

Executive Summary

Sustainability is often expressed as consideration of people, planet, and profit in regular business practices. The Michigan winegrape industry shines a light on that intersection. Already, Michigan vineyards have made good progress toward environmental sustainability through Michigan Agriculture Environmental Assurance Program (MAEAP) verification, and can build on those efforts to further the sustainability of Michigan winegrapes and Michigan wine. Michigan wineries and winegrape growers are poised to take advantage of a critical time in their industry and accelerate their growth through an industry-led effort to organize, fund more research, and anticipate changes in consumer and regulatory demand.

A sustainability program will meet demand, protect the earth, and reduce costs.

1. A Michigan sustainability program will help meet demand from consumers, retailers, and restaurants for transparent sustainability standards. The Market Research Literature Review [page 17] demonstrates that well educated, younger, and often frequent buyers are influenced by the sustainability credentials of a wine; typically these consumers are also willing to pay a premium for sustainably certified wine. A sustainability program will build the Michigan wine brand and help wineries communicate their sustainability efforts to consumers as well as respond to and anticipate oversight from regulatory bodies like the Michigan Department of Environmental Quality (MDEQ).
2. The program will clearly demonstrate how the industry works to reduce its environmental footprint. Wineries and growers in Michigan are good stewards of the land – including water use, environmental practices, and energy use. A program will support innovative research and best practices to preserve Michigan's agriculture and watersheds for future generations. Working with the existing MAEAP verification and expanding MAEAP to best fit the winegrape industry is a comfortable approach that improves a recognized infrastructure and program.
3. Finally, implementing best management practices (BMPs) can, in some cases, reduce energy, water, and operational costs. The effort to decrease energy use and increase energy and water efficiency will reduce waste and save money. A sustainability program will support the bottom line.

Furthermore, a Michigan sustainable winegrowing program will support the message of local growing and local value. Beyond a commitment to protecting local ecosystems and watersheds, key issue areas like community relations and human resources will help support the local economies and communities.

Wine growing regions around the nation and the world have looked at people/planet/profit and the constantly progressing horizon of sustainability. To support their own practices and also to promote what they do for customers, sustainability programs have been initiated by industry and serve as a source of education to growers and wineries to support continual improvement. Michigan is ready to take the next step.

“DEQ is interested in winery water use and an organized sustainability program will help our industry be prepared to respond to that inquiry and to changing market and regulatory demand.”

– Lee Lutes, Black Star Farms

The Michigan Sustainable Winegrape Feasibility Study was funded through a USDA Specialty Crop Block Grant awarded to the Michigan Grape and Wine Industry Council (MGWIC). The MGWIC retained 5 Lakes Energy (5 Lakes), a Michigan-based clean energy and sustainability consulting firm, to lead the project and conduct the research. The project was overseen by a steering committee comprised of winery and vineyard representatives, Michigan State University, the MGWIC, and the Michigan Department of Agriculture and Rural Development (MDARD). This feasibility study was designed to assess the Michigan winegrape industry's interest in, and need for, a sustainability program and certification, to evaluate the industry's capability to develop, implement, and manage a program, and finally, to make recommendations on how Michigan wineries and vineyards can take action to move forward with development. The project was organized into three components.

- *Industry Input* - an online survey, two roundtable discussions, presentations at industry events, and meetings with industry association staff and stakeholders.
- *Comparative Research* - research and evaluation of existing wine industry sustainability programs and certifications, interviews with program staff, a market research literature review, and site visits and meetings with winegrape sustainability stakeholders in California, Oregon, and Washington.
- *Energy Audits* - 5 Lakes enlisted Keen Technical Solutions to conduct energy audits at ten Michigan wineries to identify cost effective energy efficiency, renewable energy, and wastewater opportunities.

The following analysis and recommendations are based on data and input gathered from Michigan wineries and vineyards from December 2014 through April 2015, and a comparative analysis of existing wine industry sustainability programs. 5 Lakes collected data through an online survey (63 completed surveys), two roundtable sessions (21 participants), and during seven presentations at industry events and meetings that had an estimated 275 total participants (includes industry members who attended multiple meetings).

