

**THE ECONOMIC IMPACT
OF WINE AND WINE GRAPES ON THE
STATE OF VIRGINIA – 2010**

A Frank, Rimerman + Co. LLP Report

Updated February 2012

This study was commissioned by the

Virginia Wine Board

Frank, Rimerman + Co. LLP

The Wine Business Center, 899 Adams St., Suite E,
St. Helena, California 94574. (707) 963-9222

www.frankrimerman.com/businesses/business_management/wine_research.asp

TABLE OF CONTENTS

Highlights 2

Executive Summary..... 4

Methodology..... 13

About Frank, Rimerman + Co. LLP..... 15

FULL ECONOMIC IMPACT OF WINE AND
WINE GRAPES ON THE VIRGINIA
ECONOMY -- 2010

\$747.1 Million

VIRGINIA WINE, WINE GRAPES AND VINEYARDS	2010 ECONOMIC IMPACT	2005 ECONOMIC IMPACT
Full-time Equivalent Jobs	4,753	3,162
Wages Paid	\$156 million	\$84 million
Wine Produced (Cases)	439,500	320,200
Retail Value of Virginia Wine Sold	\$73 million	\$45 million
Vineyard Revenue	\$11 million	\$8 million
Number of Wineries	193	129
Number of Grape Growers	386	262
Grape-Bearing Acres	2,700	2,000
Wine-Related Tourism Expenditures	\$131 million	\$57 million
Number of Wine-Related Tourists	1,618,000	1,000,000
Taxes Paid: Federal / State and Local	\$42 million / \$43 million	\$15 million / \$21 million

ECONOMIC IMPACT OF VIRGINIA WINE AND WINE GRAPES

Table 1¹
Total Economic Impact of Wine and Grapes in Virginia

Revenue:	2010	2005
Winery Sales	\$56,030,000	\$29,134,000
Retail and Restaurant Sales of Virginia wine	\$12,807,000	\$12,735,000
Distributors Sales	\$3,791,000	\$3,502,000
Non-Wine Revenue (Weddings, Events, etc.)	\$6,152,000	\$0
Tourism	\$130,597,000	\$56,983,000
Wine Grape Sales	\$10,965,000	\$7,616,000
Federal Tax Revenue	\$42,026,000	\$15,496,000
State Tax Revenue	\$42,690,000	\$21,200,000
Vineyard Development (excluding vines)	\$2,167,000	\$143,000
Charitable Contributions	\$726,000	\$304,000
Allied Industries -- Glass, Closures, Chemicals	\$4,650,000	\$3,131,000
Wine Research/Education/Consulting	\$1,325,000	\$708,000
Indirect (IMPLAN)	\$173,161,000	\$75,254,000
Induced (IMPLAN)	\$103,517,000	\$51,826,000
Total Revenue	\$590,603,000	\$278,032,000
Wages:		
Winery Employees	\$16,522,000	\$9,546,000
Vineyard Employees	\$11,331,000	\$8,373,000
Tourism	\$22,254,000	\$14,238,000
Vineyard Development and Materials - Labor	\$325,000	\$123,000
Distributors Employees	\$1,681,000	\$1,316,000
Retail/Liquor Stores - Wine Specific	\$566,000	\$271,000
Restaurant Sales of Virginia Wine	\$4,996,000	\$5,728,000
Allied Industries -- Glass, Closures, Chemicals	\$853,000	\$745,000
Wine Research/Education/Consulting	\$1,166,000	\$412,000
Indirect (IMPLAN)	\$62,247,000	\$25,846,000
Induced (IMPLAN)	\$34,548,000	\$17,204,000
Total Wages	\$156,490,000	\$83,802,000
Total	\$747,092,000	\$361,834,000

¹ Based on 2010 data.

EXECUTIVE SUMMARY

IMPACT OF VIRGINIA WINE ON THE VIRGINIA ECONOMY

The Virginia wine industry experienced significant growth in the number of wineries and increased demand of Virginia wine since our last economic impact study in 2005. The number of bonded wineries in the state of Virginia grew from 129 in 2005 to 193 in 2010. The industry continues to expand at an assertive pace with almost all of the growth coming from the addition of small wineries – wineries producing less than 10,000 gallons per year. Wine production in Virginia grew by approximately 37% over 2005 to 1.0 million gallons bottled in 2010, ranking Virginia as twelfth in the nation in wine production.

The wine and grape industry in Virginia contributed greatly to the economic strength of the state. Virginia's wine, grape and related industries increased the total economic value to the state of Virginia from approximately \$362 million in 2005 to \$747 million in 2010, or an overall increase of 106%. As the number of Virginia wineries increases, so does the number of tourists visiting them (from one million tourists in 2005 to 1.6 million tourists in 2010). Wine, grapes and related industries account for 4,753 jobs in Virginia with an associated payroll in excess of \$156 million.

