THE ECONOMIC IMPACT OF IOWA WINE AND VINEYARDS – 2008

An MKF Research LLC Report

This study was commissioned by the

Iowa Wine & Beer Promotion Board

in conjunction with the

Iowa Department of Economic Development

MKF RESEARCH LLC

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FULL ECONOMIC IMPACT OF WINE AND VINEYARDS ON THE IOWA ECONOMY

$234.3 Million

IOWA WINE AND VINEYARDS	ECONOMIC IMPACT
Number of Wineries	74
Number of Grape Growers	400
Grape-Bearing Acres	1,000
Wine Produced (Gallons)	186,700
Full-time Equivalent Jobs	1,777
Wages Paid	$50.0 million
Retail Value of Iowa Wine Sold	$7.6 million
Wine-Related Tourism Expenditures	$27.5 million
Number of Wine-Related Tourists	237,000
Taxes Paid: State and Local / Federal	$14.5 million / $13.7 million

Table 1[1]
Total Economic Impact of Wine and Grapes in Iowa

Revenue:	**2008**
Winery Sales	$7,109,800
Retail and Restaurant Sales of IA wine	$2,810,600
Distributors Sales	$112,200
Non-Wine Revenues (Weddings, Events, etc.)	$949,300
Tourism	$27,452,500
Wine Grape Sales	$1,260,200
Federal Tax Revenues	$13,666,200
State Tax Revenues	$14,464,500
Vineyard Development (excluding vines)	$2,425,000
Charitable Contributions	$71,100
Advertising/Marketing	$90,000
Winery Services -- Labels	$235,600
Winery Services -- Trucking and Warehousing	$50,000
Wine Research/Education/Consulting	$545,000
Indirect (IMPLAN)	$76,868,400
Induced (IMPLAN)	$36,202,400
Total Revenue	**$184,313,000**
Wages:	
Winery Employees	$4,990,700
Vineyard Employees	$1,992,500
Tourism	$4,787,000
Vineyard Development and Materials - Labor	$363,800
Distributors Employees	$359,500
Retail/Liquor Stores - Wine Specific	$53,800
Restaurant Sales of IA wine	$254,800
Winery Services	$132,500
Wine Research/Education/Consulting	$1,090,700
Indirect (IMPLAN)	$24,801,300
Induced (IMPLAN)	$11,197,900
Total Wages	**$50,024,400**
Total	**$234,337,400**

[1] Based on 2008 data.

EXECUTIVE SUMMARY

IMPACT OF IOWA WINE ON THE IOWA ECONOMY

Although winemaking and grape growing in Iowa dates back to the mid 1800s, approximately fifty percent of Iowa's vineyards and wineries were established in just the last five years. In the last five years, the number of wineries increased nearly 125% with 74 wineries in the state as of 2008 while the number of vineyards increased 100% from 200 to 400, according to Iowa State University, the Alcohol, Tobacco and Trade Bureau (TTB) and the National Agriculture Statistics Service (NASS).

In 2008, the wineries of Iowa produced approximately 186,700 gallons of wine per year. MKF Research LLC estimates that Iowa wineries' revenues from wine sales totaled $7.1 million in 2008, taking into account both direct sales and the wineries' share of revenue for wine sold through the three-tier system. There were approximately 1,000 acres of commercial vineyards in 2008 with approximately 650 producing grapes.

Wine and winegrapes and related industries created more than $234 million of total economic value to the state of Iowa in 2008. The wine and winegrape sectors contributed at least $28.1 million in state and local taxes to the state in 2008. Wine and winegrapes and related industries account for 1,777 jobs across the state, for a payroll of $50.0 million.

Table 2
Total Iowa Employment: Wine, Grape and Related Industries, 2008

Distributors	8
Research/Education/Consulting	13
Restaurants	22
On and Off Premise Retail	3
Vineyard	199
Vineyard Materials	14
Winery	341
Winery Services	5
Winery Tourism	277
Indirect (IMPLAN)	540
Induced (IMPLAN)	355
Total	**1,777**

Sources: MKF Research, IMPLAN, Iowa State University, Iowa Wine and Beer Promotion Board, Midwest Grape and Wine Industry Institute, Bureau of Labor Statistics and various Iowa wineries surveyed.

CHALLENGES AND OPPORTUNITIES

Challenges

Iowa's wine and winegrape producers face a complex and wide array of challenges, as highlighted below.

Developing Better Infrastructure

The state of Iowa is not alone in facing the challenge of building a sustainable, profitable wine industry. Several states also struggle with the complexity of successfully building a lucrative wine industry from scratch. The concept of building and running a winery for profit is somewhat of a new concept in modern America. The industry is built on mom-and-pop wineries, informal business dealings and casual serving its customers and vendors. However, the industry will need to invest significant time and money into developing solid infrastructure to position it for the next growth phase.

