

COTTON RESEARCH AND DEVELOPMENT CORPORATION

FINAL REPORT

**"COTTON INDUSTRY DEVELOPMENT OFFICER IN THE
MACQUARIE VALLEY"**

DAN 77C

July 1993 to June 1996

Principal Researcher: Mr James Holden, Cotton Industry Development Officer
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NSW Agriculture

"A final report prepared for the Cotton Research and Development Corporation"

COTTON INDUSTRY DEVELOPMENT OFFICER IN THE MACQUARIE

SUMMARY

The position of Cotton Industry Development Officer (C.I.D.O) in the Macquarie Valley was implemented in 1993-94 because much good research generated at Narrabri was not being adopted by local growers. The reason was that there existed a perception that this research was not relevant to the conditions in the Macquarie. There was also concern that trials carried out in small plots did not accurately represent farm scale production.

The intention was to alleviate these problems by placing a C.I.D.O. in the district to demonstrate and prove the usefulness of current research on a large scale. This officer, funded by the CRDC and supported by NSW Agriculture and the Macquarie Cotton Growers Association, would co-ordinate and run a series of on-farm trials in the Macquarie. This would in turn lead to increased adoption of this new technology. James Holden was appointed to the position in September 1993.

In 1993-94 and 1994-95 good trial and extension results were achieved in many areas of cotton production, and aimed to address both local and national priorities. James Holden left the position in September 1995 and it remained vacant for the duration of the 1995-96 season. This season saw a comparatively small area planted to cotton in the Macquarie, approximately 16,000 hectares, around half the area of the previous season.

In the area of insect pest management, work focussed on integrated strategies of pest control. This included *Heliothis* thresholds, soft option sprays, food sprays, lucerne strips, and control of early season sucking pests. There was significant local interest in all of these areas with a good potential for adoption as long as there is a continued extension effort. There are some concerns in the Macquarie that the shorter season will reduce the period of time that plants have to produce compensatory growth, and growers are therefore cautious with the rise in thresholds. Again, this problem could be solved by a series of successful trials demonstrating the advantages of higher thresholds.

The C.I.D.O acted as the local coordinator in the CRC Farming Systems trial. This involved liaising with the cooperators and researchers to ensure smooth running in terms of general management and collection of data.

There were a number of nutritional trials conducted during the project. These trials each year have been largely driven by consultants and corporate farms, with the C.I.D.O running one or two fully replicated trials looking at rates of phosphorus and sulfur in particular. The work in Phosphorus has provided a number of conclusions that were published in an article in the Australian Cotton Grower Magazine titled 'Significant Phosphorous Response in the Macquarie Valley' by James Holden. Potassium trials from previous seasons have shown mixed results in both soil and foliar applied treatments. More intensive research should clear up some of these issues. Some nitrogen trials were completed during the project comparing various rates and timing of application. These trials have confirmed the benefits of split applications, particularly at a sequence of 60-70% pre-plant and side dressing or water running the rest.

Detailed work was done on Pix® (mepiquat chloride) by the C.I.D.O to verify work done by Dr Greg Constable in the Namoi Valley. A CRC research review was written by James Holden on the use of Pix® and presentations on the topic were also made at the 1995 cotton growers field day and the agronomy/ physiology meeting held at ACRI in 1995.

This project has produced many successful outcomes and provided numerous benefits to the cotton industry in the Macquarie and local support for this suggests that funding should continue. A survey done in June 1995 showed that all growers were pleased with the outcome of the position and wanted to see the funding extended for further 3 year period.

With the very firm base that has been established over the past three years, further work will continue to increase the adoption of new technology. This will be especially important at this time with issues such as transgenic cotton, insecticide resistance, and all aspects of integrated pest management being at the forefront of the industry. Successful adoption of these issues will be greatly enhanced by the presence a Cotton Industry Development Officer in the Macquarie.