1
Edelweiss	22.6
Brianna	43.9
La Crosse	56.2
St. Pepin	42.4
Louise Swenson	0.9
Espirit	7.4
Kay Gray	0
Petite Amie	0.2
Other White	1.6
Total	248.1
The totals in this table have been extrapolated to represent all vineyards in Iowa.	

WINERY CHARACTERISTICS

Twenty-eight Iowa wineries responded to the Northern Grapes Project survey. According to the Alcohol and Tobacco Tax and Trade Bureau (TTB), there were 84 licensed wineries in Iowa.² Based on these statistics, the response rate for this survey was 33 percent. However, not all respondents reported being licensed at the time of the survey. Our dataset likely includes new wineries still in the start-up phase.

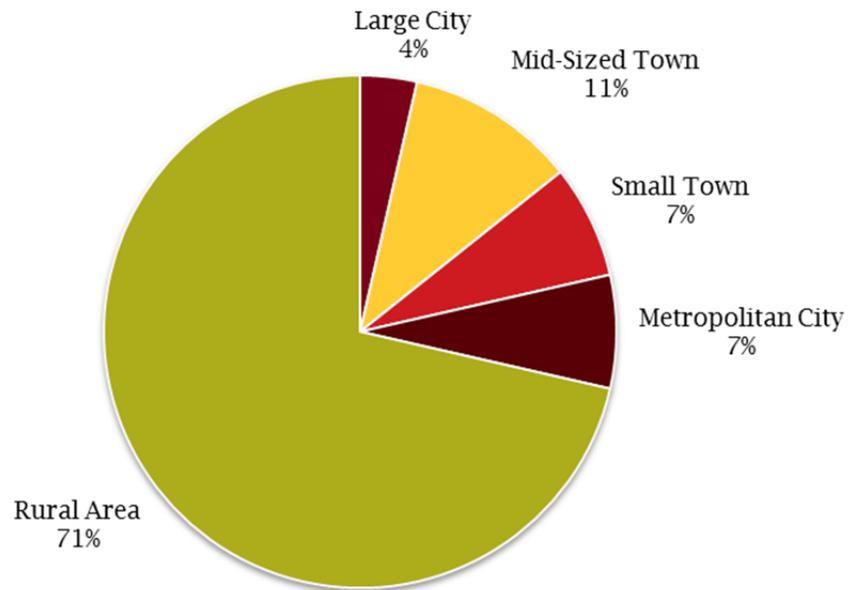
As shown in chart 2-1, growth in the number of wineries in Iowa is tapering. Only 14 percent of wineries existed prior to 2002. Two-thirds of all wineries were founded between 2002 and 2007. Since 2007, only 19 percent of wineries have been established. This may indicate the wine industry in Iowa is maturing, which has important implications for its future.



The majority of Iowa's wineries (71 percent) are located in rural areas, outside of cities and urban centers, see chart 2-2. Seven percent of the wineries are located in metropolitan cities.

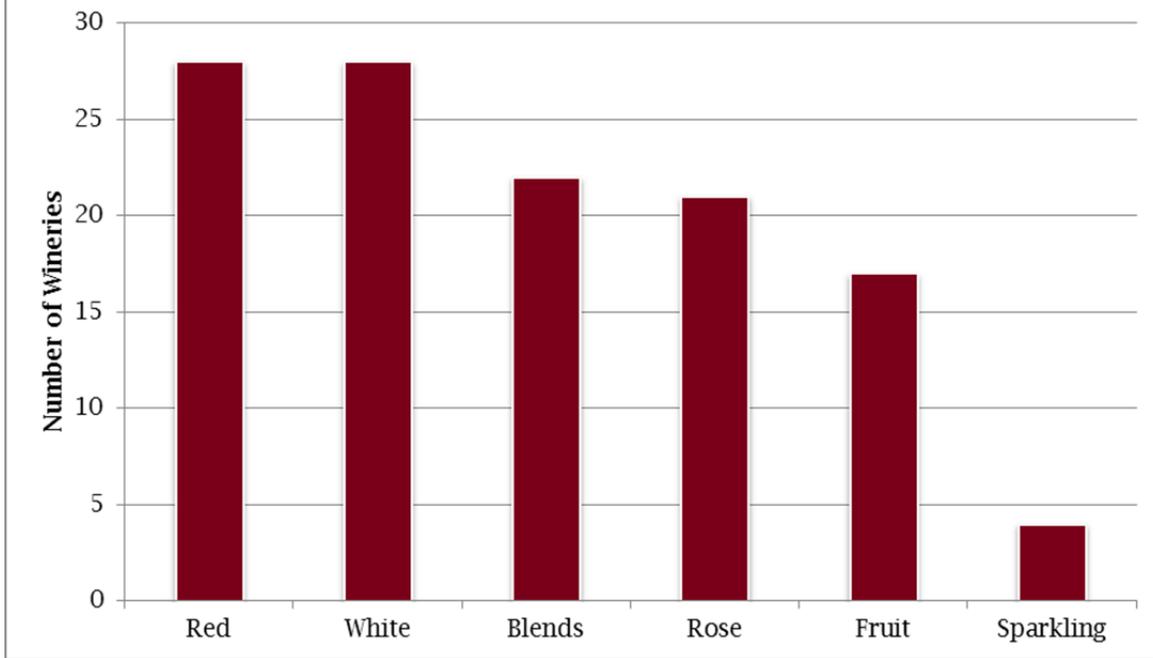
² The number of wineries in each state was taken from a publication by WineAmerica. The publication uses data from the United States Alcohol and Tobacco Trade and Tax Bureau for 2010. This data is the basis of calculations because it provides consistency and uniformity across all states in the Northern Grapes Project study area.

**Chart 2-2: Which Setting Best Describes Your Winery
Location: Iowa n= 28**



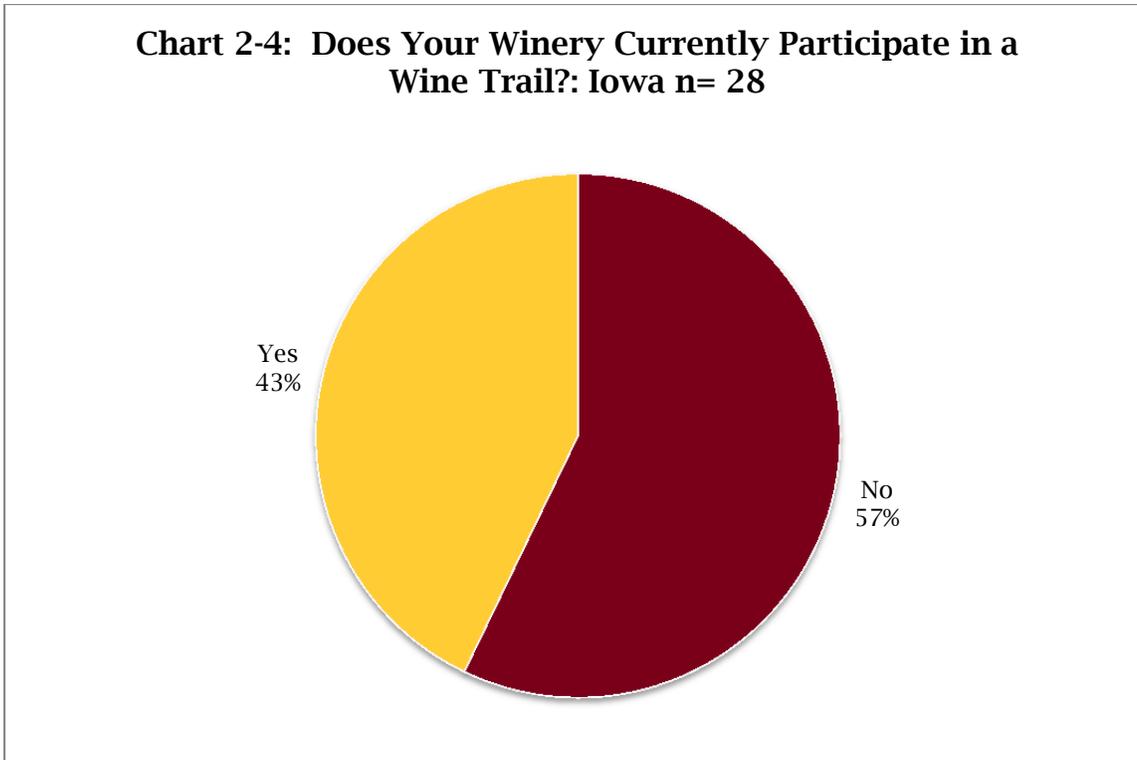
All of Iowa's wineries are producing red and white wines, see chart 2-3. Wineries are also commonly producing blends, rose wines, and fruit wines. Only a few wineries are producing sparkling wines. Study results show wineries in Iowa produced 450,000 gallons of wine in 2011 or an average of 5,400 gallons per winery.