Among the larger infrastructure priorities for the state of Iowa should be investing in bulk wine and juice distribution equipment to better develop a strong grape juice/jelly/table grape industry to compliment the blossoming wine industry. Investing in year-round cold storage for juice distribution would also help drive growth in the juice industry. Some vineyards have already started installing cold storage to facilitate picking and delivery of wine grapes. Additionally, the wine and vineyard industries should continue trying to work better with local equipment suppliers and manufacturers to support local Iowa businesses.

Finally, it will be important for wineries and vineyards to continue researching and employing better winemaking and grape growing processes to ensure overall grape quality improvement. While competitively counter-intuitive, wineries sharing their collective experiences with one another in a collaborative fashion can help develop best practices and thus ameliorate the industry as a whole.

Limited Expertise in Winery Business Planning

Many small wineries have limited expertise in the financial and capital requirements of operating a winery and in developing sufficient business and financial plans. This is not surprising, given the relative short history of Iowa's modern wine industry, and is not unusual among other emerging wine industries. The limited expertise is reflected as perhaps over-diversification of varietals and in location decisions which often and understandably grew out of long-term land ownership and the complexity of the wine market.

Additionally, it is important for Iowa's wine industry, as it is in any maturing professional industry, to treat winemaking and winery ownership as a professional business designed to generate profits and better improve financial and operational controls. Given the cottage nature of the wine industry, there are currently several wineries in Iowa, as in many other states, running their businesses as hobbies. In order for the industry to continue to grow and evolve these hobby winemakers and owners will need to put the time, resources and investment into creating a professional, sustainable winery business.

Trained Labor and Availability of Training

Iowa faces a shortage of trained viticulture and enology professionals, as do many regions of the country. This shortage could limit the continued expansion of the wine grape industry as well as continuing efforts to improve grape quality. It is imperative that further investment in advanced research and training is made by not only the wineries themselves but the state's industry organizations.

Climate and Disease

The Iowa wine industry is highly susceptible to the low temperatures experienced in its state. In addition to low freezes, Iowa winegrapes endure the threat of fungi including black rot and a variety of mildews resulting from humid and wet conditions during the growing season, as well as harm from the multicolored Asian lady beetle and wildlife. Due to these resident threats growing Vitis vinifera grapes is not recommended in Iowa and rarely done so. Greater success is likely with varietals that are disease-resistant, namely native American species, some French-American hybrids and some recently developed American hybrids. Even so, costly crop spraying to reduce disease is highly encouraged, which increases cultivation costs. Continued research to aid growers in identifying the most suitable varietals and cultivation techniques for the Iowa environment is critical.

Opportunities

However, there are substantial opportunities for growth that mitigate some of the previously discussed challenges.

Direct Shipping Legislation

As a result of relatively new laws, a significant portion of the U.S. population is now accessible for direct to consumer wine shipment, enabling the wineries to ship wine to more of their visitors as wine tourism grows. (Tasting rooms remain the main driver in this winery direct sales market). This should open up a new channel of high margin direct sales for wineries. Moreover, this legislation might also encourage the growth of wine clubs and winery mailing lists.

The opportunities presented by nationwide direct shipping are just beginning to be explored, but not without challenges. Many states have included complex compliance obligations or costly permit fees that may be a challenge to wineries without the appropriate personnel or monetary resources. Experience in direct shipping from other regions suggests that the greatest challenge to wineries seeking to build their direct sales is developing adequate information management systems and efficient fulfillment structures. Iowa has not had shipping volume sufficient to justify outsourced order fulfillment, but such services may become appropriate as the market grows.

Improving Grape and Wine Quality

The quality of Iowa wine and viticulture has been steadily increasing and receiving growing recognition, reflected in rising sales on more profitable terms. A number of Iowa's wineries are making major capital investments to build world class vineyards and wineries. The identification of varietals that perform particularly well in Iowa will help to carve out a wine identity for the state. Iowa is beginning to get recognized in the national media for the improved quality of its wines with several wineries winning awards and medals at national wine competitions. That said, it is important for the industry and its wineries to continue improving their various viticultural and winemaking processes to ensure future success and recognition in an increasingly competitive national landscape.

Growth of Tourism

Tourism is a major industry in Iowa and the growth in the number of winery tasting rooms and winery events is adding to its success. However, the state needs to address the fact that the average age of both its residents and visitors is getting older. While that average age continues to increase, the size of Iowa's younger population is simultaneously decreasing. This is primarily due to more and more young adults (Millenials) leaving the state for better employment opportunities in outside states.

Gaining the attention of consumers and retailers in America's crowded wine market is quite challenging for a newly emerging wine region. Tourism enables wineries to introduce their products to a growing community, favorably disposed by the adventure of winery visiting. The continued growth of wine tourism in the state is thus vital to the health of the wine industry. Local wineries are supplementing the winery experience with concerts, tasting events and educational experiences. These marketing events should bolster wine tourist rates through drawing the existing tourists into the wineries.

