

Sustainable Viticulture and Winery Practices in California: What Is It, and Do Customers Care?

Gary Zucca, Ph.D.
Associate Professor
National University
3520 Brookside Rd.
Stockton, CA 95219
Voice: 209.475.1441
Fax: 209.475.1498
gzucca@nu.edu

Owner and Winemaker
Zucca Mountain Vineyards
P.O. Box 438
Vallecito, CA 95251
Voice: 209.736.2949
Fax: 209.736.1295
gary@zuccawines.com

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Background

Over the past ten or so years terms like, going green, biodynamic, and biologique have become increasingly popular to characterize vineyards and wineries from California to Bordeaux and Tuscany as growers and winemakers have begun paying increasing attention to the impact of their practices on the environment (Hall, 2001; Rosen, 2006; U.C. Davis, 2008; European Commission ,2008). In California during this same time, the term, sustainable agriculture, has begun to emerge (Univ. of California, 1997).

Environmental practices have been particularly important in California. Over the past 50 years there has been growing tension between agriculture industrial practices that are reluctant to change and urban sprawl, which has taken over much of what was formerly prime farm land. Agricultural practices such as burning, flood irrigation, pesticide spraying, groundwater and air contamination, and other social, economic, and environmental problems have resulted in increased government regulation, which has become an increasing burden on an already languishing agriculture industry.

Partly in reaction to increasing government regulation and partly due to an increased awareness of the agriculture industry's social and environmental responsibility, there has been movement toward sustainable agriculture practices. Sustainable agriculture is characterized by a systems perspective of stewardship of natural and human resources and comprises three goals – environmental health, economic profitability, and social and economic equity. Achieving sustainable agricultural practices is viewed as a process requiring small, realistic, and measurable steps.

Purpose and methods

This paper will review the history of sustainable viticulture and winery practices in California from 2001 to the present and assess the future development of these practices in California. The paper will also assess retail customers' awareness of sustainable practices and their interest in buying wines from growers and wineries that follow these practices.

The paper will begin with a history and description of the Code of Sustainable Winegrowing Practices and how the process of sustainable winegrowing practices is being implemented in California. The next section will discuss the current issues involved in the implementing the Code and predictions for the future of sustainable winegrowing practices in California. Data for this section will be gathered from personal interviews with wine-buying customers, members of wine-industry associations, and various winegrowers and winemakers.

Research on customer awareness of sustainable agriculture suggests consumers are confused by such terms such as organic, biodynamic, low carbon footprint, and

sustainable agriculture (Anson, 2007). There has been little research on customer awareness of sustainable viticulture and winemaking and less on whether customers truly value these practices and will be willing to patronize a winery that follows sustainable practices over ones that do not. This paper will identify the level of customer awareness of the wine-buying customers at a small winery and determine the value customers place on sustainable viticulture and winegrowing. Personal interviews with owners and customers in three small wineries will be conducted to determine the customer awareness level and value placed on sustainable practices by customers.

The paper will conclude with an assessment of the state of sustainable viticulture and winemaking in California and recommendations for developments in the future.

The research reported in this paper will be useful to those involved in implementing the Code of Sustainable Winegrowing Practices in California and to wineries and winegrowers who are interested in following and promoting sustainable agricultural practices to their customers.

Findings

Wine industry associations

There are two principal wine industry associations in California: The Wine Institute, representing the wineries, and California Association of Winegrape Growers (CAWG), representing the winegrape growers. The Wine Institute is an association of almost 1,000 California wineries and affiliated businesses whose members account for 95 percent of California wine production and 85 percent of US wine production. Established in 1934, the organization is dedicated to initiating and advocating state, federal, and international public policy to enhance the environment for the responsible consumption and enjoyment of wine. The Wine Institute seeks to broaden public understanding of the wine industry and its role in the American economy, lifestyle, and culture. Based in San Francisco with offices in Sacramento, Washington, DC, and six regions across the US and with representatives in all states and 10 foreign countries, Wine Institute is the oldest public policy organization representing wine in the US (Wine Institute, 2008).

California Association of Winegrape Growers (CAWG) represents California winegrape growers and provides industry leadership to advocate public policies, research and education programs, sustainable practices, and trade positions to improve the viability of winegrapes. CAWG's membership represents the growers of approximately 60 percent of the total annual grape crush (CAWG, 2008).

