

Sustainability Practice Adoption and Management Goals of Napa Valley, CA Winegrape Growers

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Introduction

One priority of the Napa Valley Grapegrowers (NVG), and similar agricultural organizations in the Napa Valley and California more broadly, is to encourage grower adoption of sustainability practices. Sustainability practices are those that balance economic, environmental, and social goals. Since 1975 the NVG has been sponsoring outreach activities including field demonstrations and research, informational meetings and workshops, an Internet-based winegrape buying and selling database, and industry fairs. This research brief presents results from a mail survey of winegrape growers in the Napa Valley region, which collected data on whether growers have adopted sustainability practices, what impact the NVG and other organizations have had on practice adoption, and whether or not growers' vineyard management priorities reflect sustainability objectives.

Key Findings

The percentage of growers that regularly use any given sustainability practice ranges widely from 22% (develop a written farm succession plan) to over 90% (remove infected vines for disease control). Sustainability practices that fall into the disease management and pest management categories are the most frequently adopted. Napa Valley growers who participate in more outreach activities (including sustainability certification) are also more likely to adopt more sustainability practices, which justifies continued support for sustainability programs that promote these practices. When making decisions about vineyard management, they prioritize a balanced mix of economic and social objectives including winegrape quality, meeting winery expectations, employee wellbeing, meeting government regulations, and public health and safety. However, growers place a lower emphasis on environmental objectives such as restoring wildlife habitat and ecological biodiversity.

Methodology

We conducted a mail survey¹ and follow-up telephone calls of 611 winegrape growers in the Napa Valley American Viticulture Area. Growers were identified through 2010 Pesticide Use Reports from the Napa County Agricultural Commissioner and through Internet searches of publicly available information. An advisory team of 25 growers and outreach professionals contributed to survey design and publicity. A total of 237 completed surveys were collected, for a response rate of 42% (adjusted to account for an observed 20% rate of ineligibility of non-respondents).

Detailed Results

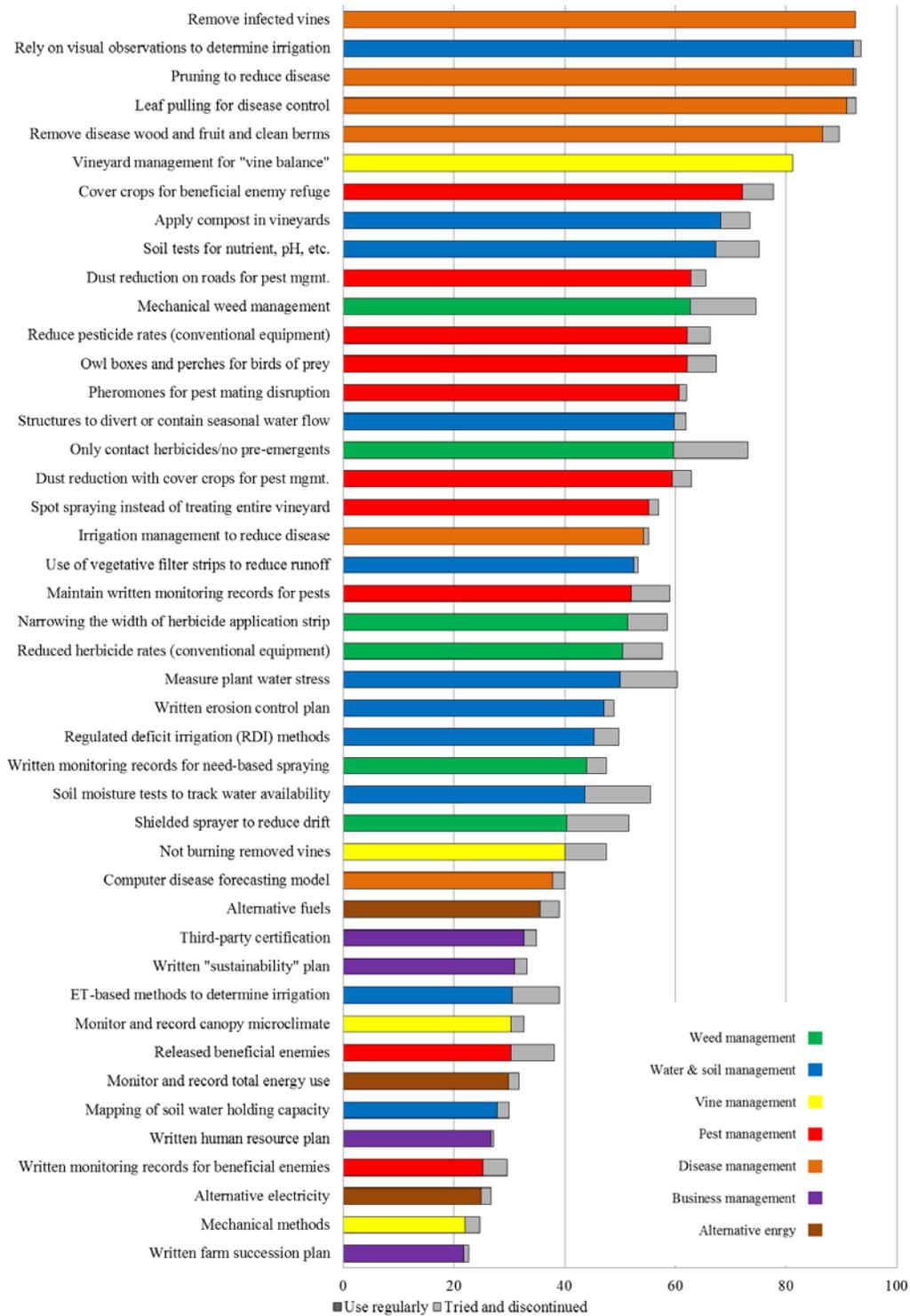
Figure 1 reports the percentage of growers who indicated whether they "regularly use" or "tried and discontinued" 44 different sustainability practices typically contained in sustainability self-assessment workbooks and certification systems. Practices are sorted in decreasing order, with the most frequently used practice first. Each practice is grouped into one of seven different color-coded categories, identified in the figure legend². Sustainability practices in the disease management category (orange) are the most frequently adopted practices. Practices in the pest management category (red), are also adopted at relatively high rates. In contrast, practices in the business management (purple) and alternative energy (brown) categories are adopted at lower rates. Practice categories with high adoption rates, such as disease and pest management, provide growers more direct and short-term economic benefits. By contrast, the economic benefits of practices with lower adoption rates, such as the business management and alternative energy, are more likely to be realized only in the long-term.