Strong Support by State and Regional Organizations

State and regional organization support is critical to the success of the renewed industry. There appears to be strong momentum in favor of the wine and grape industry in Iowa driven by the efforts of the Iowa Department of Economic Development, the Midwest Grape and Wine Industry Institute, the Iowa Department of Agriculture and Land Stewardship and the Iowa Wine Growers Association. Just in the last decade alone, Iowans have become able to buy wine from retail stores on any day of the week, take wine home restaurants after purchasing it and winery owners can now buy grapes and bulk juice from anywhere outside of Iowa. However, it will be critical for the future success of Iowa's wine industry to be able to amicably resolve the issue of direct-shipping from out-of-state wineries in a fashion that doesn't materially impact local Iowa wineries to the point of dissolution.

Research Programs

Research programs in Iowa have been funded primarily through state funds provided to Iowa State University. These programs have focused primarily on research involving improvements of viticultural and oenological practices. The establishment of the Midwest Grape and Wine Industry Institute at Iowa State University has been tremendous in furthering research and education in both viticulture and winemaking for the entire industry. Additionally, there are programs at Des Moines Area Community College, Kirkwood Community College, Northeast Iowa Community College and the University of Northern Iowa that continue to teach and train current and prospective professionals in the wine and vineyard industries.

Rising Demand for Wine among US Consumers

Iowa's wine and grape industries will benefit from America's steadily rising demand for wine – and for better wine. While wine is widely considered an affordable luxury consumer good, more and more consumers are now seeking out "value" wines where the price is under $10 per bottle. This could play out quite favorably for Iowa wineries.

After slowing from the peak growth rates of the 1990s in the early 2000s, American wine consumption continues to increase, even despite the global recession. Approximately 30% of U.S. adult consumers drink wine even occasionally, with only about 16% drinking wine regularly at least once a week, usually with meals. Per capita U.S. wine consumption ranks outside of the top 50 countries in the world, however the U.S. now ranks second behind France in terms of total wine consumption, recently surpassing Italy in 2008. Despite the low ranking in per capita wine consumption, the current per capita consumption of three gallons per capita is far ahead of two gallons per capita in 1990. Furthermore, young drinkers ("Millenials") are getting into wine much earlier than previous generations, which should increase per capita consumption and the demand for wine going forward.

In 2008, the total retail value of all wine sold in the U.S. (domestic and imported) totaled approximately $30 billion, an increase of approximately 20% from 2005, but only a 1% increase from 2007. Case sales totaled approximately 317 million cases. Of these amounts, wines from California represented 62% of all wines sold in the U.S. market, or approximately 200 million cases, according to the U.S. Department of Commerce.

IOWA WINE INDUSTRY OVERVIEW

Wine has been made in Iowa for over 150 years, when the State's pioneer families found wild native grapes already growing upon their arrival. The book *History of Western* Iowa noted, "In 1867, over five hundred barrels of wine were made from these grapes and shipped to Chicago, besides large quantities which were used at home." Soon after, other grape varietals were introduced to the state. The first commercial vineyard in Iowa was planted in 1857; eleven years after Iowa became an official state. In 1893, the Council Bluffs Grape Growers Association was formed with 21 member growers and 100 acres of grapes.

In the late 1800's and early 1900's, Iowa's grape and wine industry was severely impacted by a number of successive events. First, a hard winter hit in 1898-99, which caused widespread harm for nursery and fruit growers with serious damage to vineyards. There were few surviving vines. Next, from 1920 to 1933, Prohibition halted the production and sale of wine, delivering the second blow to the Iowa wine industry. Then, on November 11th and 12th in 1940, the Armistice Day Blizzard decimated Iowa's orchard and grape industry even more. Finally, as if the industry had not suffered enough, the State began the application of the 2,4-D herbicide on corn in 1944 which damaged virtually all remaining vines.

The 1900 US Agriculture Census indicates that Iowa produced nearly 7.5 million pounds of grapes and over 76 thousand gallons of farm-processed wine. Iowa ranked sixth in U.S. grape production in 1919 with more than 12 million pounds. The Council Bluffs area continued to be a major grape producer during this period with more than 200 grape growers and over 700 acres of grapes under cultivation. Iowa's grape production peaked in 1929 with a harvest of 15.8 million pounds.

During the winter of 1999-2000 Ron Mark of Summerset Winery, Bill Brown of Timber Hill Winery and Paul Tabor of Tabor Family Winery held wine-related informational meetings across the state at three different locations. These meetings stirred the interest of other entrepreneurs and helped lead the way to a re-emergence of Iowa's nascent wine industry. There were only two native wineries and approximately five winegrape vineyards in Iowa in 1999. Iowa now boasts 79 state-licensed wineries as of early 2010 with over 400 commercial vineyards and more than 1,200 acres of wine grapes under cultivation.