Chart 2-3: What Kinds of Wines Are You Currently Producing?: Iowa n= 28

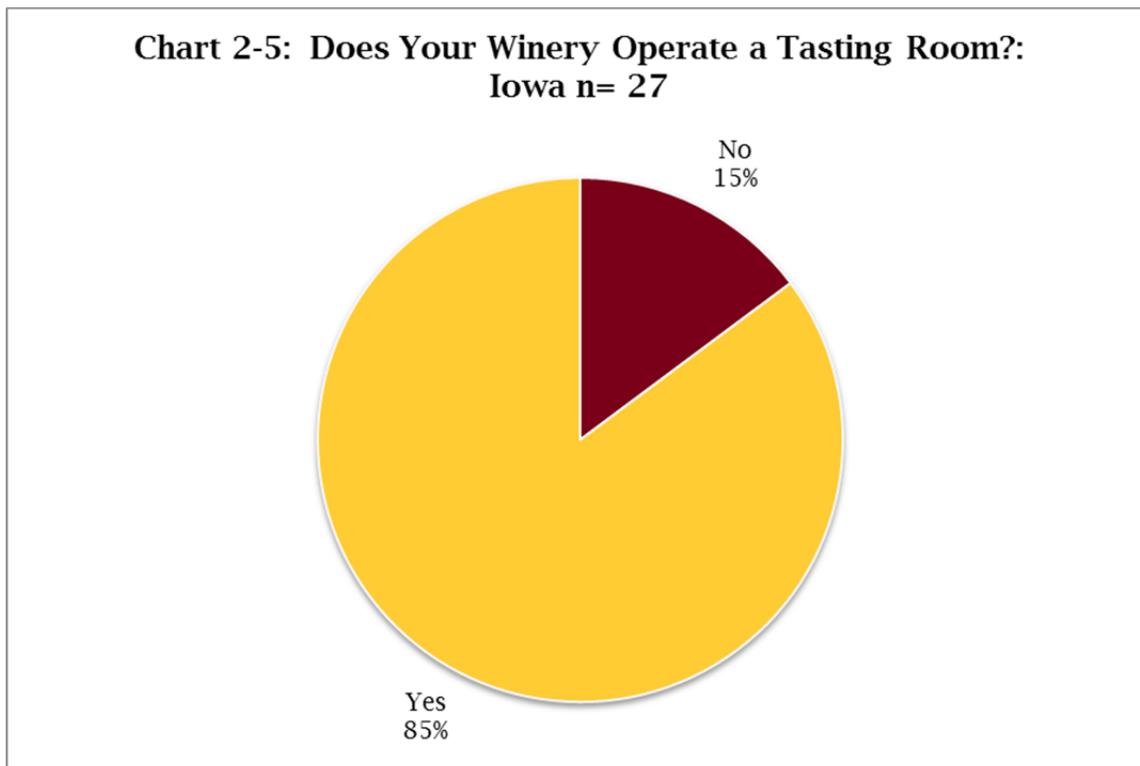


Forty-three percent of Iowa wineries currently participate in a wine trail. See chart 2-4. Wine trails have grown in popularity in recent years. These results indicate there is opportunity for further development of this marketing activity in Iowa.

Chart 2-4: Does Your Winery Currently Participate in a Wine Trail?: Iowa n= 28

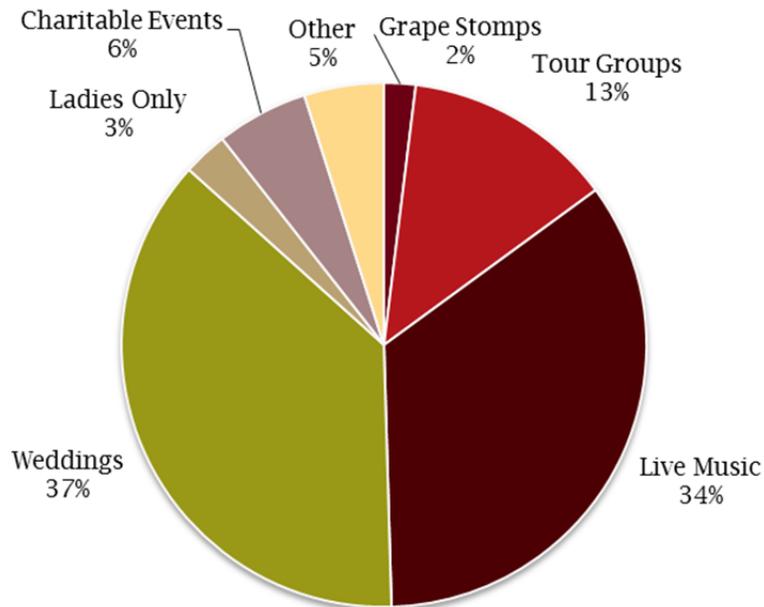


Eighty-five percent of Iowa wineries operate a tasting room in conjunction with their winery, see chart 2-5. Only 11 percent of wineries charge for tastings. Forty percent of the wineries offer food with their wine service. On average, each winery served 8,000 tasting room customers. Wineries estimate that 47 percent of their tasting room visitors are repeat customers.



Wineries also reported on events held at their winery in 2011. Specifically, wineries were asked to report how many people attended the following types of events: grape stomps, wine-making classes, tour groups, live music, weddings, ladies-only events, charitable events, and other events. In total, the responding wineries (27) hosted 77,000 guests at winery events, roughly half who were from outside the local area. The breakdown of which events these guests attended is shown in chart 2-6. Weddings and live music events drew the most people to the responding wineries in 2011, accounting for 71 percent of winery visitors.

