



J-2001

January, August & Final Reports

Part 1 - Summary Details

REPORTS

Please use your TAB key to complete part 1 & 2.

CRDC Project Number: DAQ93C

January Report: Due 29-Jan-01

August Report: Due 03-Aug-01

Final Report: Due within 3 months of project completion

Project Title: Cotton Industry Development Extension Officer -
Dirranbandi & St George

Project Commencement Date: 01/02/99 **Project Completion**
Date: 30/06/01

Research Program: Technology Transfer and Extension

Part 2 - Contact Details

Administrator: Ms Vicki Battaglia
Organisation: Dept of Primary Industries Qld
Postal Address: Leslie Research Centre , PO Box 2282, Toowoomba Qld 4350
Ph: 07 4639 8883 **Fx:** 07 4639 8881 **E-mail:** battagv@dpi.qld.gov.au

Principal Researcher: Miss Sarah Kerlin
Organisation: Dept of Primary Industries Qld
Postal Address: PO Box 310, St George Qld 4487
Ph: 07 4625 3299 **Fx:** 07 4625 3892 **E-mail:** kerlins@dpi.qld.gov.au

Supervisor: Mr Geoff McIntyre
Organisation: Dept of Primary Industries Qld
Postal Address: PO Box 993, Dalby Qld 4405
Ph: 07 4669 0801 **Fx:** 07 4662 4966 **E-mail:** mcintyg@dpi.qld.gov.au

Researcher 2 (Name & position of additional researcher or supervisor).

Organisation:

Postal Address:

Ph: **Fx:** **E-mail:**

Signature of Research Provider Representative:

Part 3 – Final Report Format

The points below are to be used as a guideline when completing your final report.

1. Outline the background to the project.

The project was established in response to grower support to promote the adoption of new technologies into sound management practices in the Balonne rivers irrigation area St George to Dirranbandi. As part of the Cotton CRC extension program it involved the development of a framework of regional trials/demonstrations (in liaison with researchers) as part of a group adoption process to facilitate better communication between farmers, advisers and researchers from government and agribusiness.

The Industry Development Extension Officer would co-ordinate demonstration trials, take a role in information transfer with the region's growers associations and assist grower direct and respond to gaps in the current research base as well as adapt existing technology to local needs.

The adoption of new technologies, AWM, IPM and BMP play a large role in meeting the cotton industry's objectives of maintaining and promoting the most sustainable and profitable practices, for benefit of the industry as a whole and the communities/areas where cotton is grown.

In earlier times much research was left on the shelf by growers because of the perception that it was not applicable in their situation or locality. Many growers carry out on-farm trials and demonstrations to help them fine tune management. An extension officer takes a role as an intermediary enabling this on farm trial and demonstration work to continue on a coordinated basis as well as ensuring the latest research is incorporated into these trials.

2. List the project objectives and the extent to which these have been achieved.

- Develop a partnership with the St George & Dirranbandi Cotton Grower Associations and evaluate regional needs and priorities;
- Establish a liaison with Cotton Consultants of Australia;
- Water management - collaborate with the Rural Water Use Efficiency Initiative project to develop optimum water use strategies for the region;
- Pest management - demonstrate and develop Integrated Pest Management for both conventional and transgenic cotton;
- Farming systems - extrapolate and adopt the results of the CRC farming systems experiments in the St George-Dirranbandi area;
- Best Management Practices - participate in the implementation of Best Management Practices.

The extent to which these have been achieved:

Partnership with the CGAs

A partnership has been developed through my associate membership with both the St George and Dirranbandi Cotton Grower Associations. Through regular attendance at any of their meetings and liaising with committee members and the local ACGRA representatives I have determined local regional needs and priorities. Presentation of information and research findings at various meetings has also contributed to meeting these objectives.

Liaison with CCA

I have established a liaison with Cotton Consultants of Australia through direct contact with consultants in the area, through inclusion in meetings and through attendance at CCA meetings and seminars.

Water Use Efficiency

Collaborated with Cotton CRC RWUE Project Extension Officer, Sarah Hood, with the establishment of the WUE trials and demonstrations at St. George and Dirranbandi. I have also attended RWUE regional committee meetings on a quarterly basis.

Pest Management

Plant Compensation Trials

Plant compensation trials have been conducted in the St George and Dirranbandi regions for the last two seasons. This last season we held a field day in February in Dirranbandi with one of the presentations being the tipping out trials. At the field day, we looked at the plants from each of the treatments to compare the boll load and branching. At this stage we were also able to observe differences in the number of bolls open at that stage in each treatment. Part of the presentation reviewed the results from last year's trials. A survey was conducted with some of the questions looking at the value of the trials and there was sufficient comment to support a continuation next season which will include a measurement of fruit retention.

Trap Crops

With the adoption of early and late season trap crops we have ensured that they are coordinated so that they are planted and flowering at the right time and then monitored so that they are destroyed at the appropriate time to avoid them becoming a nursery crop. This helped with the development of area wide groups in the St George area.

AWM Groups

Two AWM groups were formed at the beginning of the 2000/2001 season but after the first stage there were no group meetings due to a lack of commitment. In conjunction with TAGS, we organised a bus trip of St. George growers and one Dirranbandi grower to visit a couple of growers in the Goondiwindi/Boggabilla AWM groups. The two properties visited were David Coulton's and David Turner's. This proved to be a very successful day as growers were able to hear about AWM/IPM first hand from another grower and how they were implementing it. They could also see crops that had reduced or no sprays and see for themselves that yes there indeed was still a good crop of cotton that wasn't chewed out.