MIDWEST GRAPE AND WINE INDUSTRY INSTITUTE

Established in September 2006, the Midwest Grape & Wine Industry Institute (MGWII) at Iowa State University is the first of its kind in Iowa and helps support the state's evolving grape and wine industry. The purpose of the Midwest Grape and Wine Industry Institute is to provide excellence in grape growing and wine-making research, teaching and extending education to support the development of the Midwest's grape and wine industry. It also tries to partner with community colleges to develop job training programs specific to growing grapes and making wine. The MGWII provides wine diagnostic services and recommendations for improving wine quality. In fact, the organization is currently assisting in developing the Iowa Vintners Quality Alliance, which will issue quality wine certifications to increase consumer awareness of Iowa's wine quality. This will hopefully provide Iowa wine buyers a quality-assurance stamp of approval. Finally, the MGWII has a wine laboratory that analytically tests grapes and wines for wineries and grape growers all over the state of Iowa and the Midwest.

IOWA WINE REGION AND TRAILS

There are no designated American Viticultural Areas (AVAs) in the state of Iowa. However, there are 18 counties in Northeast Iowa that as of July 22, 2009 became part of the Mississippi Valley AVA. It is the largest wine appellation in the world, covering 48,142 square kilometers (or 29,914 square miles) over four states. It encompasses some or all of ten counties in Minnesota, nine in Illinois, 18 in Iowa and 23 in Wisconsin. The northern boundary begins near St Paul, Minnesota in the north to Moline, Illinois in the south. The AVA is more than double the size of Wales (20,779km sq) and fifty times greater than Bordeaux, or 1,000 square kilometers. With the inclusion in this AVA, Eastern Iowa wineries are now "on the map" with regard to a specific grape growing region and as a result, there is opportunity to generate more interest and visitors in Iowa wine.

Additionally, there are five separate wine trails in Iowa that connect several different wineries and vineyards. These wine trails have been successful in attracting interest in Iowa wineries from tourists, although many wineries are still located in remote locations. Approximately 50% of the state's wineries participate in one of these wine trail associations. With the help of Iowa Wine & Beer Promotion Board as well as the Iowa Department of Economic Development, Iowa has been quite successful in terms of wine marketing, illustrated by the continued increase in Iowa winery visitors.

- *Amana Colonies Wine Trail*
- *Heart of Iowa Wine Trail*
- *Iowa Wine Trail*
- *Scenic Rivers Wine Trail*
- *Western Iowa Wine Trail*

CLIMATE

Iowa generally has hot summers, cold winters, wet springs and sometimes unpredictable falls. Summers are warm and humid with daytime temperatures averaging in the mid-70s. Tropical air masses from the Gulf of Mexico bring frequent thunderstorms, with persistent rain in June. Winters are cold, with January temperatures averaging 15-25°F while snowfall is moderate compared to some other states. While Iowa’s climate typically supplies sufficient precipitation to foster successful grape production, seasonal droughts do occur and soil characteristics can negatively impact moisture availability, further impacting grape quality.

As a result, Iowa's climate presents grape growers with a challenge. Iowa winters can be extremely cold and lethal to many grape varietals. Late spring frosts can damage vine buds while hot and humid summers can contribute to the development of molds and mildews, which can be difficult and expensive to control. Add all this up together and the result is that Iowa’s growing season is relatively short, making it quite difficult to successfully grow and harvest quality grapes, particularly *Vitis vinifera*.

More than any other factor, Iowa’s climate is the major influence on the grape grower’s choice of which grape varietal to plant. Grapes have to be tolerant of Iowa’s wide swings in temperature and humidity and be able to produce fruit within a relatively short growing season. Having the ability to bear fruit from a secondary bud break (even after the first one may have been damaged by an early spring frost) is a desirable characteristic.

WINEMAKING AND PRODUCTION

WINE PRODUCTION AND SALES

In 2008, there were 74 wineries in Iowa, up 469% from 13 wineries in 1999, or a 21% compound annual growth rate (per Iowa State University). Approximately 93% of Iowa's 74 wineries are small producers producing less than 5,000 cases. However, five larger wineries represent over 45% of the state's total production. According to the TTB, the total wine bottled in Iowa in 2008 was approximately 186,700 gallons, or approximately 78,500 cases. This is 8% higher than the 172,252 gallons bottled in 2007 and up 26% from the 148,734 gallons bottled in 2006. Production was approximately 240,000 gallons in 2008, or 101,000 cases, a 14% increase from the 210,000 gallons produced in 2007.

Based on our research and interviews with winery owners, wineries in Iowa provided employment for 341 full-time equivalent jobs in 2008, with a payroll totaling approximately $5.0 million. Wineries employ full and part-time workers for bottling, storage, maintenance and winemaking needs in addition to the traditional hospitality (tasting room), finance, sales and marketing functions. Many wineries also employ seasonal workers, particularly during harvest season.