Sustainable winegrowing practices

In 2001 the Wine Institute and California Association of Winegrape Growers (CAWG) formed the California Sustainable Winegrowing Alliance (CSWA) and developed the Code of Sustainable Winegrowing Practices workbook as the basis for the Sustainable Winegrowing Program, providing a tool for vintners and growers to assess their practices and learn how to improve their overall sustainability.

The vision of the Sustainable Winegrowing Program is the long-term sustainability of the California wine community. To place the concept of sustainability into the context of winegrowing, the program defines sustainable winegrowing as growing and winemaking practices that are sensitive to the environment (**E**nvironmentally **S**ound), responsive to the needs and interests of society-at-large (**S**ocially **E**quitable), and are economically feasible to implement and maintain (**E**conomically **F**easible). The combination of these three principles is often referred to as the three "E's" of sustainability (CSWA 2008). See Figure 1.



Figure 1.
Sustainability as defined by the three overlapping principles of Environmentally Sound, Economically Feasible and Socially Equitable.

The **Code of Sustainable Winegrowing Practices Self-Assessment Workbook** is the foundation of the Sustainable Winegrowing Program and a tool for program participants to measure their level of sustainability and to learn about ways to improve their practices. The workbook describes ways to translate the above three broad principles into practice and provides growers and winemakers a self-assessment guide to assess and improve the sustainability of their practices. Originally released in 2002, a second edition of the workbook was issued in late 2006.

The workbook addresses ecological, economic and social equity criteria through an integrated set of 14 chapters and 227 criteria, which includes a built-in system with metrics to measure performance. The 14 assessment areas are:

1. Viticulture
2. Soil Management
3. Vineyard water management
4. Pest management
5. Wine quality
6. Ecosystem management
7. Energy efficiency
8. Winery water conservation and quality

9. Material handling
10. Solid waste reduction and management
11. Environmentally preferred purchasing
12. Human resources
13. Neighbors and community
14. Air quality

For each of the 14 areas the workbook describes 4 categories in order of increasing sustainability, and each category has specific measures to assess the current state of the vineyard or winery. The workbook also provides a worksheet to assess the current status in all 14 areas and to develop an action plan to improve in each area (CSWA, 2006).

The CSWA workbook is not a “how to” manual, set of rules, or a rating system used by external evaluators to judge vineyard or winery operations, and is not linked to any certification system. However because of interest expressed by members, the workbook is designed to be easily adapted to international environmental management system standards such as the ISO 14000 family and international sustainability reporting efforts such as the Global Reporting Initiative (Wine Institute & CAWG, 2002, p 1-3).

Implementation and current status of sustainable winegrowing practices

The sustainable winegrowing program is designed to engender a cycle of continuous improvement among growers and vintners, by enabling them to evaluate their own operations, learn about new approaches and innovations, and increase their adoption of sustainable practices. The program cycle consists of: a) providing participants with a practical self-assessment workshops based on the workbook; b) tracking and measuring the results of self-assessments; c) offering important information and educational opportunities about sustainable practices, focused on areas needing improvement; d) facilitating exchange of information among growers and vintners, and e) motivating participants to implement effective changes. Participants are encouraged to re-assess themselves and, to continue this cyclical process of evaluation, learning, and improvement.

The CSWA presented its first report measuring the level of sustainable practices among vintners and growers on a statewide basis on October 6, 2004. The report is the first time the entire agriculture industry sector in California has used a common assessment tool to document the adoption of sustainable practices among its members and reported the results publicly. The evaluation results collected from over 70 workshops are contained in the 2004 report, and represent about 40 percent of the California's 260 million case production and 25 percent of its 529,000 wine acres (CSWA, 2008). By 2006, 1,165 California wineries and vineyards had become involved in the self-assessment process. A summary of vineyard and winery participation in the program as of October 2006 is illustrated in Table 1 below.

