

Practice Adoption and Management Goals of Lodi Winegrape Growers

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Issue

One priority of the Lodi Winegrape Commission (LWC), created in 1991 to serve the common interests of Lodi area winegrape growers, is to encourage the adoption of sustainability practices, or those practices that balance economic, environmental, and social costs and benefits, via research-based outreach and education. In this research brief we report results from a mail survey of winegrape growers in Lodi, CA that indicates whether or not growers are actually adopting sustainability practices, what impact the LWC has had on the adoption of these practices, and whether or not grower priorities reflect sustainability objectives in the first place. This research has important implications for other winegrape growing regions and programs as well as other agricultural commodities.

Key Findings

The percentage of growers that regularly uses any given sustainability practice ranges widely from less than 10% (release beneficial insects) to over 90% (use visual observations to decide when to irrigate). Disease management is the most frequently adopted category of practices, due to direct economic benefits to growers. Growers who participate more in LWC outreach and education activities are also more likely to adopt sustainability practices. Growers prioritize financial objectives of vineyard management including winegrape quality, meeting winery expectations, winegrape quantity, and the profitability of their operation most highly while they prioritize environmental objectives such as promoting biodiversity and restoring wildlife habitat the least.

Management Implications

The observed association between sustainability program participation and practice adoption supports continued investment in LWC outreach activities. Relating participation and practice adoption to grower priorities, such as crop quality, yield, and profitability, will increase program effectiveness. Sustainability practices that align with grower priorities, such as reducing unnecessary pesticide applications (which reduces environmental impact and financial input costs, and increases human safety), are effectively promoted via educational workshops and demonstrations. Promotion of practices that are seemingly at odds with grower priorities present a greater challenge, and require either long-term research and education programs that highlight synergies between economic and environmental objectives when possible or that demonstrate the long-term economic costs of practices that entail poor environmental management.

Methodology

We conducted a mail survey and follow-up telephone calls of 500 winegrape growers in the Lodi area identified through 2009 Pesticide Use Reports. We created an advisory team of over 25 growers and outreach professionals from around the state to assist in survey design and outreach. We collected a total of 210 survey responses, for a response rate of 49%. Survey respondents have been farming for an average of 28 years. 58% of respondents are full-time growers. Respondents manage or farm from less than one acre to over 10,000 acres with a median of 70 acres.

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Detailed Results

Figure 1 lists the percentage of survey respondents who indicated whether they “Regularly Use”, “Tried and Discontinued”, or “Never Used” forty-four different sustainability practices. Each practice is grouped into one of seven different color-coded categories, identified in the figure legend. Each practice is represented by two bars of different shading to indicate both the percentage of growers who regularly use the practice as well as the percentage who have stopped using it.