Table 2
Total Virginia Employment: Wine, Grape and Related Industries

<u>Employment:</u>	2010	2005
Winery	807	439
Vineyard	553	482
Distributors	33	26
Tourism	1,019	714
Vineyard Materials	12	5
Restaurants	308	322
Retail/Liquor Stores - Wine Specific	22	12
Allied Industries -- Glass, Closures, Chemicals	25	17
Research/Education/Consulting	23	9
Indirect (IMPLAN)	1,091	599
Induced (IMPLAN)	861	537
Total Employment	4,753	3,162

Sources: Frank, Rimerman + Co. Research, IMPLAN, Virginia Tech University, Virginia Wine Board, Virginia Wineries Association, Virginia Vineyards Association, Bureau of Labor Statistics and various Virginia wineries, consultants and suppliers surveyed.

ECONOMIC IMPACT OF VIRGINIA WINE AND WINE GRAPES

These 4,753 jobs compare with a total of 3,162 jobs in 2005, as reported in the previous report. This difference represents growth in the industry as well as continuing progress in collecting data, and more precise data, on suppliers to the industry. For example, we collected further data on packaging suppliers, label producers and associated ancillary industries. This has led us to increase the number of employees attributed to wine in some sectors while reducing employees in others. Considering the same industry categories included in the last report, wine industry related employment increased by 33% since 2005.

Growing grapes and making wine is a long-term commitment to a community, both financially and physically. New vineyard plantings require three to five years before yielding a full crop, with another one to three years of aging for wine to be ready for sale. Unlike many industries, once vineyards and wineries are established they are effectively rooted and tied in place – a Virginia vineyard cannot simply be relocated to another region or outsourced to another country. Wine and grapes are inextricably tied to the soil from which they are grown. Moreover, wine and their products and allied industries diversify local economies and create employment and new market opportunities.

TOTAL TAXES COLLECTED

The wine and wine grape 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. Virginia's wine, grape and allied industries paid \$42 million in federal taxes and \$43 million in state and local taxes and in 2010, including roughly \$5 million in total excise taxes.

Table 3
Estimated Tax Revenues

<u>Type of Tax</u>	<u>Total</u>
Federal Tax Revenues	
Excise	\$3,274,000
Payroll	\$16,965,000
Income	\$16,957,000
Other (corporate profits, etc.)	\$4,830,000
Total Federal Tax Revenues	<u>\$42,026,000</u>
State Tax Revenues	
Excise	\$1,578,000
Sales	\$14,223,000
Payroll	\$4,085,000
Property	\$16,277,000
Other (dividends, licenses, fines, fees, etc.)	\$6,527,000
Total State Tax Revenues	<u>\$42,690,000</u>
Total Tax Revenues	<u>\$84,716,000</u>

TOURISM

Tourism continues to be a major element in Virginia wine's overall economic impact. Our survey of Virginia wineries estimates that over 1.6 million tourists visited Virginia wineries in 2010. Supporting these winery visitors is a diverse labor force of approximately 1,019 employees with total wages of over \$22 million. The continued increase of tourist visits over the past several years can be attributed to the increase in the number of Virginia wineries and continued improvement in wine quality, providing more destinations and opportunities for visitors to experience Virginia wine country.

The state's overall wine sales and production are not concentrated within a few large wineries; rather the majority of the state consists of small wineries with production under 10,000 cases. The larger wineries have a bigger focus on selling wine through the three-tier system while the majority of the smaller producers sell their wine direct-to-consumer and direct-to-trade. Additionally, the larger wineries make a meaningful effort on enticing consumers to come and visit their facilities, which sometimes include on-site hotels and restaurants. Wine tasting tours are being widely promoted with positive sales results. There has also 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.

Many wineries in Virginia incorporate these new 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 over \$6 million in revenue generated from these wine-related events. Our previous report in 2005 did not separate this revenue from total winery revenue.

WINE PRODUCTION AND SALES

In 2010, there were 193 wineries in Virginia, up 50% from 129 wineries in 2005. Chateau Morrisette and Williamsburg Winery are the largest wineries with combined production of over 100,000 cases in 2010, approximately 25% of Virginia's total wine production in 2010. Total wine produced in Virginia was approximately 1.0 million gallons, roughly 440,000 cases, and an increase of 37% over 2005.