After this we decided to have another day where I would invite the growers from Goondiwindi to come and talk in St. George and Dirranbandi at the end of the season. For this meeting I also organised for Iain MacPherson (cotton consultant in the Goondiwindi/Boggabilla area), Julie Ferguson (involved with IPM and AWM groups on the Downs) and Chris Wicks (involved with the benchmarking studies and comparative analysis) to attend. Mark Norman was the grower from Goondiwindi who was able to attend. Meetings were well attended in both areas by growers, consultants and other industry people far exceeding my expectations.

Another meeting was organised for St. George later in the week for an actual AWM group to discuss opportunities and plans for the coming season. Again this was even better attended and a couple of decisions were made. Dirranbandi growers also had a follow up meeting. The majority were keen to give it a go but were not yet prepared to have an area wide group.

Several growers from both areas are going to be involved with Chris Wick's benchmarking study for the 2000/01 season.

Fusarium Trials

Fusarium trials have been conducted but have provided no clear results. These include growing vetch to use as a biofumigant and other trials looking at solarisation of infected areas. The trials are part of ongoing work with Natalie Moore. There has been increased awareness throughout the area in the last 12-18 months. Growers have looked at or put in place their own washdown areas and are more inclined to tell contractors that they are not to turn up dirty to their farms. Consultants are also more cautious and are washing down. The local gins also have protocols in place for their trucks.

Information for the fusarium protocols is waiting approval before publishing. The finished document will be given to growers, consultants, industry people and any other businesses such as fuel companies that regularly enter properties.

Best Management Practices

I have participated in the implementation of BMP through

- The promotion of IPM and AWM;
- Practicing and promoting good farm hygiene to minimise the spread of fusarium and other diseases;
- Collaboration with the RWUE project to develop and promote efficient water use.

3. How has your research addressed the Corporations three outputs: Sustainability, profitability and international competitiveness, and/or people and community?

As part of the CRC National Cotton Extension Team, all activities are aimed at addressing the mission of the CRDC as follows:

Sustainability of Natural Resources

- Collaboration on the WUE initiative;
- Identifying and promoting IPM options.

Profitability & Competativeness

- Assisting to set up CRDC/ Boyce cost of production benchmarking project;
- Working collaboratively with local CGA in establising protocols to reduce the chance of introduction of Fusarium Wilt.

People & Communities

- Contributes to the transfer and adoption of technology Strong working relationship with local cotton grower associations.

4. Detail the methodology and justify the methodology used.

The extension program is based on the establishment of demonstration trials and the coordination and facilitation of grower groups in collaboration with growers and consultants. This program is supported by a range of publications, in particular the Cotton Tales newsletter and a District Trial Book.

5. Detail results including the statistical analysis of results.

NA

6. Discuss the results, and include an analysis of research outcomes compared with objectives.

- Greater awareness of the plant's ability to compensate for early season damage;
- Awareness of beneficial/predator insects and the roles they can play;
- Greater understanding/knowledge of the role they (growers) can have in pest management/control decisions - the ability to be able to question their consultant's decisions;
- Greater communication between growers and consultants.

- 7. Provide an assessment of the likely impact of the results and conclusions of the research project for the cotton industry. Where possible include a statement of the costs and potential benefits to the Australian cotton industry and future research needs.**

A strong partnership has been established with the regional grower associations at St. George and Dirranbandi, the CCA and Cotton Australia.

Two AWM grower groups have been formed potentially leading to the wider adoption of IPM strategies and the achievement of the associated benefits to the industry and to the community and the environment.

- 8. Describe the project technology (eg. commercially significant developments, patents applied for or granted licenses etc).**

NA

- 9. Provide a technical summary of any other information developed as part of the research project. Include discoveries in methodology, equipment design, etc.**

NA

- 10. Detail a plan for the activities or other steps that may be taken;**

(a) to further develop or to exploit the project technology.

(b) for the future presentation and dissemination of the project outcomes.

NA

- 11. List the publications arising from the research project.**

- Cotton Tales
- 1999/2000 Trial & Yearbook

- 12. Are changes to the Intellectual Property register required?**

No

Part 4 – Final Report Plain English Summary

Provide a half to one page Plain English Summary of your research that is not commercial in confidence, and that can be published on the World Wide Web.

This project provided for the employment of the Cotton Industry Development Extension Officer, Sarah Kerlin, in the St. George-Dirranbandi irrigation area. The officer's brief was to take the products of research from the research centre to the field for familiarisation, to promote adaptation into individual farming systems and enhance adoption. The focus has been on major industry problems, including water and insect pest management and insect pest resistance management, and local priorities negotiated with the growers association. Much of the work involved on-farm trials and/or demonstrations. The results of this trial/demonstration work have been disseminated to all growers in the region via small group meetings, field days and publications, particularly the Cotton Tales newsletter and the District Trial Book.

A strong partnership has been established with the regional grower associations at St George and Dirranbandi, the CCA and Cotton Australia.

Two AWM grower groups have been formed potentially leading to the wider adoption of IPM strategies and the achievement of the associated benefits to the industry and to the community and the environment.

The awareness of Fusarium has been established Fusarium disease management protocols have been established in the region and disease management trials have been conducted. The Industry Development Extension Officer is a member of the Cotton CRC industry extension team and maintains close ties with CRC, CRDC and departmental extension and research officers in Queensland and New South Wales.

Priority issues are:

- Insect Pest Management
- Farming Systems
- Water Management
- Disease Management.