Table 4.1
Trend of Growth in Iowa Wineries

2008	74
2007	72
2006	68
2005	53
2004	33
2003	26
2002	18
2001	16
2000	14
1999	13

Source: TTB

Approximately 4% of all wine sold in Iowa is made from Iowa grapes. The remaining wine sold is either imported from wineries in other states or Iowa wine made from grapes or juice coming from outside states like California, New York and Pennsylvania, to name the most common.

Table 4.2
Top Ten States' Annual Gallons Bottled in 2008

State	Production	Rank	Percentage of Total Production
California	499,992,493	1	85.90%
New York	34,923,377	2	6.00%
Washington	20,174,467	3	3.47%
Oregon	5,189,380	4	0.89%
Texas	2,488,547	5	0.43%
Indiana	1,534,212	6	0.26%
North Carolina	1,319,117	7	0.23%
Florida	1,318,487	8	0.23%
Michigan	1,277,340	9	0.22%
Pennsylvania	1,244,442	10	0.21%
Iowa	***186,742***	***22***	***0.03%***
All Others	12,405,711		2.13%
Total	**582,054,315**	**---**	**100.0%**

Source: TTB

Approximately 5% of the wine volume produced in Iowa is distributed through the three-tier distribution system (producers, distributors, retailers). This is primarily driven by some of Iowa's largest wineries, which sell more of their wines through this channel. The vast majority of Iowa wineries by number, however, sell direct to consumers through winery tasting rooms or to retail and restaurants, allowing them to obtain higher margins on their product. Based on our research and that of Iowa State University, we estimate 40% of Iowa wine is sold to retail stores and restaurants through self-distribution.

Based on our discussions with Iowa wineries, the retail value of Iowa wine in 2008 was estimated at $7.6 million. Winery revenue totaled $7.1 million, including an estimated $3.9 million (55%) in winery direct sales (sales by wineries direct to consumers). Winery direct sales include sales to consumers in tasting rooms, wine clubs, winery mailing lists and e-commerce or Internet sales.

GRAPE PRODUCTION

In 2008, there were approximately 1,000 acres of commercial vineyards with approximately 650 producing grapes. While vineyard acreage increased steadily over the past few years, yields have varied. This is largely due to often unfavorable weather conditions such as late spring frost and mid season snowstorms, vine loss due to insects, black rot, phylloxera, the multi-colored Asian lady beetle and, to a lesser extent, harmful herbicide drift from neighboring fields.

Table 5
United States Grape Production, 2008

Rank	State	Bearing Acreage (All types of grapes)	Utilized Production (Tons)
1	California	789,000	6,658,000
2	Washington	58,000	350,000
3	New York	37,000	172,000
4	Michigan	14,200	73,700
5	Oregon	14,500	40,600
6	Pennsylvania	13,600	94,200
7	Texas	2,500	4,000
8	Virginia	2,500	6,550
9	Ohio	1,900	5,350
10	North Carolina	1,700	5,600
11	Missouri	1,500	5,200
12	Georgia	1,200	3,500
--	**Iowa**	**1,000**	**NA**
	United States	**938,550**	**7,421,200**

Source: NASS (includes non-wine grapes)

IOWA WINEGRAPE VARIETALS[2]

Given Iowa's cold winters, plantings of *Vitis vinifera* grapes found in Europe and California are not hardy enough to survive. However, Iowa grape growers cultivate several native and hybrid varieties that do well in the climate. The most common and well-known varietals are listed below.

- **Catawba** An American grape discovered in North Carolina along the Catawba River, hence the name. Catawba is a pink grape used to produce medium-bodied, fruity, rosé wines as well as some white still wines and inexpensive sparkling wines. With hardy and vigorous vines, it is highly successful growing in the Iowa climate.

[2] Source: Iowa Wines (www.iowawines.org)

- **Concord** – A hardy American grape, Concord produces sweet, red wines and is ripe with jammy flavor.

- **Edelweiss** – Edelweiss is disease resistant and very winter-hardy, reportedly to -30 °F. It has medium to large loose clusters that reach a pound or more in weight. The berries are medium sized and light green to pale gold. Originally developed as a table grape, Edelweiss makes semi-sweet to dry wines in a Riesling style. The grapes ripen 5-6 weeks before Concord, but hang well on the vine and can be made into an ice wine.

- **Frontenac** – This black grape originates from the University of Minnesota and a cross of French-America hybrid Landot 4511 and native American *Vitis ripara*. The vine's chief advantage is its extremely vigorous and productive nature. Cold hardy to at least to -30 °F, it has adapted well to the inhospitable winters of the upper Mississippi Valley. Frontenac is also very resistant to disease, a key in Iowa. Frontenac exhibits high sugar levels, along with high acidity, which may require malolactic fermentation. Wines produced from Frontenac grapes are deeply colored, with notes of cherry on the nose with plum and berry on the palate.