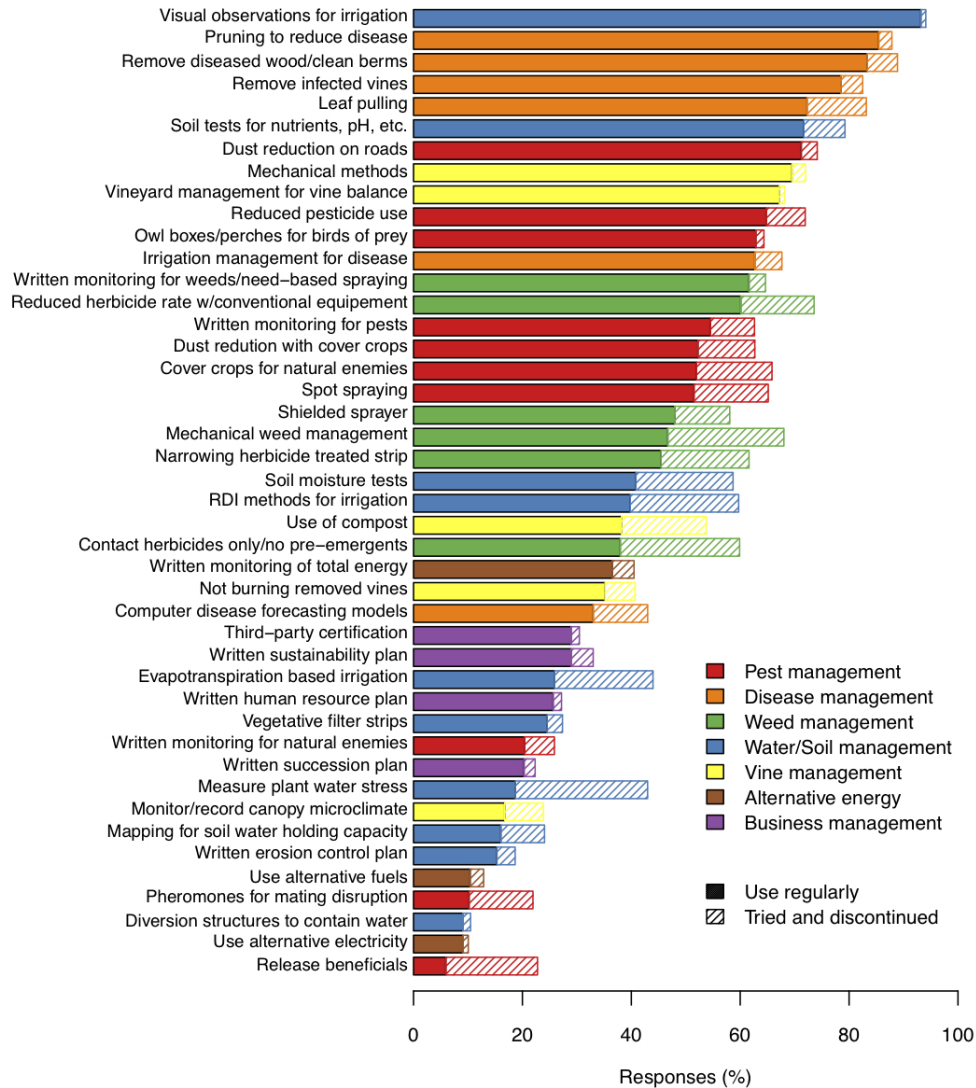


Figure 1: Percentage of growers who use each practice

Figure 2 depicts the relationship between grower participation in LWC outreach and education activities and grower adoption of sustainability practices. Each point on the graph represents an individual grower and the percentage of program activities they participate in (out of a total possible ten activities), as well as the percentage of total practices they regularly use. On average, the more a given grower participates in outreach and education activities, the more likely they are to also adopt sustainability practices. Growers who don't participate in any program activities use 20% of practices while growers who participate in all ten program activities use almost 60% of practices, on average. Each additional activity a grower participates in (an increase in participation by 10%), is on average associated with an additional two practices (an increase in adoption by about 4%). A plausible interpretation of this relationship is that program participation influences growers to adopt sustainability practices through exposure to information about 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 sustainability attitudes, affects both practice adoption and program participation.