¹ The survey is available on the Internet at http://environmentalpolicy.ucdavis.edu/files/cepb/Napa_Final.pdf

² The assignment of practices to categories was based on the organization used in the *Lodi Winegrowers Workbook*.

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Figure 1: Percentage of Napa Valley growers who reported using each practice



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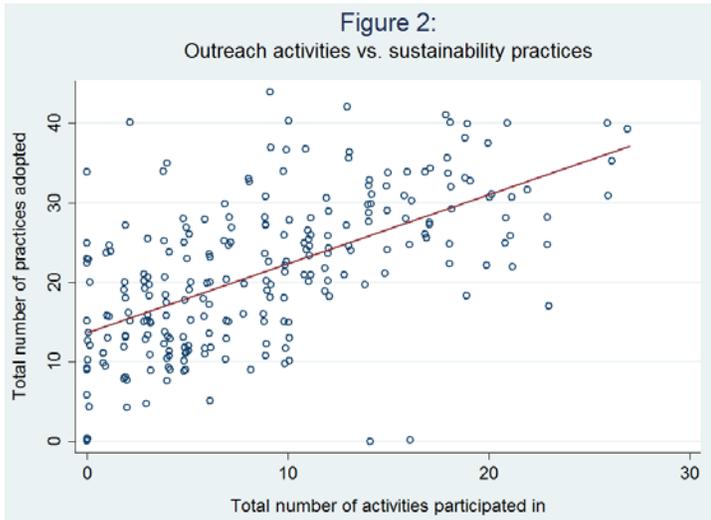
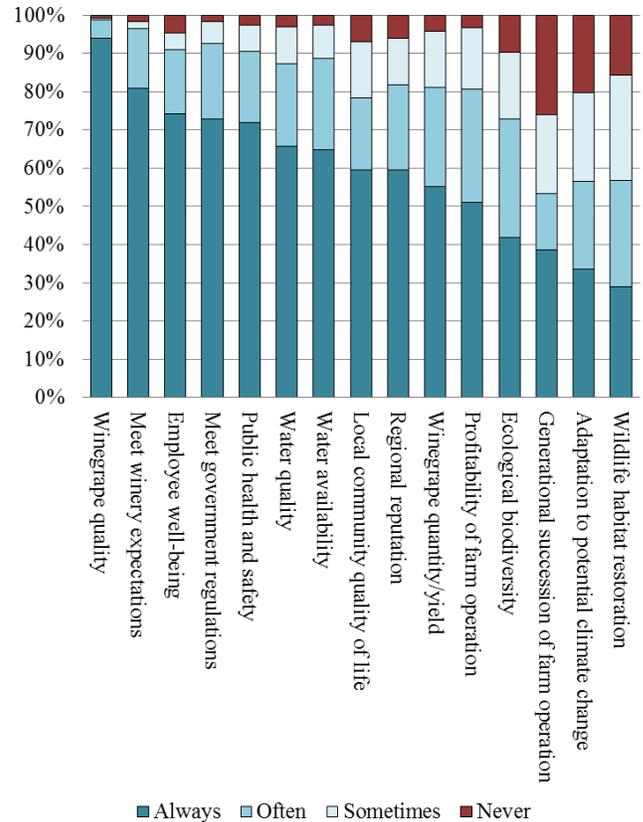


Figure 3: Percentage of Napa Valley growers who reported each goal as major priority



One of the most important findings is a positive relationship between grower participation in sustainability outreach activities and sustainability practice adoption. The survey asked about grower participation in five different types of activities provided by viticulture organizations in Napa Valley: field meetings, classroom-style meetings, newsletters, speaking with staff, and Internet resources. Growers were also asked if they participated in any of 8 specific activities oriented towards sustainability: Napa Green certification workshop, Napa Green Land certification system, Sustainable Vineyard Practices workshop hosted by NVG, Wine and Grape Expo hosted by NVG, Organic Winery Conference hosted by NVG, the Napa Valley Viticulture Fair, the California Sustainable Winegrowing Alliance’s (CSWA) sustainability self-assessment workbook, and the CSWA’s certification system. **Figure 2** depicts the relationship between participation in the mentioned outreach activities and adoption of practices. Each point on the graph represents an individual grower plotted according to the total number of outreach activities they participated in and the total number of practices they regularly used. On average, the more a given grower participated in outreach activities, the more likely they were to adopt sustainability practices. Based on a linear model of the data, we would expect growers who do not participate in any activities to regularly use 14 sustainability practices (32%) while growers who participate in 26 activities (the maximum number of activities participated in) to regularly use 36 practices (82%), on average. Each additional outreach activity a grower participated in is on average associated with the adoption of an additional 0.9 sustainability practices. A plausible interpretation of this relationship is that

participation in outreach activities influences growers to adopt through exposure to information about the practices. Other possible interpretations of the results are that growers who adopt many practices are the ones most likely to subsequently participate in program activities or that some other factor, such as attitudes, affects both practice adoption and program participation.

Growers usually balance different goals and priorities when making vineyard management decisions. **Figure 3** reports the percentage of growers who indicated whether they “always”, “often”, “sometimes”, or “never” made 14 different objectives a major priority in their vineyard management decisions. Over 90% of growers claim they always consider winegrape quality a major priority - their most important objective. Growers also prioritize meeting winery expectations, employee wellbeing, and meeting government regulations relatively highly. Interestingly, vineyard profitability was always a priority for only 52% of survey

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respondents. Profitability, a direct individual benefit to the grower, was ranked lower than some priorities with collective benefits (economic, environmental, and social) including local community quality of life, regional reputation, water availability, and water quality. In general, growers consider environmental goals to be relatively less important. For example, only 28% of respondents always considered restoring wildlife habitat and 43% always considered ecological biodiversity a major priority.

Management Implications

The positive association between grower participation in outreach activities and adoption of sustainability practices supports arguments for continued investment and support for the NVG and similar organizations who offer sustainability-oriented grower outreach. The data collected by this study is consistent with the notion that such organizations are indeed effective at achieving one of their primary goals: to support the adoption of sustainability practices among growers. Additionally, we argue that these organizations might realize further success by couching their rationale for adopting sustainability practices (and sustainability self-assessment workbooks and certification systems) in the objectives Napa Valley growers prioritize most, such as winegrape quality, meeting winery expectations, and employee well-being, to name a few. Sustainability practices that more closely align with grower priorities can be effectively promoted through simple information delivery methods such as educational workshops and field demonstrations. Promotion of practices that are seemingly at odds with grower priorities present a greater challenge, and may require either long-term research or outreach that highlights synergies between sustainability goals.