- **La Crescent** – La Crescent was especially developed to be tough and cold-hardy and to endure the Midwestern climate. La Crescent grapes are the result of a cross between St. Pepin and Swenson and are another result of the work being done at the University of Minnesota. The wine produced from La Crescent has been described as "Germanic" in nature with some of the characteristics of Riesling. Iowa wineries are successfully producing sweet white wines using La Crescent and are also using La Crescent for blending purposes. La Crescent's best attribute is its winter-hardy nature - it has reportedly withstood temperatures as low as -36 °F. It is moderately vigorous and productive.

- **LaCrosse** – LaCrosse is a hybrid of Seyval Blanc and the Minnesota 78. The vine produces grapes capable of making a good quality and fruity white wine. LaCrosse vines are cold hardier and slightly earlier ripening than the Seyval parent. These high-yielding vines do well in all the upper Midwest states with short growing seasons and cold winters.

- **Marechal-Foch** – Marechal-Foch is a vigorous, early-ripening varietal, with good winter hardiness, making it ideal for Iowa's cold climate. Marechal-Foch is French-American hybrid thought to be a pairing of riparia-rupestris and a vinifera (Goldriesling). The vine produces grapes with a vibrant, deep purple color and a wine of light-medium structure and dark berry fruit characteristics.

- **Seyval Blanc** – Seyval Blanc is another grape variety well suited to cool climates. A popular French-American hybrid, it is reliably productive and early ripening (usually mid to late September). Seyval Blanc is made into crisp white wines and sometimes into off-dry versions where the tart nature of the variety is balanced with residual sugar.

- **St. Croix** – A popular grape in Canada as well as the Midwest, St. Croix is a hardy grape with moderate acidity, but struggles to reach 20 Brix in sugar. This is true even in hot summer climates in the Midwest. The lack of tannins in St. Croix wines is fairly common and the wines often suffer from a tobacco-like nose.

- **Vignoles** – A French-American hybrid, Vignoles is a versatile white grape that can produce wine styles from dry to sweet dessert wines. Floral aromas and fruity flavors, such as strawberry, peach, pineapple and apricot, characterize this varietal.

VINEYARD DEVELOPMENT

Vineyard development is the process of converting land into a developed vineyard. The land must be prepared to plant vines. Once the vine is planted it must be trellised and trained, and, from the time a vine is planted in the ground, it can take between three and four years before the vine bears fruit. During this time, pre-productive (non-fruit bearing) vines must be tended and cared for in accordance with sound viticultural practices to ensure healthy productive (fruit bearing) vines.

The vineyard development process is very capital and labor intensive, with development costs in Iowa averaging $8,000 to $15,000 per acre, depending on the specific location of the vineyard and planting layout, excluding land acquisition costs. This approximate cost includes all land preparation; vine layout, planting and trellising; vines; irrigation; materials and equipment; farming costs; direct and allocated overhead, utilities, property taxes, and financing costs during the pre-productive period).

The most important determinant of the cost of planting a vineyard is the vine spacing. Grape growing regions use various vine spacing based upon environmental site attributes, desired grape flavors, and development cost considerations. Regardless of the ultimate development plan selected, the investment in terms of capital and time required is significant. Vineyard owners and their employees do the majority of vineyard development in Iowa, with the assistance of vineyard development consultants in some cases.

Based on surveys with wineries and vineyard owners, approximately 14 full-time equivalent workers were employed in vineyard development for a total payroll of approximately $363,800 in 2008. Additional contracted labor used for vineyard development is included in vineyard labor.

VINEYARD EMPLOYMENT

Larger Iowa wineries reported utilizing both full-time and seasonal vineyard employees. Often grape production uses seasonal labor for harvests and vineyard development and full-time positions for maintenance of currently-bearing acres and development of new vineyards yet to bear fruit, as well as both full and part-time staff for finance, sales and other business management functions.

However, many grape growers in Iowa manage one to five acre vineyards and can do so without outside labor. Based on our research, the average vineyard size was approximately 2.5 acres. Vineyards in Iowa employed a total of 199 full-time equivalent workers in 2008 with wages totaling approximately $2.0 million.

ALLIED INDUSTRIES AND OTHER ECONOMIC BENEFITS

TOTAL TAXES COLLECTED

The wine and winegrape industry generates significant tax dollars, benefiting federal, state and local governments. Tax dollars are raised through sales taxes, excise taxes, income taxes, estate and gift taxes, payroll taxes, property taxes and other business taxes and fees. Iowa's wine, grape and allied industries paid \$14.5 million in state and local taxes and \$13.7 million in federal taxes in 2008, including approximately \$1.4 million in federal and state excise taxes.

