RITA Final Report December 2004
for full project payment

Project Title: **Interpretation of irrigation principles into practical guidance for the Barossa Valley**

Applicant: **Barossa Valley Viticulture Technical Group**

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Project Background

Prior this pilot irrigation training program in the Barossa, there were no coordinated training courses or workshops being delivered for irrigators that focused on irrigation efficiency, although there have been 'Rivercare', 'Research to Practice' and other similar courses delivered in the past. The Northern Adelaide and Barossa Catchment Water Management Board and the Viticulture Technical Committee recognised this gap and engaged Integrated Crop Management Services (ICMS) to deliver six "pilot" workshops focused on irrigation efficiency and management at a farm scale.

It was anticipated that these "pilot" workshops would be used to inform the development of a coordinated training program, consisting of a series of various workshops. An evaluation of the pilot workshops was undertaken as part of this project, to assist in the anticipated development of a coordinated training program to be developed and delivered in the future.

The purpose of providing training the pilot workshops was twofold. Firstly they aimed to maximise the impact that current water use and management activities are having on raising individual's awareness of their roles and responsibility in water management, to achieve "on-ground" action. Secondly, following their completion and review, they will provide a basis from which to develop a coordinated training package that is tailored for the Barossa.

The review has been undertaken with individual irrigators who completed a course evaluation form, and ICMS have incorporated their comments to provide a recommendation for the future development and delivery of irrigation training & management workshops.

Following the first 'pilot' workshops and the recommendations from ICMS, the Catchment Board and the Viticulture Technical Committee ran a second series of training during 2004 to gather further feedback from irrigators to assist in the development of a 'needs analysis' and provide further training to an increased number of irrigators. This extra training was in addition to that included in the original RITA application and was funded by the Catchment Board.

A second series of training was run during November 2004 and was delivered by Murray TAFE. The training package was developed after consultation with the project steering committee and after reviewing the comments from irrigators from the first training series.

The second series of training consisted of 3 workshops, each with a classroom and field based component.

The project was managed by a Steering Committee with representatives from both the Northern Adelaide and Barossa Catchment Water Management Board and the Viticulture Technical Committee.

Project Administration

The Northern Adelaide and Barossa Catchment Water Management Board undertook the administrative and financial management the project on behalf of the Viticultural Technical Committee. The project was overseen by a Steering Committee consisting of representatives from both organisations.

Outline of the Program & Progress To Date

The project aimed to deliver the following outcomes:

- Documentation of a local, (Barossa) interpretation of irrigation principles, with particular interest in soil/water relationships and use of strategic irrigation practices to control canopy growth and preserve or improve grape quality.
- A greater understanding of irrigation issues by 40 growers participating in exercises.
- Extension of results more widely than direct participants through the Barossa Valley network of communicators (who range from the local wineries to training providers).
- Compilation of more detail, on a site specific basis, that will enhance water use efficiency. Special focus will be drawn to the main implications for water management created by different soil types soil moisture monitoring techniques and field observations of how soil type, soil moisture levels, visual indicators of vine health, fruit/vegetative balance, variety and other factors will influence irrigation scheduling.

The original RITA application included just one series of training but following a review of the initial training by the project steering committee, a second series of training, funded by the Catchment Board, was undertaken to increase the number of participants and capture further feedback to assist in developing a 'needs analysis' looking at the training needs of irrigators and the wine industry in the Barossa.

The outcomes of both training series are presented below.

ROUND 1 "PILOT" TRAINING – FEBRUARY 2004

The pilot training had two stages.

Stage 1. Deliver six existing training workshops in the Barossa (3 workshops as part of a series) including field sessions
Stage 2. Undertake irrigator survey and provide recommendations for future training

Stage 1. Deliver six existing training workshops in the Barossa (3 workshops as part of a series) including field sessions

The training courses consisted of workshops focused on:

- Soils
- Irrigation Systems
- Irrigation Scheduling

Each of the workshops was delivered twice over a period of three weeks, catering for a total of 40 participants (each workshop hallowed for a maximum of 20 participants with each person attending the three workshops above).

The workshops were delivered during the last week of January and into the second week of February. Attendees were nominated by their representative winery and were selected by the Grower Liaison Officers. There were 10 participating wineries, each nominating 2 growers to attendee the 3-day workshop series. The training was targeted at providing a baseline level of training for people who had not previous undertaken any training or who were considered to be less updated on current irrigation practices than other growers. Although the nominations for workshops had a very positive responses, due to the early onset of vintage in the Barossa there was unfortunately less than 100 % attendance at all of the workshops.

The field sessions that were also incorporated into this project were delivered after vintage in the second series of training. The Soils Workshop that formed part of the above mentioned training did have a field session incorporated into it but it was felt that further field sessions were required to maximise the educational opportunities for the growers.

Stage 2. Undertake irrigator survey and provide recommendations for future training

As part of the workshops, participants were required to complete an evaluation form to provide feedback on a number of aspects of the training including:

- the delivery methods used
- the relevance of the content of each workshop
- future recommendations for workshops

ICMS were also required to provide recommendations to improve the overall structure, delivery and content of any future training programs for Barossa irrigators following the completion of all six workshops.