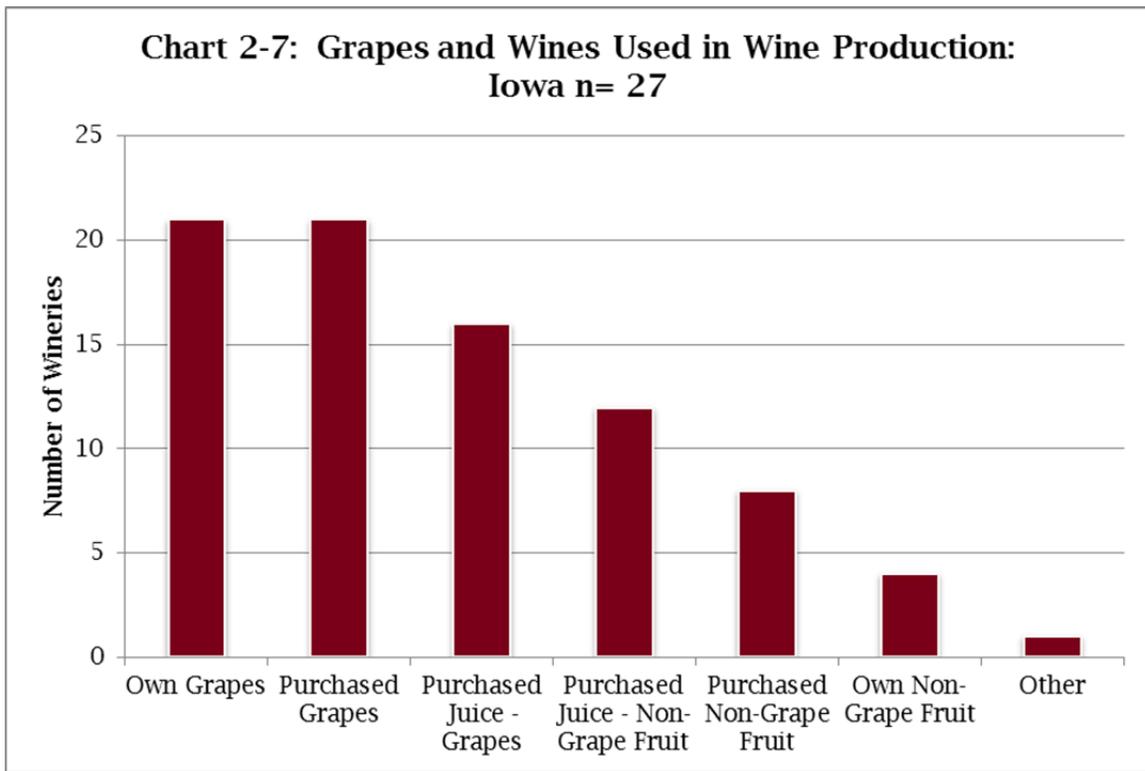
**Chart 2-6: Percent of Winery Visitors Per Event: Iowa
n= 27**



Grape Acquisition

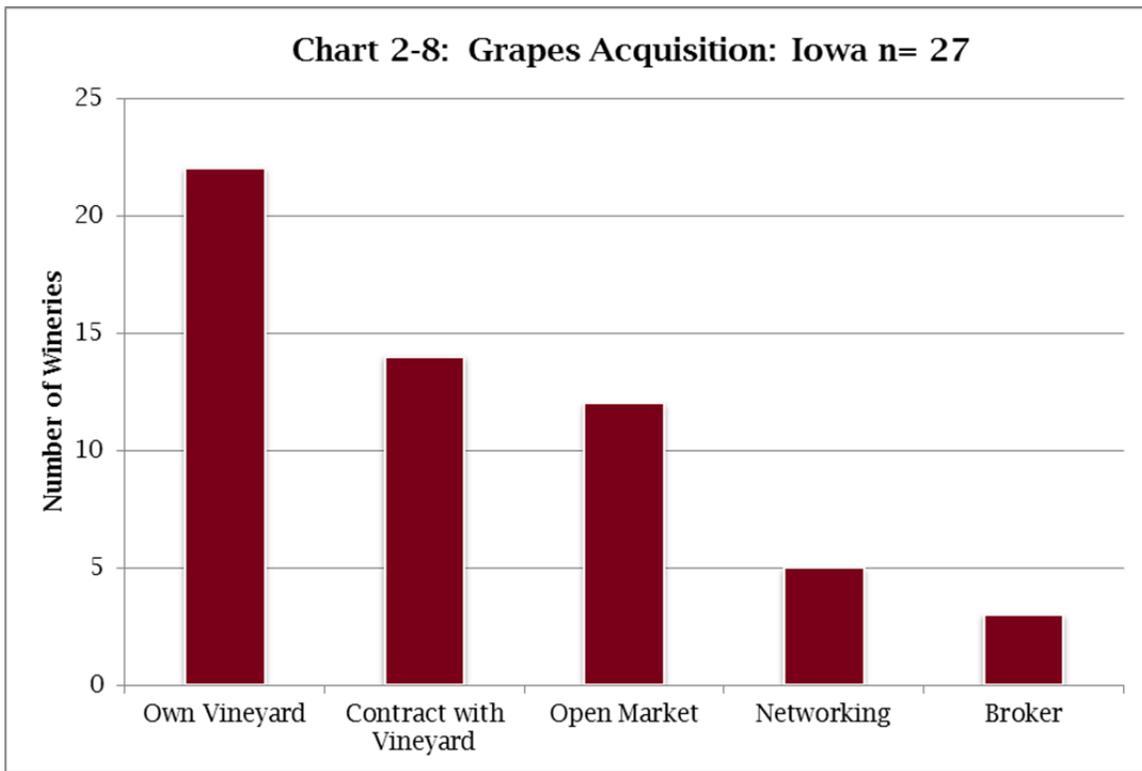
Wineries in Iowa purchased \$2.8 million of grapes in 2011, from their own vineyards and from other vineyards. On average, each winery spent \$33,000 to buy grapes. Eighty-seven percent of the grapes used by these wineries were cold-hardy varieties.

Wineries participating in the survey report the most common methods for acquiring grapes and fruits are by purchasing grapes from their own vineyard and purchasing whole grapes from another source. Use of own non-grape fruits is rather limited among the surveyed wineries, as shown in chart 2-7.



As depicted in chart 2-8, wineries primarily acquire their grapes from their own vineyards. Those who purchase grapes use a combination of contracts with vineyards and the open market. Purchasing grapes via networking or a broker is not widely used as an acquisition tool by these wineries.

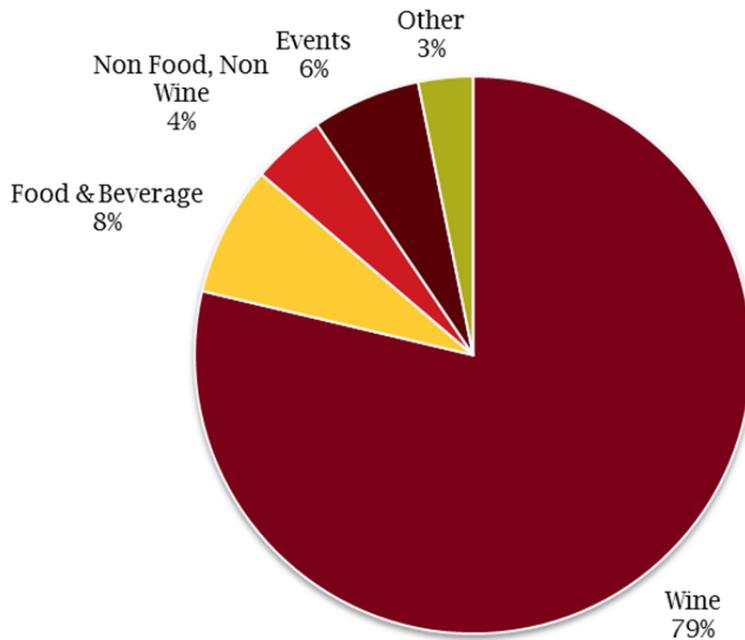
Chart 2-8: Grapes Acquisition: Iowa n= 27



Winery Sales and Production

In total, wineries in Iowa had sales of \$26.2 million in 2011, an average of \$311,000 per winery. Of total sales, \$22.8 million were generated from wines crafted from cold-hardy grapes. Wine sales, including bottles sold and tasting room fees, are the primary source of revenue for wineries, accounting for 79 percent of all sales (see chart 2-9). Wineries produced, on average, 5,400 gallons of wine.