Based on our research and interviews with winery owners, wineries in Virginia provided employment for 807 full-time equivalent jobs in 2010, with a payroll totaling approximately \$16.5 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
Trend of Growth in Virginia Wineries

Year	Wineries	% Growth	Case Sales	% Growth
2010	193	50%	439,520	37%
2005	129	102%	320,171	34%
2000	64	36%	238,203	36%
1995	47	18%	175,138	96%
1990	40	38%	89,164	152%
1985	29	NA	35,325	NA

Source: TTB

Over 95% of Virginia wineries are small producers, producing less than 10,000 cases. Over 80% of the wine produced in Virginia in 2010 was made from grapes grown in Virginia. The growth of wineries in the state has so far kept pace with the growth of overall grape production as well as the increased demand for wine in state.

In 2010, Virginia was the twelfth largest wine producer in the United States. A marked increase in wine tourism has been a strong driver of this production increase. The number of new wineries producing wine in Virginia has increased dramatically in the last ten years (a 202% increase). Virginia's increased number of wineries and industry revenue can be partially attributed to improved overall wine quality throughout the state, in addition to positive media press in the United States and the United Kingdom.

Table 5.1
Top States' Annual Gallons Produced in 2010

Rank	State	Total Produced (Gallons)	% of Total
1	California	628,199,026	89.51%
2	New York	26,704,955	3.81%
3	Washington	20,390,040	2.91%
4	Oregon	4,913,035	0.70%
5	Kentucky	2,247,492	0.32%
6	Florida	2,018,975	0.29%
7	New Jersey	1,543,513	0.22%
8	North Carolina	1,204,937	0.17%
9	Missouri	1,110,670	0.16%
10	Ohio	1,108,851	0.16%
11	New Mexico	1,071,512	0.15%
12	Virginia	1,044,739	0.15%
---	Others	10,264,761	1.46%
	Total U.S.	701,822,506	100.00%

Source: www.ttb.gov

Approximately 35% of the wine volume produced in Virginia is distributed through the three-tier distribution system. This is primarily driven by Virginia's largest wineries, which sell a significant share of their wines through this channel. The vast majority of Virginia wineries by number, however, sell their wine direct to consumers through winery tasting rooms, allowing them to potentially obtain higher margins on their product. These wineries generally have relatively small production, typically less than 10,000 cases annually.

The retail value of Virginia wine sold in 2010 is estimated at \$73 million with winery sales totaling \$56 million. Winery direct sales totaled roughly \$30 million, which include sales to consumers in the winery tasting rooms, wine clubs, winery mailing lists and e-commerce/Internet sales. Retail, restaurant and distributor sales decreased from 2005 however, primarily due to the fact that the state's largest wineries sold less wine through the three-tier system in 2010 than they did in 2005. In addition, excluded from all of these figures is the additional \$6 million in non-wine revenue associated with wineries hosting special events/weddings and selling various merchandise on-site.

GRAPE PRODUCTION

In 2010, there were approximately 386 commercial growers operating in Virginia with a combined acreage of 2,700 bearing acres, an increase of 700 acres over 2005, or a 35% increase. While vineyard acreage in Virginia has steadily increased over the past five years, yields and crop value have varied dramatically. If Virginia is to gain traction and continue to produce enough wine in state to meet increasing consumer demand, the industry will need to continue increasing the available grape-bearing acreage as well as improving overall quality. Virginia was ranked eighth in the nation for total grape-bearing acreage in 2010, as shown in the table below.

Table 5.2
United States Grape Production, 2010

Rank	State	2010 Total Production (Tons)	2010 Bearing Acreage (all types of grapes)
1	California	6,716,000	789,000
2	Washington	336,000	61,000
3	New York	176,000	37,000
4	Oregon	31,200	16,900
5	Michigan	36,000	14,200
6	Pennsylvania	83,000	13,600
7	Texas	8,900	3,000
8	Virginia	6,600	2,700
9	Ohio	3,470	1,900
10	North Carolina	5,200	1,800
	Others	12,330	6,600
	Total U.S.	7,414,700	947,700

Source: USDA Non-citrus Fruits and Nuts 2011 Summary

Wineries in the State of Virginia rely heavily on wine grapes grown in state, which generally contributes to lower costs. By continuing to increase the grape quality and amount of Virginia acreage available for grape production, the Virginia wine industry can rely less on grapes produced outside the state while in turn building more credibility and a stronger reputation for wine quality as well as potentially reducing costs.

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 to 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 for Vinifera grapes in Virginia averaging \$10,000 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 Virginia, with the assistance of vineyard development consultants in some cases.

Based on surveys with wineries and vineyard owners, approximately twelve full-time equivalent workers were employed in vineyard development for a total payroll of approximately \$325,000 in 2010. Additional contracted labor used for vineyard development is included in vineyard labor discussed below.