Table 3
Estimated Tax Revenues

Tax Type	Total
Federal tax revenues	
Excise	$1,108,000
Payroll	6,367,000
Income	2,906,000
Other (corporate profits, etc.)	3,286,000
Total federal tax revenues	$13,666,000
State tax revenues	
Excise	$327,000
Sales	5,559,000
Payroll	130,000
Property	5,439,000
Other (dividends, licenses, fines, fees, etc.)	3,010,000
Total state tax revenues	$14,465,000
Total tax revenues	$28,131,000

Source: IMPLAN, MKF Research LLC

TOURISM

Tourism is becoming a major element in Iowa wine's overall economic impact. Our survey of Iowa wineries estimates that approximately 237,000 tourists visited Iowa wineries in 2008. Supporting these winery visitors is a diverse labor force of approximately 277 employees with total wages of \$4.8 million. The continued increase of tourist visits over the past several years can be attributed to the increase in the number of Iowa wineries, providing more destinations and opportunities for visitors to experience Iowa wine country.

Given that most of their sales are direct-to-consumer or self-distributed to retail stores, smaller wineries have focused meaningful effort on enticing consumers to come and visit their facilities. Wine tasting tours are being widely promoted with positive sales results. There has been an expansion of related-product offerings and events, private parties, weddings, and festivals held on winery properties and, thus, the winery's function has evolved past simple production.

Some existing wineries have expanded their facilities to incorporate these additional revenue streams resulting in increased winery employment and support services, and increased rural economic development.

The new wineries being designed and built in Iowa incorporate this new blend of functions with traditional facilities to take full advantage of these profitable ancillary activities. By our estimation, based on direct feedback from the wineries we surveyed, there was approximately $949,000 in revenue generated from these wine-related events.

COMMUNITY SUPPORT

Based on our estimates, wineries and growers throughout the state of Iowa have donated approximately $71,100 to charities in 2008 (1% of winery sales), including gifts of wine and gift certificates. The amount of charitable contributions is likely underestimated as many wineries do not track in-kind contributions, which can be substantial.

WINEMAKING EQUIPMENT, SUPPLIES AND SERVICES

The number of in-state suppliers or distributors of winemaking equipment, supplies and services is relatively small. There are a few different types of small businesses in Iowa that supply the wine and winegrape industry as a portion of their overall business. They include trucking services, label producers, warehousing, nurseries, vineyard equipment and a few chemical stores. As the Iowa wine industry continues to grow, so will the number of ancillary businesses that supply the industry. As of now, however, the industry continues to outsource most of its winemaking/vineyard equipment, service and supply needs to neighboring states as well as California and New York, among others. As the Iowa wine industry grows, so will the need for in-state winemaking and vineyard suppliers and vendors.

Table 6
Iowa Winemaking Suppliers for Iowa Wine

Direct Employment	5 employees
Total Wages	$132,500
Total Revenue	$285,600

Source: MKF Research LLC

EDUCATION, CONSULTING AND WINE INDUSTRY RESEARCH

Approximately thirteen people were employed on a full time basis in Iowa in wine-related education, consulting and research, with a payroll of $1,090,700. These professionals primarily work at Iowa State University and the Midwest Grape and Wine Industry Institute, but there are a few others employed by Des Moines Area Community College, Kirkwood Community College, Northeast Iowa Community College and the University of Northern Iowa.

Table 7
Impact of Wine-Related Education, Consulting and Research

Direct Employment	13 employees
Total Wages	$1,090,700
Total Funding	$545,000

Source: MKF Research LLC, Midwest Grape and Wine Industry Institute

A CONSERVATIVE MEASURE OF VALUE

Statistics alone do not adequately measure the intangible value the wine industry brings in terms of overall enhanced quality of life, limitation of urban sprawl and greater visibility for the state of Iowa worldwide. Accordingly, the figures provided in this report should be viewed as a conservative baseline measure of the economic impact, as the true impact of the Iowa wine industry, including intangible benefits is much greater. That measure of economic impact is approximately **$234 million** within the state of Iowa, for an industry that is a unique partnership of nature, entrepreneurship, artistry and technology.

Iowa wine and winegrape producers face sizable challenges to their continued growth and success. Working to support the Iowa wine industry and to ensure its long-term success will protect the significant benefits the industry provides to the Iowa economy.

METHODOLOGY

DATA COLLECTION

Data for this study was collected from a variety of public sources supplemented by primary research with wineries, suppliers, growers and other economic entities and supported by a variety of studies undertaken by industry and professional organizations. For several data items the numbers provided are only partial, given the limited availability of information, and therefore are considered conservative.

DIRECT, INDIRECT AND INDUCED EFFECTS (IMPLAN)[2]

All economic activities have "ripple" effects: employment of one person creates economic activity for others, whether the salesman who sells the employee a car or the restaurant where she eats lunch. Economic impact studies endeavor to measure those "ripples" as well as the direct activity, to help assess the impact of the potential gain or loss of an industry.