Table 1. Vineyard and winery self assessment as of October 2006**Vineyard self assessment**

Number of Distinct Vineyard Enterprises	990 enterprises	
Total Vineyard Acres Farmed by the 990 Enterprises	288,072 acres	55.2% of 522,000 total statewide acres
Number of vineyard acres assessed by the 990 enterprises	171,764 acres	32.9% of 522,000 total statewide acres
Number of Vineyard Enterprises that Submitted Assessment Results	807 enterprises	81.5% of 990 total enterprises
Total Vineyard acres from the 990 enterprises	152,799 acres	29.3% of 522,000 total statewide acres

Winery self assessment

Number of Distinct Winery Enterprises	175 facilities	
Total Cases Produced by the 175 Enterprises	170.7 million cases	62.5% of 273 million total statewide cases
Number of Cases Assessed by the 175 Enterprises	143.8 million cases	52.7% of 273 million total statewide cases
Number of Winery Enterprises that Submitted Assessment Results	107 facilities	61.1% of 175 total facilities
Total Cases from the 107 Winery Enterprises Assessed and Submitted	114.9 million cases	42% of 273 million total statewide cases

As can be seen from Table 1, the majority of wineries in California have participated in the program, although the program seems to be supported mainly by the larger growers who have the resources to pursue and document sustainable efforts. Based on interviews with several growers and winemakers, it is probable, and supportable with anecdotal evidence, that small growers and winemakers are pursuing the program but not documenting and reporting the results.

Future trends of sustainable winegrowing practices

Training goals for introducing the sustainable winegrowing program to other growers and winemakers continues. From July 2007 to June 2008, there are 23 seminars in self assessment scheduled (CSWA, 2008). The program also recently started a website

(www.sustainablewinegrowing.org), which includes a web-based self-assessment and reporting system. In addition to offering participants the option to complete and submit their self-assessments on-line, the new system allows vintners and growers the ability to generate their own customized sustainability reports, to link to other web-based resources, and to develop and save action plans for improving practices.

There is clear evidence that the sustainable winegrowing program is being accepted by large growers and winemakers, and that the number of growers and winemakers using the workbook to evaluate their operations is growing. There is less evidence that smaller growers and winemakers are aware of or are using the handbook, but anecdotal evidence seems to indicate that most are aware of the program and are using the workbook to evaluate their operations, but are not documenting their efforts. The online self-assessment reporting system may provide better evidence of small grower and winemaker support.

The current sustainable winegrowing program relies on self assessment and self-reported data. Based on the research in this report I believe that industry and consumer awareness will continue to grow and that the wine industry will soon develop a certification program for sustainable winegrowing and winemaking. Evidence of this trend is emerging even now. The Lodi Woodbridge Winegrape Commission, representing a California wine appellation, has developed California's first sustainable winegrowing standard whereby participating growers have their vineyards certified as producing sustainably-grown winegrapes. The certification is done by a third party, which means the standards have been reviewed and endorsed by an organization independent of the Lodi Woodbridge Winegrape Commission. The association provides certified vineyards a logo that can be attached to products from that vineyard certifying that they are produced from certified sustainable vineyards (Lodi, 2008). In the next few years I think the wine industry will have a certification program much like the current organic agriculture program now in place with the U.S. Dept. of Agriculture (USDA, 2008).

Consumer awareness and acceptance of sustainable winegrowing practices

Research on consumer awareness and acceptance of sustainable winegrowing practices was conducted by informal interviews with customers at a small winery tasting room, interviews with three other small winery owners, and a review of the limited literature on the subject (Caputo, Hartman, 2007).

The results of the informal interviews can be summarized as follows: Customers like the idea of sustainable winemaking but don't have any idea what sustainability really means or what wineries do to achieve it. These findings are better quantified validity by other researchers, but generally validate the findings of the informal research.

The Hartman Group study (2007) found that sustainability is an evolving concept that consumers associate with six key values: healthier, local, social responsibility, environmental responsibility, simple living, and control. The Hartman study was based on 150 hours of interviews in six cities and a survey of 1,600 individuals in a nationally-representative sample in the United States. They found the following:

- Just over half (54%) were familiar with the term, sustainability.
- Only 5% indicated they knew companies that supported sustainability values.
- As a marketing term, sustainability is not a household word, but consumers are willing to pay more for sustainably produced products (Hartman, 2007).

Conclusions

Sustainable winegrowing and winemaking is a term that is already accepted by a large number of winegrowers and winemakers and will continue to become even more widely accepted in the professional community. Currently sustainability is a voluntary program but I expect will evolve into a program that will be certified by various associations in the wine industry.

Consumer awareness of sustainable winegrowing and winemaking is low and is confused with vague terms such as organic and green, but as consumer awareness grows, the market will see growing acceptance and demand for wine produced from sustainably farmed grapes and made in sustainably certified wineries.

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