



# Making water work

## An economic model for irrigation farms

### Irrigated Cropping Forum

*WaterWorks is a computer program designed to help irrigated cropping and mixed farmers compare crop type and irrigation technologies on different soil types. It also gives information as to whether water should be traded or used on the crop.*


Developed as a component of the Irrigated Cropping Forum's project *Lifting Irrigated Cropping Profitability and Water Use Efficiency* the WaterWorks program will be a tool that irrigators can use to help make decisions when planning their irrigation farming system. The program addresses:

- efficiency and suitability of different irrigation technologies
- the economics of different crop rotations at a whole farm level – rather than at the individual enterprise level
- whether water is better used on crops or traded – for any given allocation level.

The WaterWorks program, developed by a team at the International Centre of Water for Food Security at Charles Sturt University Wagga Wagga, will build on economic models that have been developed previously, such as the SWAGMAN series of models and the DPI MIA economic model, to develop a tool that will be useful in all the valleys of the southern Murray-Darling Basin given the range of different irrigation systems, water availability and major enterprises.

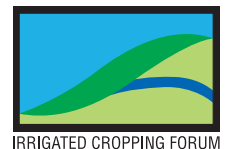
WaterWorks will be available on disc so that the program can be downloaded onto individual computers, or the program will be accessible on the ICF website. The program will be driven by a series of questions asked of the user – such as details of crop types, areas and soil types for existing and proposed irrigation systems. The program has sets of predetermined data about crop yields and input rates but these can be changed to reflect individual situations. Details about water allocation, water prices and sources of water (surface, ground or carryover) can also be customised for individual situations.

The program provides an economic analysis report of the proposed irrigation system or changes to the rotation system, on a short term or long term basis. The report gives financial estimates such as gross income, variable costs and gross margins per hectare and megalitre. Financial indicators are also provided such as Net Present Value, Benefit Cost Ratio, Internal Rate of Return and Payback Period.

It is expected that WaterWorks will be available to irrigators at the beginning of 2010. 

#### Further information

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**Figure 1.** A new computer program will soon be available for irrigators of the southern Murray-Darling Basin to provide economic analysis of different irrigation systems. The analysis can be customised to reflect a range of crop rotations and soil types (Photos: M Groat).