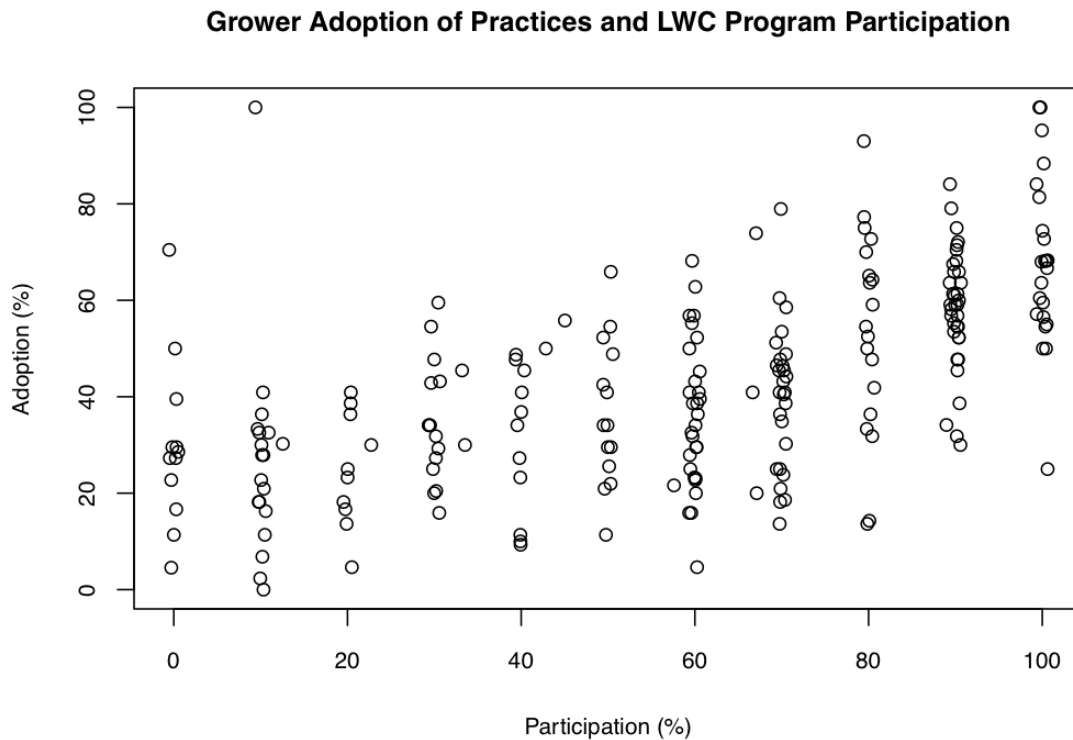


Figure 2: Practice adoption and program participation for each grower

Respondents also answered a question about their priorities in viticulture management. For a list of 14 separate management goals, respondents indicated whether they “Always”, “Often”, “Sometimes”, or “Never” make each goal a major priority in their viticulture management decision-making. Figure 3 depicts the results for this question. The length of each bar indicates the percentage of winegrape growers that consider the given goal a major priority for each response category. Over 80% of growers claim they always consider winegrape quality a major priority, the most important objective. Growers also prioritize meeting winery expectations, winegrape quantity and yield, public health and safety, and the profitability of their operations relatively highly. Growers consider environmental goals such as ecological biodiversity and restoring wildlife habitat to be relatively less important (less than 20% of growers always consider them a major priority).

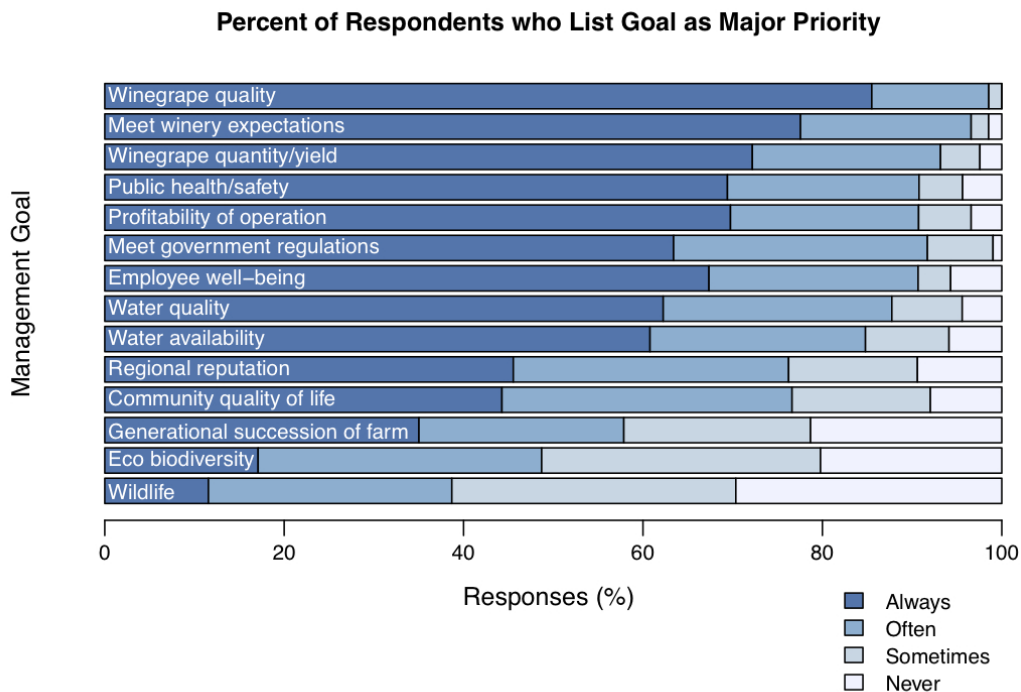


Figure 3: Percentage prioritization of various goals

Future Research Directions

Similar surveys will be conducted in the Central Coast and Napa winegrowing regions of California in the winter of 2011-2012, and promise to shed light on possible regional variation in sustainability practice adoption and grower participation in sustainability-oriented programs. One outstanding question that this research does not address is whether or not the continued increased adoption of sustainability practices on the part of winegrape growers is impacting actual economic, environmental, and social outcomes. Gaining such insight would require interdisciplinary research and strong collaboration among research institutions and viticultural organizations. Another possible area of exploration involves a further examination of the characteristics that influence whether or not growers are likely to discontinue using a practice rather than continue using it.