The steering committee recommends that the MGWIC and Michigan wineries and vineyards:

- Focus on expanding and staffing an existing Michigan winegrape industry association with a dedicated funding stream either through an industry check-off assessment or excise tax. The industry association should be capable of managing research, education, and marketing projects, and potentially a sustainability program.
 - 63% of surveyed industry members indicated that the development of a sustainability program was important or very important for Michigan’s Wine Industry.
 - Existing programs are more successful with annual funding and staff not dependent solely on volunteer time or grant funding.
- Establish regional review committees made up of winery and vineyard staff, MDARD, MAEAP, and issue area experts to evaluate best practices included in existing winegrape sustainability standards. The issue area review committees will play an essential role in the next phase of the sustainability initiative by reviewing energy and water self-assessment checklists for wineries.
 - Survey respondents indicated strong support for an industry led and managed program.
 - Existing wine industry programs have grown out of similar volunteer groups, which has helped increased participation, ensured up to date practices, and established a transparent review process.
- Build partnerships between wine industry associations, academic institutions, MAEAP, governmental agencies, and issue area non-profits or foundations to increase educational opportunities and leverage grant funding for research and implementation of sustainable practices.
 - Survey respondents ranked ‘Educational Workshops’ (weighted average 3.98 out of 5) and ‘Grant Writing’ (weighted average 3.78 out of 5) as the most important priorities for the staff of a sustainability program.
 - Partnerships and grants have helped other programs reduce development costs, and expand education and research opportunities.

“A sustainability program could bring focus and funds to address future challenges of Michigan vineyards and wineries. Building partnerships with MSU and other academic institutions will help to develop solutions and implement the program.” – Rufus Isaacs, Michigan State University

This phase of the project has focused on high level recommendations about how programs are developed and managed; the next phase should use this report to educate wineries and vineyards about different opportunities for development, and identify priority issue areas for further research and education. For example, the evidence of the effects of climate change – exemplified by the crop losses seen during in 2014 and 2015 winter seasons – makes site suitability, variety cold hardiness, and winter vineyard management practices a priority for Michigan vineyards. The Michigan winegrape industry should put some of its initial focus on sustainability toward climate related issues.

The MGWIC has submitted a proposal that is currently under review by the USDA to take action on these recommendations by working with the industry to further define sustainability issues, identify a logical path for development, and educate wineries about self-assessment by drafting winery water use, wastewater, and winery energy use checklists.

Michigan wineries and vineyards have a unique opportunity to build on existing environmental sustainability efforts through MAEAP. The industry should take advantage of the current momentum to further educate industry members about existing programs, certifications, and best management practices to determine what components and practices best fit the needs of growing and producing wine in Michigan.

This report is organized into five sections that are organized to build on one another, highlighting the information that will help Michigan wineries and vineyards contemplate moving forward with developing a sustainability program.

Comparative Research

Based on the development, structure, purposes, strengths, and weaknesses of existing wine industry sustainability programs, Michigan's winegrape industry should consider the following priorities for development: secure a source of annual funding, hire a qualified program manager, explore potential partnerships, and establish regional technical committees.

Market Research Literature Review

Existing research on consumer purchasing behavior and preferences suggests that a sustainability program will help Michigan wineries expand market access to well-educated, regular wine purchasers who are influenced by the sustainability credentials of wine, and who are often willing to pay more for sustainably certified wine.

Survey Results

63% of survey respondents indicated that developing a sustainability program was important for Michigan's wine industry. The survey results suggest that Michigan's wine industry is interested in developing a sustainability program, but further consideration of cost, funding, and management scenarios is needed in order to move forward with development. Survey respondents also expressed a strong desire for self-assessment and performance metrics tools. The respondents' preference for educational workshops, as a service of a sustainability program, and their low recognition of other wine industry sustainability programs suggest that further education on wine industry sustainability should be a priority.

Winery Energy Management Recommendations

The energy management reviews of 10 Michigan wineries highlight significant opportunities for reducing energy consumption and expenditures by investing in energy efficient upgrades to equipment, facilities, and management systems or software. The demand for energy and the opportunities to reduce consumption vary significantly by the size and age of the facility; however, both large and small wineries can benefit by implementing energy conservation measures, and by investing in little to no cost energy conservation opportunities. If the 10 participating wineries reduced their energy consumption by 15% they would collectively save an estimated \$37,978 on energy costs annually.

Development Scenarios

The Development Scenarios lay out three different frameworks for Michigan's industry to consider. The development scenarios are an initial roadmap for the industry to use as it learns more about sustainability and about how best to proceed with the development of a program and certification. It is also important to seek and capture more support for a sustainability program from a greater number of wineries in the state, which will greatly enhance the ability to push such a program forward, and lead to greater adoption of practices.

During the potential second phase of this project, pending grant approval by USDA, the MGWIC could use these development scenarios as examples of how Michigan could proceed with developing a sustainability program. Ultimately, the decision to proceed down a path for development relies solely on the input and engagement of Michigan wineries and vineyards.