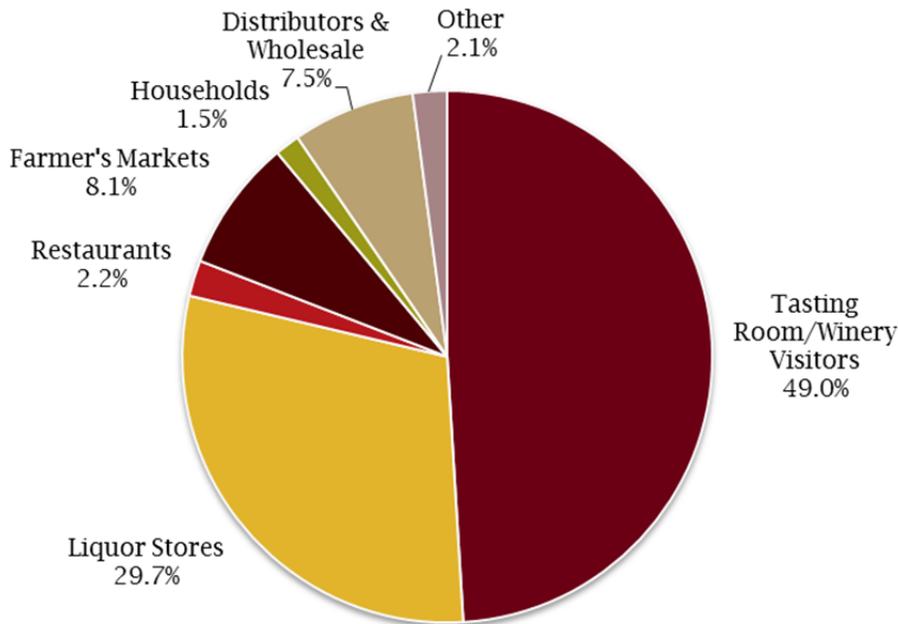
Chart 2-9: Winery Sales by Category: Iowa n=27



Wineries in Iowa sold an estimated 2.2 million bottles of wine in 2011 or an average of 26,000 bottles per winery. Eighty-five percent of wineries operate a tasting room and nearly half of an average winery's sales are through the tasting room or to winery visitors, as shown in chart 2-10. Approximately forty percent of sales are via distributors and liquor stores. Sales to Farmer's Markets, restaurants, and direct-to-households account for only a minor portion of sales.³

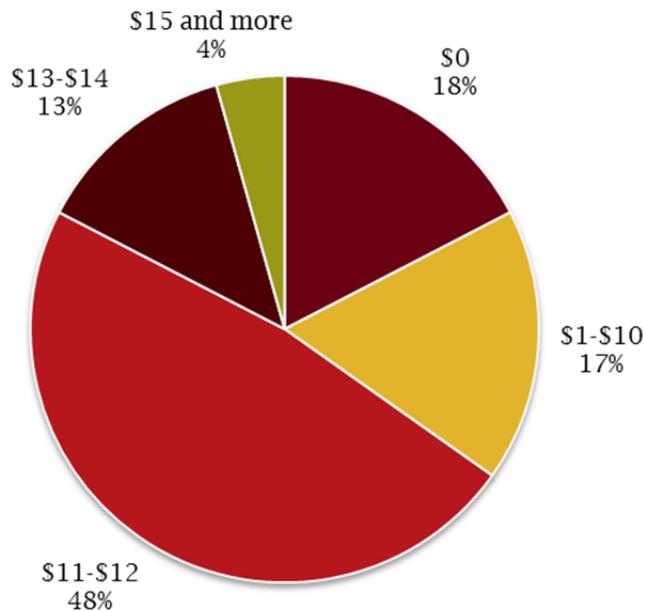
³ The Iowa Alcohol Beverage Division reported for the fiscal year 2013 (ending June 31, 2013) that 0% of Iowa Native Wine went through a wholesale distributor. View the report here: http://www.agmrc.org/media/cms/Iowa_Native_Wine_Production_and_Sal_0E0E85CA79238.pdf

Chart 2-10: Percent of Wine Sales: Iowa n= 27

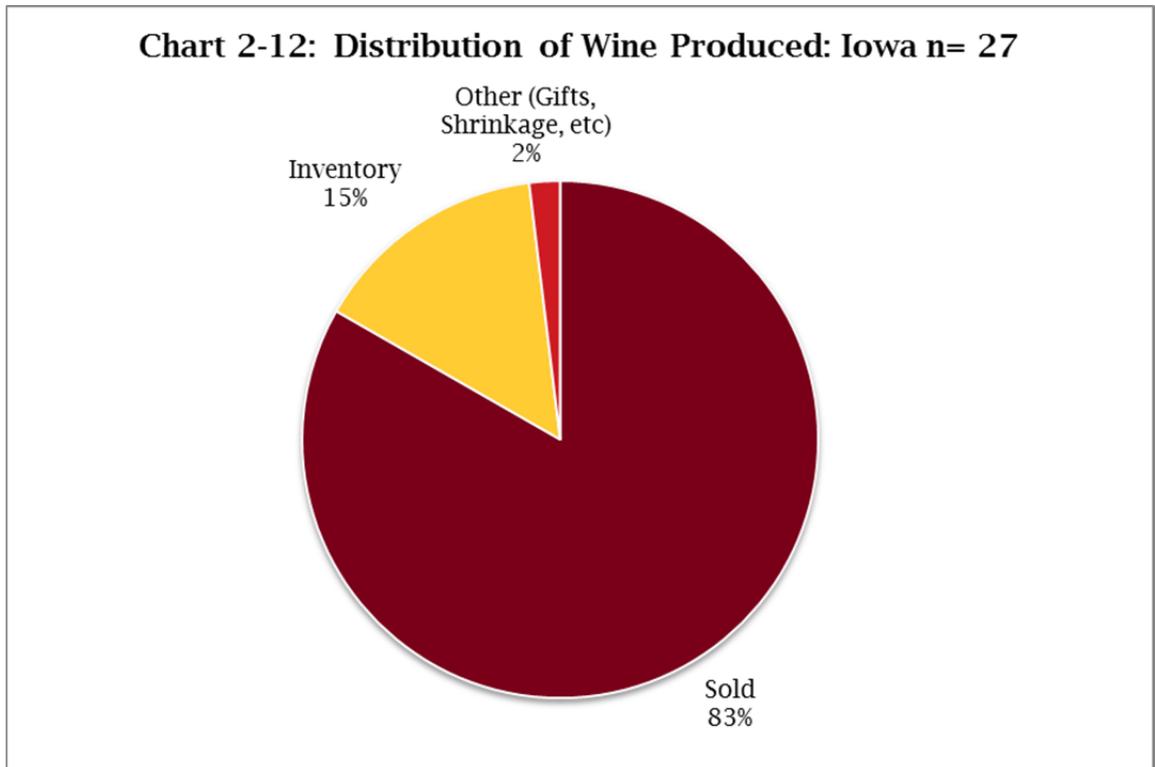


Wineries reported the average price per bottle of wine sold was \$11 in 2011. Chart 2-11 shows the distribution of average wine sale prices. Eighteen percent of wineries reported receiving \$0 for wine sold. These are likely wineries who produced wine but whose wine was not ready for sale in 2011. Nearly half the wineries, 48 percent, sold their wine for a price of \$11-\$12 per bottle.