Economic impact studies estimate the impact of an industry in a defined geographic region by identifying and measuring specific concrete and economic events, such as the number of jobs, the wages, taxes and output generated by each job.

IMPLAN[3] is the acronym for "**IM**pact analysis for **PLAN**ing." IMPLAN is a well established and widely used economic model that uses input-output analyses and tables for over 500 industries to estimate these regional and industry-specific economic impacts of a specific industry.

The IMPLAN model and methodology classifies these effects into three categories, Direct Effects, Indirect Effects and Induced Effects.

Direct Effects are economic changes in industries *directly* associated with the product's final demand. Thus, direct effects consider the direct employment and spending of wineries, vineyards, distributors and immediately allied industries.

Indirect effects are economic changes – income created through job creation in industries that supply goods and services to the directly affected industries noted above. For example, the purchases of electricity and gasoline by wineries and of cash registers purchased for a tasting room.

[3] IMPLAN is the standard economic model for economic impact studies, developed by the University of Minnesota and the US Forestry Service in the 1980s and currently used by over 1500 organizations, including most federal, state and local organizations. For more information on IMPLAN, go to www.implan.com.

Induced effects are the effects of these new workers spending their new incomes, creating a still further flow of income in their communities and a flow of new jobs and services. Examples are spending in grocery and retail stores, medical offices, insurance companies, and other non-wine and grape related industries.

Beginning in late 2009, the Minnesota IMPLAN Group released version 3.0 of its flagship IMPLAN software product, which makes it possible to include Trade Flows in an impact analysis. We have used this latest version with its increased functionality to produce this report.

ABOUT MKF RESEARCH LLC

MKF Research LLC is the leading research source on the US wine industry. We continue to strive to raise the bar on the quality of information and analysis available to the wine industry.

MKF Research LLC conducts original research on the business of wine and wine market trends, publishes a number of industry studies and provides business advisory services and custom business research for individual companies and investors.

MKF RESEARCH LLC PUBLICATIONS

Grape Trends

By combining the annual crush and acreage reports into one easy-to-use quick reference guide, Grape Trends provides, in one source, all the information needed to make informed decisions about California's grape supply for production planning. Provided in electronic form, Grape Trends includes a complete summary of current, past (since 1997) and projected tons, prices, and bearing acres for all of California's major grape growing regions and counties for all varietals recorded, including: Chardonnay, Sauvignon Blanc, Cabernet Sauvignon, Merlot, Syrah, Zinfandel, and Pinot Noir.

Grape Price Analysis Tool

The Grape Price Analysis Tool enables users to take a deep dive into the California Grape Crush Report and analyze estimated bottle prices in relation to tonnage prices. The tool makes the data from the Crush Report easy to access and provides actionable results to help determine tonnage prices based on an estimated finished bottle price.

Economic Impact Reports

MKF Research LLC has completed the first study of the Impact of Wine, Grapes and Grape Products on the American Economy, for Wine America, the Wine Institute, Winegrape Growers of America and the National Grape and Wine Initiative, as well as wine and grape impact studies for Michigan, Missouri, New York, North Carolina, Pennsylvania, Tennessee, Texas, Virginia and Washington.

Recent Economic Impact Studies and Updates published by MKF Research LLC include the following, all available for purchase from MKF Research LLC:

- Economic Impact of Wine and Winegrapes in Ohio 2008
- Economic Impact of Wine and Winegrapes in Illinois 2007
- Economic Impact of Pennsylvania Wine and Grapes 2007
- Economic Impact of Wine and Grapes on the State of Texas 2007
- Economic Impact of Wine and Grapes on the Missouri Economy 2007
- Economic Impact of Wine and Winegrapes in Tennessee 2007
- Impact of Wine, Grapes and Grape Products on the American Economy, 2007
- Economic Impact of California Wine 2006
- Economic Impact of Washington Grapes and Wine 2006
- Economic Impact of Wine and Winegrapes in North Carolina 2005
- Economic Impact of Wine and Winegrapes in Iowa 2005
- Economic Impact of Michigan Grapes, Grape Juice and Wine 2005
- Economic Impact of New York Grapes, Grape Juice and Wine 2005

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MKF Research LLC is owned by Frank, Rimerman + Co. LLP, CPAs.

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Frank, Rimerman + Co. LLP, founded in 1949, is the largest, locally-owned provider of accounting and consulting services in California. With offices in San Jose, Palo Alto, San Francisco and St. Helena, California, New York, NY and over 200 professionals, Frank, Rimerman + Co. LLP offers strategic business and information consulting services, tax consulting and planning, audit and financial reporting, accounting services, litigation and valuation services.

Frank, Rimerman + Co. LLP continues to build its wine industry practice, based in St. Helena (formerly the CPA practice of Motto, Kryla and Fisher), committing the full resources of this major professional services firm to the industry.