Resource efficiency for smaller wineries – a practical model in action

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In 2004 there were 1,798 wine producers in Australia; of these producers 87% had an annual crush of less than 500 tonnes. In the same vintage the top 22 of Australia's largest producers accounted for 89% of the total tonnage crushed (Major 2004). From this data, it is apparent that wineries crushing less than 500 tonnes per annum contribute to only a small portion of total wine produced.

Research across a wide range of small business indicates that this sector has limited resources to implement best practice, and poor economies of scale means they do not provide a return on investment within an acceptable timeframe. Research within the wine industry indicates that smaller producers have, when compared to large producers, a much higher use of resources such as energy and water for each litre of wine produced.

Current research and information on resource efficiency has been targeted at, or developed by, larger wineries. Unfortunately, these efficiency measures are usually not available or transferable to smaller wineries.

In Western Australia, local governments have the primary responsibility for regulating wineries which crush less than 500 tonnes per year, and generally advise or enforce compliance on issues such as odour control and building requirements. Very little advice or support is offered to these wineries to achieve good environmental practices.

The main barriers preventing smaller wineries, and small to medium-sized enterprises in general, from engaging in better environmental practices are limited time, finances and human resources, as well as owner-managers' knowledge, interest and motivation (Walker et al).

The Swan Catchment Council (SCC), in partnership with the wine industry (including the Wine Industry Association of Western Australia and the Winemakers' Federation of Australian), have identified a gap in terms of small wineries obtaining expertise and assistance relating to better natural resource management. Establishing baseline information about where in the production processes a typical smaller producer uses resources such as energy, water, packaging material and wastewater is therefore essential to establish an understanding of how to use these resources more efficiently. It is widely recognised that better efficiency also improves the viability and long term financial security of these businesses.

This 'Resource Efficiency for Smaller Wineries' project is a partnership between the SCC, a federally funded organisation responsible for coordinating natural resource management in the Perth region, the Wine Industry Association of Western Australia and the Sittella Winery, located in Perth's Swan Valley.

Stage one of the project involved selection of a representative small wine producer with onsite vineyard, winery, cellar door and restaurant, with an owner / winemaking team willing to commit to the project and take on peer scrutiny (via the live internet link or on-site demonstrations).

Stage two involved the installation of monitoring devices throughout the producer's site to measure energy and water use across all areas of production, including three remote soil moisture monitoring devices situated in the vineyard. These monitoring devices transmit data to an on-site production based software package known as 'Sustainable Production Manager' (SPM), which is located in the winemaker's office. This software package enables the winemaking team to monitor the use of resources and identify opportunities to optimise production efficiency.

This collection of data will continue over a minimum of two years to obtain sound baseline data for vintage and non vintage periods, as well as to target priority areas, implement best practice and monitor continuous improvement programs.

Stage two also involves the further development of the SPM system by the winemakers and SCC to establish demonstrations of working models of environmental management systems such as Freshcare and EnviroWine, wastewater management and other production related issues relevant to smaller producers.

Stage three will establish an effective means of communication and support to encourage the adoption of more efficient practices by smaller wineries. This stage is critical for providing support and promoting the advantages to improving resource efficiencies in wine production.

The information developed through this project, combined with the working model of the SPM, will be available for viewing live and online from October 2008. The ability to have this online access enables any winery operator to view the SPM in action, make use of available baseline data and other production based information.

This online capability will also allow SCC officers to essentially bring the demonstration site and real-time data to workshops/ presentations in remote locations. This will be attractive to winery operators who are usually inconvenienced by time loss and travel when attending trial site workshops.

The SPM software is a valuable tool to assist winery operators to monitor their use of resources and adopt more efficient practices. The benefits of this project will reach beyond the smaller producer to the broader Australian wine industry and the environment.

To view this project online visit the Swan Catchment Council at: http://swancatchmentcouncil.org/

References

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