Chart 2-11: Average Price Per Bottle of Wine: Iowa n= 15



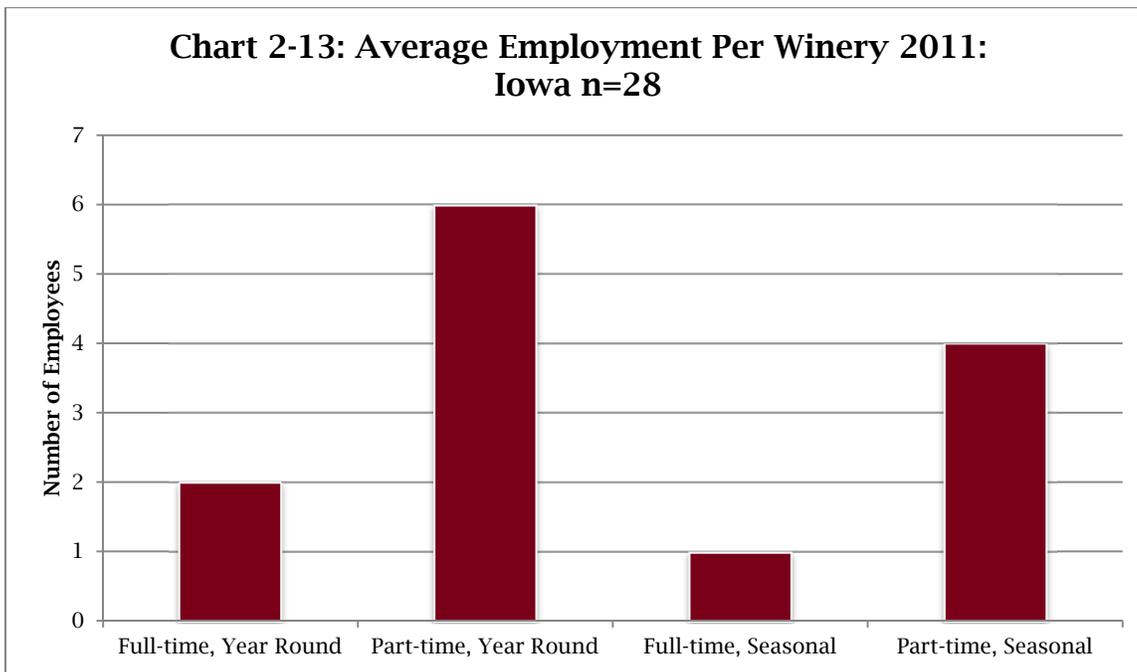
As mentioned, the average responding winery produced 5,400 gallons of wine. The majority of the wine (83 percent) produced was sold, see chart 2-12. Wineries put fifteen percent of production into inventory. A small percent (2 percent) of wine produced was utilized in other ways (e.g. gifts, donations, shrinkage, etc.).



Wineries in Iowa employ 680 individuals. On average, each winery employs 13 individuals; 2 full-time year-round people, 6 part-time, year round people, 1 full-time, seasonal person, and 4 part-time, seasonal people (see chart 2-13).

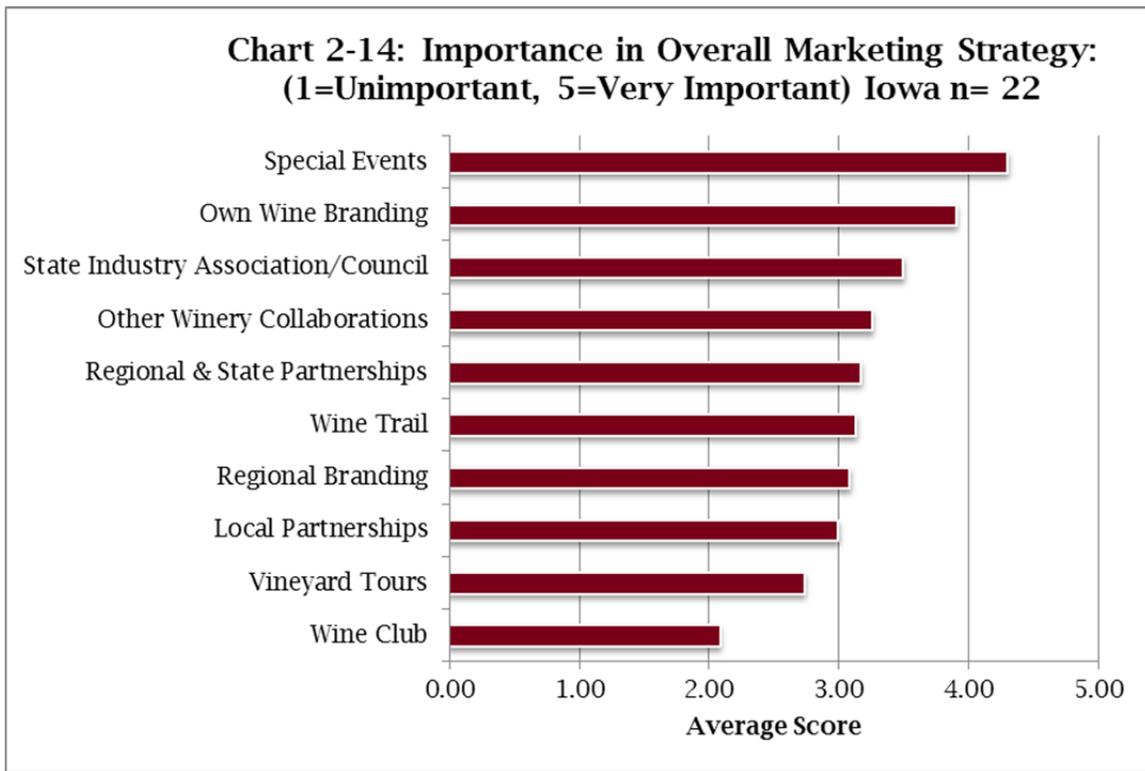
In 2011, wineries paid \$4.4 million in labor income (includes wages, salaries, and benefits) with an average of \$53,000 per winery. Volunteer labor is an important component of winery operations. In 2011, wineries used 730 hours of volunteer labor per winery.

**Chart 2-13: Average Employment Per Winery 2011:
Iowa n=28**



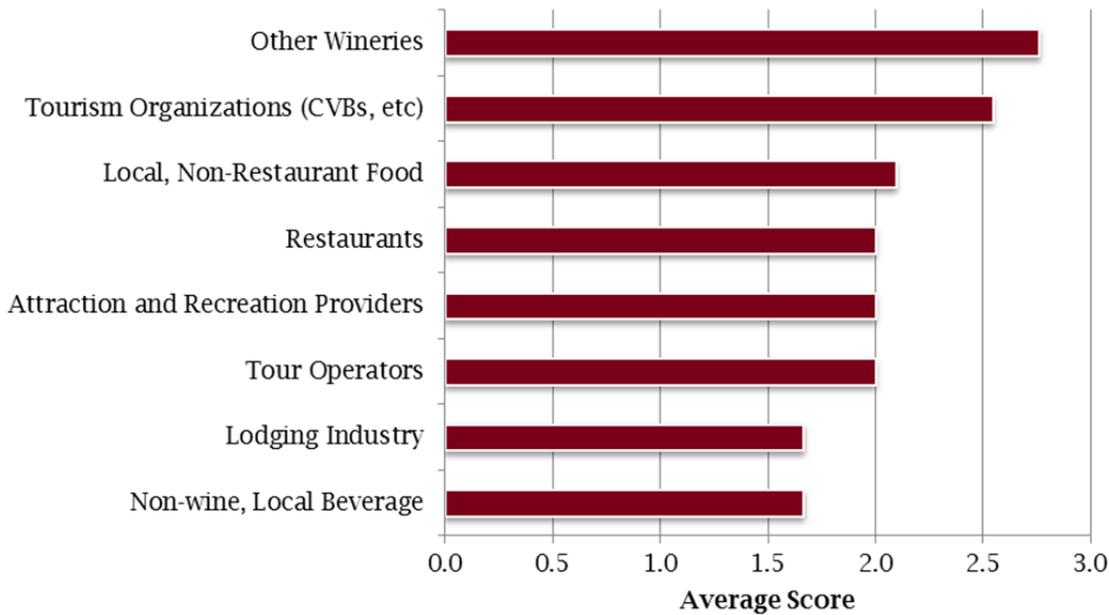
Winery Marketing and Collaboration

Wineries were asked to rate a list of marketing strategies on a scale where 1 indicated the strategy was “unimportant” for their marketing and 5 indicated it was “very important”. As shown in Chart 2-14, winery owners believe that special events are the most important marketing strategy they can employ, assigning it an average score of 4.3. Own wine branding and state winery/vineyard associations or councils were also assigned relatively high scores. Winery owners assigned the lowest average scores to wine clubs, vineyard tours, and local partnerships. Three-quarters of wineries offer vineyard tours.



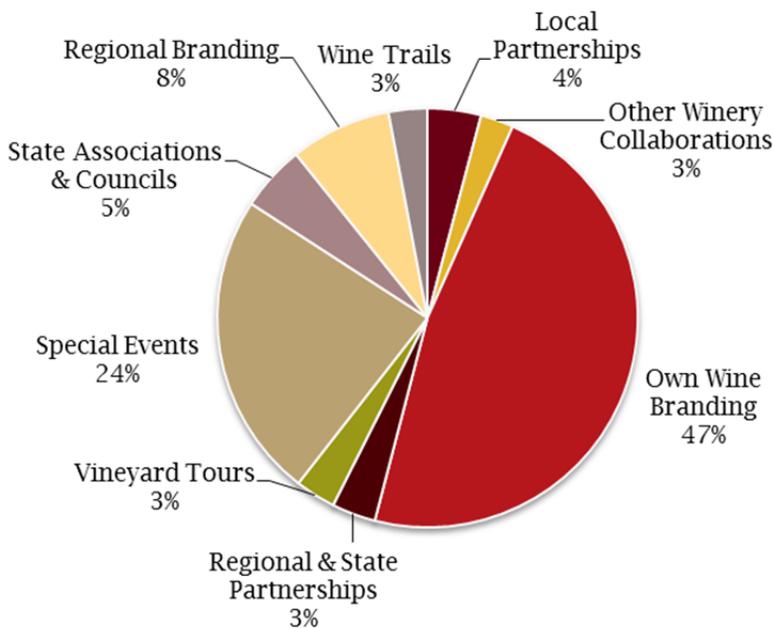
Wineries were also asked about their current collaboration efforts. They were asked, on a scale where 1 equals “none” and 5 equals “a great deal”, “to what extent do you currently collaborate with the following entities?” Overall, scores are rather low. All the scores are below 3 or “somewhat” in terms of collaboration. The highest level of collaboration is among wineries, as shown in chart 2-15. This chart would indicate there is room for improved collaboration between Iowa wineries and other organizations.

Chart 2-15: Extent of Collaboration (1=None, 5=A Great Deal) Iowa n= 21

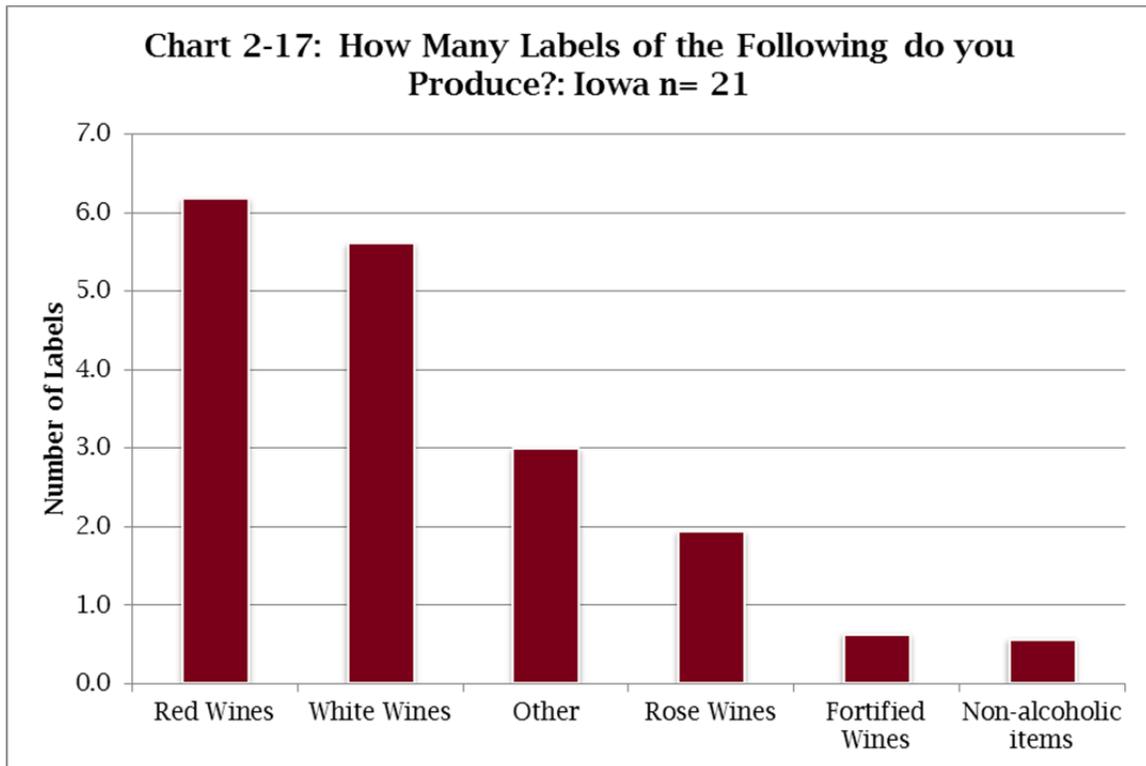


Wineries were then asked how various marketing arrangements influenced their sales. Wineries indicated the largest share of sales (47 percent) were driven by their own wine branding efforts. Special events drive an estimated 24 percent of sales and regional branding 8 percent. Chart 2-16 illustrates this point.

Chart 2-16: What Percent of Current Sales are Attributable to the Following?: Iowa n= 21

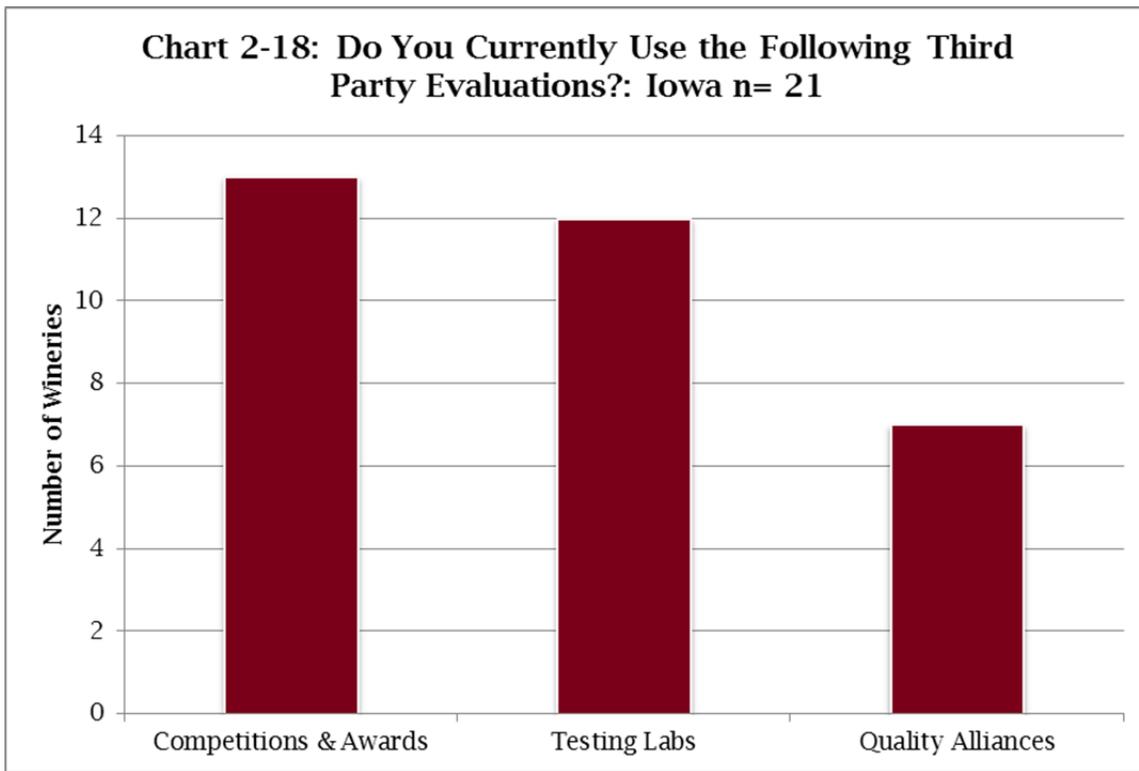


As mentioned earlier, the most commonly produced wines are red and white wines. On average, each winery is bottling 6 labels of red and 5 labels of white, as shown in chart 2-17. Wineries also report an average of 3 “other” labels. The survey instrument did not ask wineries to indicate what other types of labels are being produced.



