

WATERpak: a guide for irrigation management in cotton

By Graham Harris¹ and David Williams²

WATERpak is the latest in the “pak” series from the Cotton CRC and CRDC. It has been in development for the past two years as a co-operative effort between researchers, consultants, extension staff and growers throughout the Australian cotton industry. The WATERpak manual has been designed to provide technical and practical information to cotton growers seeking to meet the requirements of the Best Management Practices program.

While aimed specifically at irrigated cotton growers, WATERpak has over 75 per cent of its content relevant to all row cropping irrigators.

What is in WATERpak?

There are over 300 pages prepared by more than 40 authors that bring together the many years of past and recent research including projects such as the Rural Water Use Efficiency Initiative. The information in WATERpak is divided into nine key areas:

- Assessing resources;
- Efficient irrigation;
- Storage and distribution efficiency;
- Application efficiency and irrigation scheduling;
- Irrigation management of cotton;
- Irrigation systems;
- Managing soil and water;
- Catchment scale impacts; and,
- Investigative irrigation research.

The WATERpak aim

WATERpak aims to empower irrigators to achieve higher levels of productivity and irrigation efficiency. The challenge for irrigators is to find the balance between the costs of improved water use efficiency, environmental stewardship and the maintenance of farm profits.

While most irrigated cotton growers are looking to meet the accepted industry standard of one bale of cotton per megalitre, the leading growers are already achieving two bales per megalitre. The beauty of this efficiency index is that it combines both irrigation and agronomic performance. Improvements in both areas are required to achieve these results.

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the potential improvement in yield through the reduction of waterlogging effects.

Harder to achieve (but very significant in terms of water use efficiency) gains exist in the control of evaporative and seepage losses from storages and channels. The key to achieving these gains is to “measure to manage” — a point clearly made by Steve Raine in the August–September 2004 edition of *The Australian Cottongrower*.

Using WATERpak

The use of WATERpak has been designed around the “self assessment checklist for irrigation efficiency” at the start of the pak.

It is suggested that growers undertake this self assessment for two reasons.

- It will identify the areas of their operation where irrigation efficiency improvements can be made; and,
- Once areas of potential improvement have been identified, information on how to make the required change can be found by using the WATERpak link for each checklist question.

WATERpak going local

This season a CRC Water Focus Team member will attend grower meetings in each valley to introduce growers to the use of WATERpak. This will give irrigators the opportunity to undertake the Irrigation Efficiency Self-Assessment Checklist and

identify the parts of their irrigation operation where efficiency improvements can be made.

They will be able to identify local issues that can be addressed through in-season activities like field days, farm walks and irrigation demonstrations. These meetings will be held at a time convenient to growers — contact your local Industry Development Officer or Cotton CRC Water Team member to arrange a meeting in your district. Copies of WATERpak will be available to growers at these meetings.

Conclusion

WATERpak will be a valuable tool for cotton irrigators seeking to improve their operation and seek to achieve industry best practice. Irrigators of crops other than cotton are fortunate that a good proportion of the content of WATERpak is readily transferable to other irrigated row crops.

If you would like a copy of WATERpak you can order one by contacting David Larsen at the Australian Cotton CRC Technical Resource Centre on email (david.larsen@agric.nsw.gov.au) or phone 02 6799 1534. Manuals are available to industry participants directly involved in cotton production, and CD versions for others on request.

1. Queensland Department of Primary Industries and Fisheries and Australian Cotton CRC.
2. NSW Department of Primary Industries and Australian Cotton CRC.