Water Smart Cotton and Grains

DAN5162

NPSI Case study

March 2011

Situation

Subject: Robert Holmes

Location: Gwydir Valley

Enterprise: Cotton

Size: Various

Irrigation: Flood

Benchmarking irrigation improves decisions and profitability on Cotton farms

Link with NPSI

This case study is linked to the ***Water Smart Cotton and Grains*** project (DAN5162).

The Water Smart Cotton and Grains project was managed by the NSW Department of Industry and Investment. The project aimed to improve knowledge transfer and to build capacity within the NSW Cotton and Grains Industries to adopt best irrigation practice. One of the ways the project sought to achieve this aim was by delivering training to consultants and promoting the benchmarking of irrigation performance.

Rob Holmes is a cotton consultant who participated in the training activities of the Water Smart project and collected benchmarking data using the Watertrack Rapid tool.

Skip-row planting of cotton

"These have given me confidence in my water budgets. I have always budgeted on 8ML/ha to finish the crop and these results show I'm using the right amount."

Changes made as a result of NPSI influence

As a result of participating in the training activities, Rob reported an improved knowledge of water use efficiency measures and the tools used to benchmark this.

As a result of benchmarking irrigation performance and examining water use efficiency, insights were gained into why some growers were getting better results from their irrigation management.

More accurate and relevant evapo-transpiration measures for specific sites enabled better measurement of irrigation performance.

Using measures of irrigation performance enabled comparison of different growing methods and provided data to convince growers to change practices.

Costs of making changes

Costs will be dependent on measures used and changes made. For example the measurement of efficiency using the Gross Production Water Use Index would involve extra time input by a consultant and therefore cost. Alternatively changes to production methods (e.g. using the skip-row planting method) could generally be implemented with minimal cost.

Benefits of making changes

Having accurate measures of water use efficiency and evapo-transpiration enabled growers to make better decisions under low water availability conditions.

Benchmarking enabled comparisons between farms to determine why some growers were performing better than others. This then provided ideas for changes that could be made for production systems.

The changes made resulted in improved profitability by better water use - for example planting using the skip-row technique in low water years to maximise upside if water was to become available during the season.

By providing accurate measures of performance and options for changes to production methods, practice change could be facilitated among growers.

Impacts of making changes

Growers achieved improved profitability, especially when water was scarce because they were able to make the most efficient use of the water that was available.

Better understanding of where and how water losses occur results in improved management of water.

Relevance to others

Benchmarking can assist growers to improve water use efficiency and ensure they are making best use of a scarce resource.

"The Watertrack Rapid™ is a valuable tool to work out dollars per megalitre when working out a gross margin on what crop has the most earning capacity, in comparing returns per ML between the different crops on an annual basis."

References for further detail

Bray, S. (2010) "New irrigation technology for the Gwydir Valley" The Australian Cotton Grower, Volume 30, No. 7, Dec 2009 – Jan 2010.

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Smith, P. (2010) "How to make sense of pump curves" The Australian Cotton Grower, Volume 31, No. 1, Feb 2010 – Mar 2010.

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Further information

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