Competitions and awards are the most commonly used type of third party evaluations, as reported by the responding wineries. Wineries are also using testing labs and quality alliances for third party evaluations. See chart 2-18.

Chart 2-18: Do You Currently Use the Following Third Party Evaluations?: Iowa n= 21



Future Plans

Winery owners were asked directly about future plans for their establishment. The results, shown in chart 2-19, indicate the potential for continued growth in the industry, as 82 percent of wineries plan to expand in the next five years. A few wineries are considering transferring the winery to a family member. The industry, as the older wineries mature, may be in need of assistance in succession planning and transferring a business. Continued growth also indicates a continued need for successful business planning.

Chart 2-19: Which Best Describes Your Plans for the Next Five Years?: Iowa n= 23

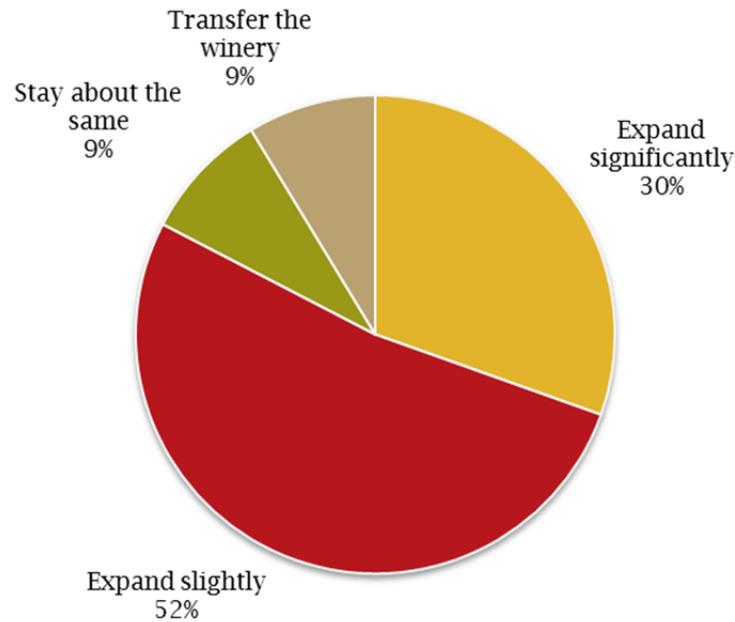


Chart 2-20 depicts winery owners' responses to a question about the challenges to the growth and development of their winery. On a scale where 1 equals "strongly disagree" and 5 equals "strongly agree", wineries were asked to rate a list of issues in relation to each as a challenge to the growth and development of their winery. Wineries rated sales, government policies and regulations, and cost of labor as the biggest threats to their wineries. Availability of unskilled labor and access to capital received the lowest average ratings.

Chart 2-20: The Following is a Challenge to the Growth and Development of my Winery (1=Strongly Disagree, 5=Strongly Agree): Iowa n= 23



ECONOMIC CONTRIBUTION OF VINEYARDS AND WINERIES IN IOWA

The economic contribution of an industry is comprised of direct and secondary effects. Direct effects are economic activities generated by the industry itself. For example, spending by grape growers to purchase trellising supplies is a direct effect. Spending by wineries to purchase bottles is also a direct effect. Secondary effects are economic activities triggered by the initial spending. When a grape grower purchases trellising supplies, the manufacturer of the supplies must produce more, creating additional economic activity. When a winery buys bottles, the glass manufacturer must produce more, thus increasing output.

Direct Effects

In measuring the economic contribution of the grape growing and winery industries in Iowa, the first step is to measure the direct effect of the industries. In other words, producers were asked to report how much they spent in 2011. Researchers used data gathered in the Northern Grapes Project baseline study for this purpose. The data collected in the study were used to derive averages per winery and per vineyard. These averages were extrapolated to the total population of wineries (84 in Iowa) and vineyards (335 in Iowa) to determine the total direct effect for the state.

Wineries and vineyards contribute to Iowa's economy through three primary methods. One, vineyards make purchases for inputs and for labor. Two, wineries make purchases for inputs and for labor. Three, wineries attract visitors, typically through tasting rooms. These tourists make purchases during their visit which stimulate economic activity in the state. The direct contributions of each of these components are shown in table 3-1. These are the direct effects of the grape growing and winery industries in Iowa.

Iowa vineyards, in 2011, spent \$3.9 million within the state to operate. This included \$1.5 million of payments to their 500 employees.

Iowa wineries, in 2011, spent \$23.4 million within the state for their operations. Of this, \$4.4 million went to their 680 employees. Total winery sales, as mentioned in the winery summary, were \$26.2 million in 2011. Of this, \$2.8 million in purchases were for grapes. Since grape sales are included in the vineyard impact, they are excluded here to avoid double counting.

Finally, winery tourists, in 2011, spent \$12.2 million during winery visits. These expenditures supported 210 jobs in Iowa which in total amounted to \$4.3 million in labor income. A winery tourist was defined as a person who indicated the winery was a primary motivator of their trip to the area in which it was located. The number of winery visitors was extrapolated from winery responses regarding the number of tasting room customers in 2011. For a more in-depth explanation of the process used to calculate the number of winery tourists please see appendix 3.

	Vineyards	Wineries	Winery Tourists
Output	\$3,900,000	\$23,400,000	\$12,200,000
Employment	500	680	210
Labor Income	\$1,500,000	\$4,400,000	\$4,300,000
Estimates by University of Minnesota			

Indirect and Induced Effects

Now that the direct impacts of vineyards, wineries, and winery tourists are quantified, the data can be entered into an input-output model. Input-output models trace the flow of dollars throughout a local economy and can capture the indirect and induced, or ripple effects, of an economic activity. The input-output modeling software and data from RIMS II (Bureau of Economic Analysis) was used in this report.

Indirect effects are those associated with a change in economic activity due to spending for goods and services. In this case, these are the changes in the local economy occurring because vineyards and wineries need to purchase inputs (trellises, bottles, etc.) and related services (viticulture support, label design, etc.). These are business-to-business impacts.

Induced effects are those associated with a change in economic activity due to spending by the employees of businesses (labor) and by households. Primarily, in this study, these are economic changes related to spending by vineyard and winery workers hired to perform the vineyard and winery tasks. These are business-to-consumer impacts.

Total Economic Effects

The total economic contribution of an industry is calculated by adding the direct, indirect, and induced effects. In 2011, the total economic contribution of the grape growing and winery industries in Iowa was \$65.2 million. This includes 2,210 jobs and \$19.4 million in labor income, as shown in table 3-2.

Table 3-2: Total Economic Effects of Vineyards, Wineries, and Winery Tourists, Iowa, 2011				
	Vineyards	Wineries	Winery Tourists	Total
Output	\$7,100,000	\$37,200,000	\$20,900,000	\$65,200,000
Employment	930	1,000	280	2,210
Labor Income	\$3,000,000	\$9,900,000	\$6,500,000	\$19,400,000
Estimates by University of Minnesota				

Cold-Hardy Related Economic Effects

Surveyed grape growers report 78 percent of the grapes grown in Iowa are of cold-hardy varieties (see appendix 1 for a definition of cold-hardy). Surveyed winery owners report 88 percent of the grapes used in the production of their wine are from the cold-hardy varieties. In 2011, cold-hardy grapes contributed \$56.2 million to the output of the state of Iowa including \$16.6 million in labor income. They contributed 1,880 jobs, as shown in table 3-4.

Table 3-4: Total Economic Effects of Vineyards, Wineries, and Winery Tourists Derived from Cold-Hardy Grapes, Iowa, 2011				
	Vineyards	Wineries	Winery Tourists	Total
Output	\$5,600,000	\$32,400,000	\$18,200,000	\$56,200,000
Employment	730	900	250	1,880
Labor Income	\$2,300,000	\$8,600,000	\$5,700,000	\$16,600,000
Estimates by University of Minnesota				

Comparing Results to Previous Studies

Private consultants have also measured the economic impact of the grape growing and winery industries in Iowa. These studies have taken a different methodological approach to measuring the direct effect of the industry. In this study, University of Minnesota researchers followed established methodological practices in determining the direct effect.

SUMMARY AND CONCLUSIONS

In spring 2012, grape growers and winery owners in 13 states were surveyed under the Northern Grapes Project. Questions asked pertained to sales and production (wineries and vineyards), growing practices (vineyards), and operating practices (wineries). The goal was to establish industry baselines and quantify the economic contribution of the grape growing and winery industries. This report presents the results for Iowa.

Survey results indicate the vineyard and winery industries in Iowa are dependent on the cold-hardy grape. Seventy-eight percent of grapes grown are of the cold-hardy varieties and 88 percent of grapes used in wine production are cold-hardy.

The release of cold-hardy grape varieties fueled growth in the vineyard industry in Iowa. Growth was most rapid in the period from 2002 to 2007. Indications from the baseline survey show growth in the grape growing industry in Iowa is tapering as the industry begins to mature. As compared with other states, the rate at which new vineyards are being established is lower in recent years and established vineyards are expanding at a lower rate. For example, only 40 percent of established vineyards have expanded and 67 percent of established vineyards do not plan to expand in the next five years. Another sign the industry is maturing is that growers are fairly evenly splitting their expenditures between capital improvements and operating expenditures. In high growth periods, capital improvement expenditures often are higher than operating expenditures.

Vineyard owners are concerned about disease and pests/insects. In addition to listing disease and pests/insects as the top two biggest challenges to the growth and development of their vineyard, grape growers also reported that 30 percent of their crop in 2011 was not harvested as a result of disease, pests/insects, and weather. The average reported yield on producing acreage was 2.0 tons per acre, which is lower than expected, and may be partially explained by these issues.

Changes in the winery industry in Iowa reflect those in the vineyard industry. The number of wineries in Iowa grew rapidly from 2002 to 2007, but new wineries have not opened at as fast a pace since then. Growth does continue among established wineries. Over 80 percent of current wineries plan on expanding in the next five years.

Iowa wineries cite sales and government policies and regulations as the primary challenges to the future growth and development of their winery. Nearly three-fourths of Iowa wineries are located in rural areas. Over half of their sales are from their tasting rooms. Therefore, Iowa wineries need to continue to attract and draw customers to their site. One way to do this may be through increased collaboration. Wineries report overall low levels of collaboration with each other and with other local organizations, when compared to most other Northern Grapes Project states. Iowa's wineries may also have opportunities to increase tourism revenue in their communities. The wineries report weddings and live music events as the biggest draws to their tasting rooms. These events also tend to attract lower rates of people from outside the community. Efforts to increase tourism through organized tour groups and other activities may help bring in more tourism spending.

In 2011, the winery and grape growing industries in Iowa created \$65.2 million in economic impact. This included the support of 2,210 jobs paying \$19.4 million in labor income. Vineyards contributed \$7.1 million in economic activity, wineries \$37.2 million, and winery tourists \$20.9 million.

In 2011, the cold-hardy wine and grape growing industries contributed \$56.2 million in economic activity to the Iowa economy, including 1,880 jobs and \$16.6 million in labor income.

APPENDIX ONE: PARTICIPATING INDUSTRY ASSOCIATIONS

The following industry associations/councils provided membership lists for the baseline and economic impact survey of the Northern Grapes Project.

Connecticut Vineyard and Winery Association

Illinois Grape Growers and Vinters Association

Iowa Wine Growers Association

Lake Champlain Wines

Massachusetts Farm Wineries and Growers Association

Michigan Grape and Wine Industry Council

Minnesota Grape Growers Association

Nebraska Winery and Grape Growers Association

New Hampshire Winery Association

New York Wine and Grape Foundation

Northern Illinois Wine Growers

Scenic Rivers Grape and Wine Association

South Dakota Specialty Producers Association

South Dakota Winegrowers Association

Upper Hudson Valley Wine and Grape Association

Vermont Grape and Wine Council

Western Iowa Grape Growers Association

Wisconsin Grape Growers Association

APPENDIX TWO: DEFINITION OF COLD-HARDY GRAPES

Defining a cold-hardy grape is not as straight-forward as one might imagine. What is considered cold-hardy in one region may not be considered cold-hardy in another. For purposes of this study, researchers classified the following cultivars as cold-hardy. This was done in consultation with the Northern Grapes project advisory team which is comprised of growers in each of the states.

Table A-1: Cold-Hardy Red Varieties

Baltica
Beta
Frontenac
GR-7
King of the North
Leon Millot
Marechal Foch
Marquette
Other red Swenson
Petite Pearl
Sabrevois
St. Croix
Valiant

Table A-2: Cold-Hardy White Varieties

Brianna
Edelweiss
Esprit
Frontenac blanc
Frontenac gris
Kay Gray
La Crescent
La Crosse
Louise Swenson
Other white Swenson
Petite Amie
Prairie Star
St. Pepin

APPENDIX THREE: WINERY TOURIST AND EXPENDITURE CALCULATIONS

Three critical pieces of information are necessary to calculate the economic impact of winery tourists. First, researchers need an estimate of the number of winery visitors in a certain time period. Second, researchers need to know the motivations of these winery visitors and the number of visitors from outside the region (local area). Third, researchers need an average spending profile for each tourist.

For purposes of this study, the total number of winery visitors in each state was extrapolated from the winery survey. Winery owners were asked to estimate the number of customers their tasting rooms entertained in 2011. Event attendees (e.g. weddings, new release parties, etc.) are assumed to be a subset of the total number of tasting room customers. The average number of customers was then applied to all wineries.

Economic impact theory stipulates that impact is driven by dollars from outside the region. Local residents may visit a winery and spend money, but theoretically, they would have spent those dollars in the local economy on another leisure activity if the winery were not located in their community. The number of tasting room customers, therefore, has to be adjusted to represent only those from outside the community who have traveled to the area specifically to visit a winery. These visitors are hereafter referred to as winery tourists. Research on tasting room customers in Michigan (conducted by Michigan State researchers Don Holecek and Dan McCole as part of the Northern Grapes Project) indicates that approximately two-thirds (67 percent) of tasting room visitors are tourists.

Since economic impact theory further instructs that economic impact is only attributable to a business or an event if the business or event is the primary purpose for the tourism activity, the final number of winery tourists was calculated by estimating the number of tourists to the area due to the presence of the winery. If a tourist visits a winery while in town celebrating a wedding, the wedding is the primary purpose of the visit and should be credited with economic impact and not the winery. Tasting room research, conducted by Michigan State researchers, determined the winery itself was a driving factor in 49 percent of visits to the winery.

With the number of winery tourists quantified, researchers need to apply an average spending profile to determine total spending by winery tourists. In Iowa, the spending profiles from the 2011 Iowa Welcome Center Report were used to determine daily spending per person. Total per person spending was estimated at a conservative \$70 per day.

The winery tourist economic impact calculations are arguably the most complex of this report. Future research into the economic impact of wineries and vineyards in Iowa would be greatly enhanced by 1) doing tasting room customer surveys in Iowa and 2) developing a spending profile specifically for Iowa winery visitors.