The verbal feedback received from attendees and ICMS from the recent training courses has been positive. The feedback was collated into a report by ICMS for the project steering committee. A copy of this report is attached for information.

ROUND 2 TRAINING– NOVEMBER 2004.

This project also had two stages.

Stage 1. *Deliver training workshops in the Barossa based on existing training modules*

Stage 2. *Evaluate training workshops and provide direction for further irrigation training in the Barossa*

Stage 1. Deliver training workshops in the Barossa based on existing training modules

Murray TAFE delivered three training workshops based on material currently available to irrigators. All workshops were relevant to Barossa irrigators, particularly in relation to crop

types, irrigation systems used and soil types found in the Barossa. All training workshops were required to include a field-based component.

There were three individual workshops, one each based upon the following topics:
- Soil moisture monitoring and soil salinity (measurement and prevention techniques)
- Irrigation scheduling
- Irrigation systems (including maintenance and evaluation)

The workshops were delivered during November 2004.

The workshops were designed to enable them to be run independently of each other (ie: completion of a previous workshop is not a pre-requisite for registration for the other workshops), although each workshop built upon existing knowledge obtained during the other workshops rather than repeat content.

Stage 2. Evaluate training workshops and provide direction for further irrigation training in the Barossa

An evaluation of each workshop was undertaken by Murray TAFE at the completion of each workshop. The content of this evaluation was determined in consultation with the Steering Committee.

In addition Murray TAFE are required to provide recommendations on the delivery of future training programs in the Barossa.

The evaluation of training workshops included:

- An evaluation by irrigators of the delivery methods used
- An evaluation by irrigators on the relevance of the content of each workshop
- An evaluation by irrigators on future recommendations for workshops
- An evaluation by the successful tenderer of any improvements to the content and delivery of future workshops.

Future Training Needs

Murray TAFE will also provide direction to the project steering committee on future training opportunities in the Barossa. This information will be sufficient to form the basis of the development of a series of ongoing training initiatives in the Barossa.

The future recommendations will include:

- An indication of how future training programs could be aligned with, or complement existing Accreditation or EMS systems operating in the Barossa.
- Identification of key topics that should be included in an ongoing training program in the Barossa.
- Recommendations for appropriate formats for the delivery of training programs in the Barossa.
- Identification of potential beneficiaries of training outcomes, and therefore appropriate cost sharing arrangements for future training programs, including an identification of external funding sources (e.g. FarmBiz) and any implications for training programs of accessing such external funding.

A summary report of future training requirements will be produced. This report will be of a format suitable to take to potential funding partners for future training courses, to seek funding for future courses.

Project Outcomes	How they were achieved	Comments
Documentation of a local, (Barossa) interpretation of irrigation principles, with particular interest in soil/water relationships and use of strategic irrigation practices to control canopy growth and preserve or improve grape quality.	Training Manuals have been produced that have been developed using examples tailored to the Barossa region. A copy of the Manuals used for both training programs has been included.	Once the needs analysis is completed and a training program tailored specifically to the Barossa is developed with the wine companies and irrigators, a final training manual will be produced and will cover the issues of soil/water relationships and use of strategic irrigation practices to control canopy growth and preserve or improve grape quality
A greater understanding of irrigation issues by 40 growers participating in exercises.	There have now been 49 irrigators who have attended these training workshops. The feedback received from them has indicated that they have increased their knowledge and will implement learning's in their day-to-day operations.	Irrigators that had not previously attended any irrigation training were targeted. This was to attempt to bring the 'least efficient' irrigators in line with basic irrigation management practices.
Extension of results more widely than direct participants through the Barossa Valley network of communicators (who range from the local wineries to training providers).	The results from the irrigation training will be made publicly available once the final recommendations report is received and can be used by other irrigation areas to develop tailored training packages.	Grower Liaison Officers have actively spread information about the training program around the Barossa region and assisted in the selection of participants.
Compilation of more detail, on a site-specific basis, that will enhance water use efficiency. Special focus will be drawn to the main implications for water management created by different soil types soil moisture monitoring techniques and field observations of how soil type, soil moisture levels, visual indicators of vine health, fruit/vegetative balance, variety and other factors will influence irrigation scheduling.	Training Manuals have been produced that have been developed using examples tailored to the Barossa region. A copy of the Manuals used for both training programs has been included.	The combination of field sessions with classroom based learning using the manuals allowed participants to gain a theoretical understanding of the issues mentioned and then apply that knowledge learnt whilst undertaking field exercises, including analysing soil pits & irrigation systems and their operation.

Conclusions

The development and implementation of this pilot baseline irrigation training has provided valuable feedback to the wine industry and other environmental resource managers regarding the most appropriate training to be delivered in the Barossa. The future tailored

Barossa Irrigation Training Package that is to be developed as a result of this pilot training is expected to meet the needs of individual irrigators and wine companies and should be able to satisfy training competency levels required as part of ISO and EMS for the wine industry, for both local and export markets.

This report has been prepared on behalf of the project steering committee by Bianca Lewis from the Northern Adelaide and Barossa Catchment Water Management Board.

The funding has been spent in accordance with the application submitted to RITA and has been administered by the Northern Adelaide and Barossa Catchment Water Management Board on behalf of the Barossa Valley Viticulture Technical Group.

Signed:
Name:

Date: