

## ***Sustainability Practice Adoption and Management Goals of Central Coast, CA Winegrape Growers***

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### **Introduction**

One priority of the Central Coast Vineyard Team (CCVT), and similar agricultural organizations in the Central Coast region and California more broadly, is to encourage grower adoption of sustainability practices. Sustainability practices are those that balance economic, environmental, and social costs and benefits. Since 1994, the CCVT has been sponsoring outreach activities including field demonstration and research, informational meetings and workshops, a sustainability self-assessment workbook, the Sustainability in Practice (SIP) certification system, and industry fairs. This research brief presents results from a mail survey of winegrape growers in the Central Coast region, which collected data on whether growers have adopted sustainability practices, what impact the CCVT 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 16% (develop a written farm succession plan) to over 87% (rely on visual observations to decide when to irrigate). Sustainability practices that fall into the disease management and pest management categories are the most frequently adopted. Central Coast 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, growers prioritize a mix of economic and social objectives including winegrape quality, public health and safety, meeting winery expectations, employee wellbeing, and meeting government regulations. However, they place a lower emphasis on environmental objectives such as water quality, ecological biodiversity, and restoring wildlife habitat.

### **Methodology**

We conducted a mail survey<sup>1</sup> and follow-up telephone calls of 1489 winegrape growers in the Central Coast region. Growers were identified through 2010 Pesticide Use Reports from all counties within the Central Coast American Viticulture Area 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 353 completed surveys were collected, for a response rate of 32% (adjusted to account for an observed 26% 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 legend<sup>2</sup>. 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.

<sup>1</sup> The survey is available on the Internet at [http://environmentalpolicy.ucdavis.edu/files/cepb/CC\\_Final.pdf](http://environmentalpolicy.ucdavis.edu/files/cepb/CC_Final.pdf).

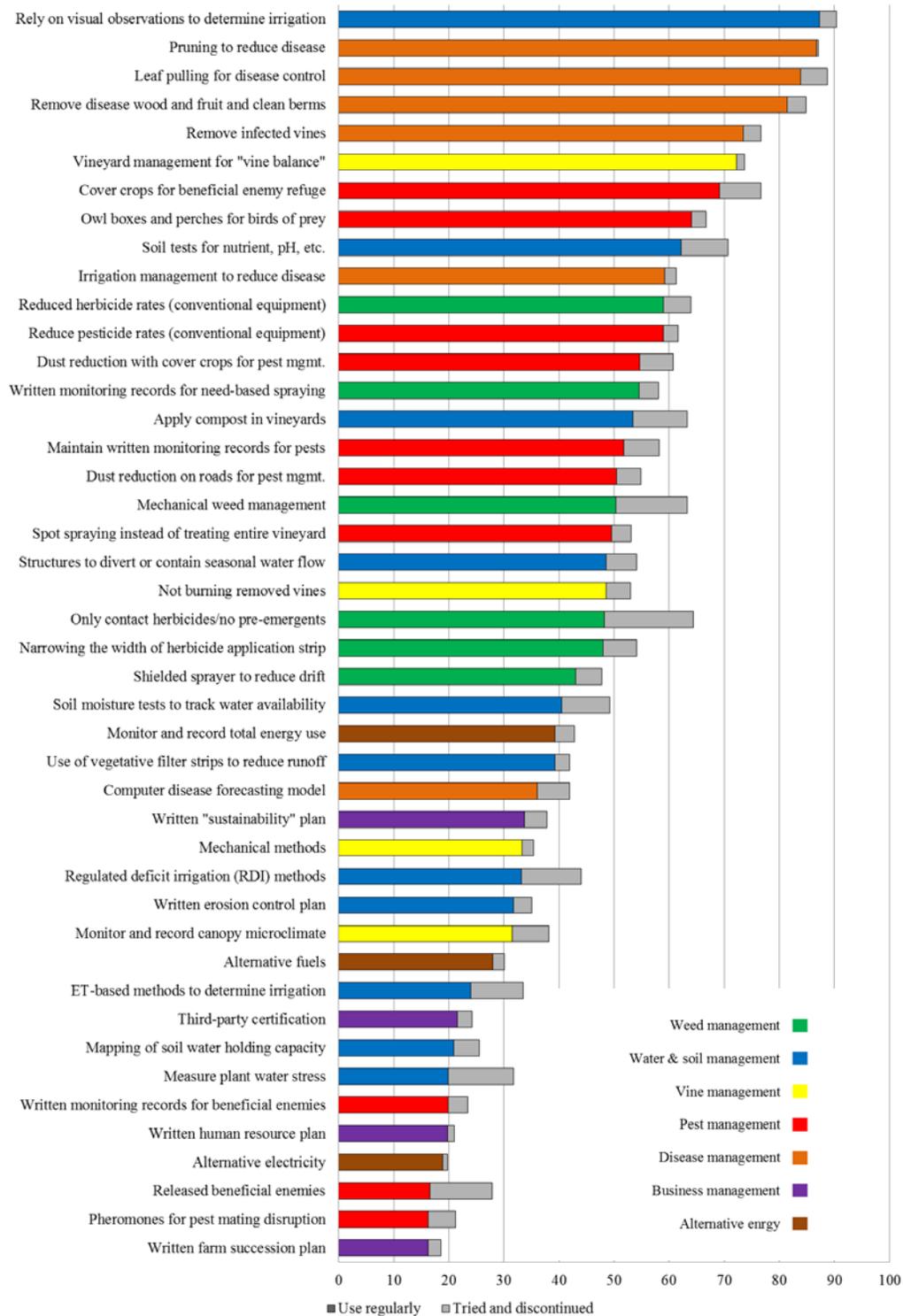
<sup>2</sup> The assignment of practices to categories was based on the organization used in the *Lodi Winegrowers Workbook*.

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**Figure 1: Percentage of Central Coast growers who reported using each practice**

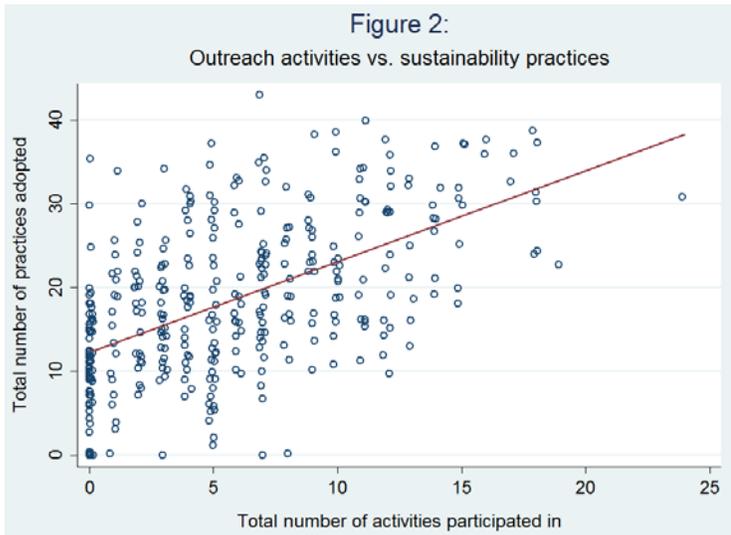


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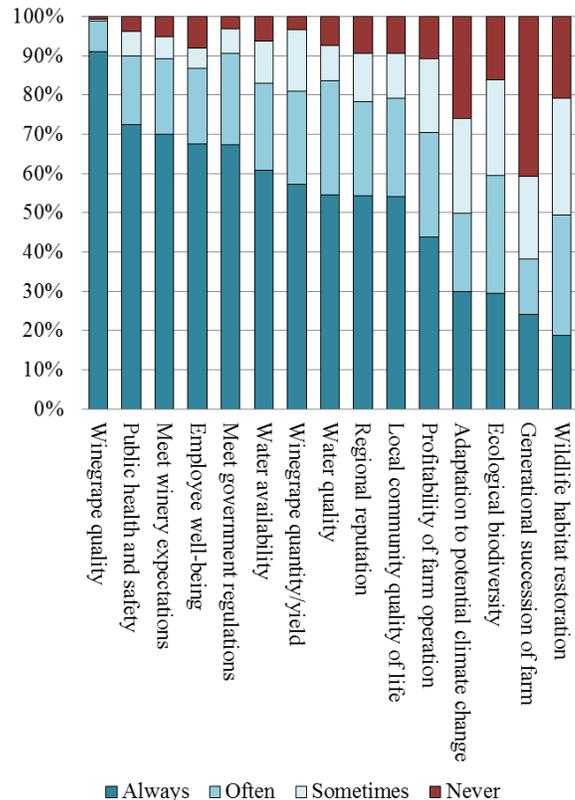
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One of the most important findings is a positive relationship between grower participation in sustainability outreach activities and sustainability practice adoption. The survey asked about grower participation in five different types of activities provided by viticulture organizations in the Central Coast region: field meetings, classroom-style meetings, newsletters, speaking with staff, and Internet resources. Growers were also asked if they participated in any of five specific outreach activities: completed the CCVT’s self-assessment workbook (SIP standards), completed the CCVT’s certification (SIP), attended the Sustainable Ag Expo hosted by the CCVT, completed the California Sustainable Winegrowing Alliance’s (CSWA) sustainability self-assessment workbook, and completed the CSWA’s certification system. **Figure 2** depicts the relationship between grower participation in the mentioned outreach activities and grower adoption of sustainability practices. Each point on the graph represents an individual grower plotted according to the total number of outreach activities they participate in and the total number of practices they regularly use. 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 12 sustainability practices (25%) while growers who participate in 24 activities (the maximum number of activities participated in) to regularly use 38 practices (86%), on average. Each additional outreach activity a grower participated in is on average associated with the adoption of an additional 1.1 sustainability practices. A plausible interpretation of this relationship is that participation in

**Figure 3:** Percentage of Central Coast growers who reported each goal as major priority



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 public health and safety, meeting winery expectations, employee wellbeing, and meeting government regulations relatively highly. Interestingly, vineyard profitability was always a priority for only 43% of survey

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respondents. The higher number of “hobby farmers” in the Central Coast region relative to other regions may account for this finding. Growers consider environmental goals to be relatively less important. Less than 30% of respondents always considered ecological biodiversity and less than 20% of respondents always considered restoring wildlife habitat a major priority.

### Management Implications

The positive association we found between Central Coast grower participation in outreach activities and adoption of sustainability practices supports arguments for continued investment and support for organizations like the CCVT who offer sustainability-oriented grower outreach. The data collected by this study is consistent with the notion that the CCVT and similar 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 even further success by couching their rationale for adopting sustainability practices (and sustainability self-assessment workbooks and certification systems) in the issues Central Coast growers prioritize most, such as winegrape quality, public health and safety, and meeting winery expectation, to name a few. Sustainability practices that cleanly 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 highlight synergies between sustainability goals.

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