VINEYARD EMPLOYMENT

Larger Virginia 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 Virginia manage smaller vineyards and can do so without outside labor. Based on our research, the average vineyard size was approximately six to seven acres for all vineyards, including those owned and operated by both wineries and independent grape growers. Vineyards in Virginia employed a total of 553 full-time equivalent workers in 2010 with wages totaling approximately \$11.3 million.

COMMUNITY SUPPORT

Based on our estimates, wineries and growers throughout the state of Virginia have donated approximately \$726,000 to charities in 2010 (1% of total wine sales), including gifts of wine and gift certificates. This is an increase of \$309,500 (139%) over 2005. 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. Many different types of small businesses exist in Virginia that supply the wine and wine grape industry as a portion of their overall business. They include bottle suppliers, farming chemical providers, trucking services, label producers, tank manufactures, warehousing, and wine labs. As the Virginia wine industry continues to grow, so do the number of ancillary businesses that supply the industry.

Table 6
Virginia Winemaking Suppliers for Virginia Wine

Direct Employment	25 employees
Total Wages	\$853,200
Total Revenue	\$4,650,000

Source: Frank, Rimerman + Co. LLP

EDUCATION, CONSULTING AND WINE INDUSTRY RESEARCH

Approximately twenty three people were employed on a full time basis in Virginia in wine-related education, consulting and research, with a payroll of roughly \$1.2 million.

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

Direct Employment	23 employees
Total Wages	\$1,166,400
Total Funding	\$1,324,600

Source: Frank, Rimerman + Co. LLP, Virginia Tech, Virginia Vineyards Association, Virginia Wineries Association.

STRONG SUPPORT BY STATE AND REGIONAL ORGANIZATIONS

State and regional organization support is critical to the success of the renewed industry. Virginia's state, regional and private organizations have been particularly effective and well-organized at supporting and promoting the local wine industry. These organizations include the Virginia Wine Board, Virginia Wineries Association and the Virginia Vineyard Association.

The Virginia wine industry continues to receive significant support from the state government, particularly that of Governor Bob McDonnell. His administration passed a program that gives tax credits to establish or expand wineries and vineyards. In addition, the Governor established the Wine Promotion Fund (SB237 / HB588), which places a portion of the state's wine liter tax into a fund to be used specifically for researching, marketing and promotion Virginia's wine industry. The General Assembly recently agreed to more than triple the amount of funds placed into the Virginia Wine Promotion Fund for research, education and marketing programs, increasing the amount from the original \$580,000 to \$1.8 million.

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 Virginia 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 Virginia wine industry, including intangible benefits is much greater. That measure of economic impact is approximately \$747 million within the state of Virginia, for an industry that is a unique partnership of nature, entrepreneurship, artistry and technology.

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

IMPLAN² is the acronym for “**IM** impact 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.

² 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 1,500 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 used this latest version with its increased functionality to produce this report.

ABOUT FRANK, RIMERMAN + CO. LLP

Frank, Rimerman + Co. LLP is the leading research source on the U.S. wine industry. We continue to strive to raise the bar on the quality of information and analysis available to the wine industry.

Frank, Rimerman + Co. LLP produces original research on the business of wine and wine market trends, publishes a number of industry studies and provides business advisory services and conducts custom business research for individual companies and investors.

FRANK, RIMERMAN + CO. LLP 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 varieties 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

Frank, Rimerman + Co. LLP 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 economic impact studies for California, Illinois, Iowa, Michigan, Missouri, Ohio, New York, North Carolina, Pennsylvania, Tennessee, Texas, Virginia and Washington.

ECONOMIC IMPACT OF VIRGINIA WINE AND WINE GRAPES

Recent Economic Impact Studies and Updates published by Frank, Rimerman + Co. LLP include the following, all available for purchase from Frank, Rimerman + Co. LLP:

- Economic Impact of Texas Wine and Vineyards 2009
- Economic Impact of Wine and Wine Grapes in North Carolina 2009
- Economic Impact of Wine and Wine Grapes in Iowa 2008
- Economic Impact of Wine and Wine Grapes in Ohio 2008
- Economic Impact of Wine and Wine Grapes 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 Wine grapes 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 Wine Grapes in North Carolina 2005
- Economic Impact of Wine and Wine Grapes in Texas 2005
- Economic Impact of Michigan Grapes, Grape Juice and Wine 2005
- Economic Impact of New York Grapes, Grape Juice and Wine 2005

Frank, Rimerman + Co. LLP

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, CA (formerly the CPA practice of Motto, Kryla and Fisher), committing the full resources of this major professional services firm to the industry.