



BRUCE PYKE, CRDC

COTTON COTTON COTTON RESEARCH ROUNDUP



RALPH SCHULZE, CRDC

New CRDC research program begins

The amount of money CRDC has available for its research program has decreased considerably since 2001–02 because of drought-related reductions in both industry levies and government contributions. Despite this, CRDC has managed to put together a forward-looking and focused \$9.1 million research program for 2004–05, covering essential areas such as resistance management, an enhanced breeding and biotechnology program, extension activities (including a major review of extension and education) and the extension of BMP through the whole value chain.

Additional research, including a number of commissioned projects, will be added during the year. This will include development of improved socio-economic indicators to measure the impact of the cotton industry and cotton R&D on regions or centres in which cotton is grown.

A crucial focus of the Farming Systems research program will be understanding the ways in which new technologies, including Bollgard II and Roundup Ready cotton varieties, will require changes in some management strategies and techniques such as the use of fertilisers and plant growth regulators, planting dates, plant populations, water management and management of insects, weeds and diseases.

Reduced insecticide spraying of Bollgard II crops, targeted at *Helicoverpa*, is likely to be accompanied by some changes in the timing and intensity of infestations of previously minor pests such as mirids, aphids, mites and silverleaf whitefly. Consequently, CRDC has increased the level of funding for management of these pests for the 2004–05 year, to ensure the continued viability of integrated pest management systems in Bollgard II.

'Mirids in Cotton' workshop plans the way forward

CRDC brought together a team of researchers to discuss the management of green mirids in cotton. Participants also developed a draft mirid management strat-



Participants in the extension workshop.

egy that will be released in time for the next cotton crop.

The workshop, held at CRDC in July, brought together CRDC and Australian Cotton CRC-funded researchers from Queensland Department of Primary Industries, New South Wales Primary Industries, CSIRO and the University of New England, as well as a number of cotton consultants. Lewis Wilson from CSIRO Entomology played an important role in chairing the workshop.

The workshop featured numerous presentations from researchers updating experiments, trials and outcomes, and providing guidelines for future research activities. Co-ordination issues and research gaps were highlighted throughout the workshop, and ranked in priority for future research funding. Important topics covered included:

- Green mirid ecology and life-cycle;
- Crop damage;
- Thresholds;
- Control methods;
- Plant compensation;
- Sampling;
- Semiochemicals;
- Biopesticides;

- Mirid predators; and,
- Current extension activities.

CSIRO researchers at ACRI Narrabri, Greg Constable and Brian Duggan, covered research in cotton on pest damage and plant compensation. Greg highlighted the importance of understanding that the cotton plant has the ability to compensate for early mirid damage, and this should be taken into account when deciding when to control the pest.

Moazzem Khan and Hugh Brier, from Queensland Department of Primary Industries, outlined the factors that influence mirid abundance in cotton and grain legume crops in Queensland, where significant research has been conducted into crop damage and soft options for mirid control.

Sandra Deutscher, from CSIRO at ACRI, representing a group looking at mirid sampling techniques, said the 'beat-sheet' method is more accurate, especially after the commencement of squaring. This method, using a canvas sheet to gently remove the insects from the cotton plant, is fast, effective and robust, especially for more mobile pests.

Cotton CRC activities

The bid committee for the proposed new cotton CRC, the Cotton Catchment Communities CRC, met the government deadline when it submitted its Stage Two application on July 2 after intense efforts by Guy Roth, the bid management committee and the CRC administration team. If the bid is successful in moving to the interview stage, this will take place in Canberra in October, followed by the announcement of the successful bids in December.

The current CRC's term extends to mid-2006. Recently it undertook the required major fifth-year external review of its performance and outcomes, held in June at the Crossing Theatre in Narrabri. The review team was led by Dr Daniel Krieg of Texas Tech University and included several eminent scientists, as well as ACGRA Deputy Chair, Hamish Millar.

The review team was asked to provide independent evidence that the CRC has achieved its stated goals and objectives over the past five years. They also suggested future efforts to foster even more cooperative effort and greater successes in the future.



The WATERpak team with Churchill Fellow Graham Harris (left).

The reviewers found that the CRC has been extremely successful, for reasons such as:

- Intelligent, dedicated research scientists addressing real-world problems in a scientific manner.
- A technology transfer team that truly interacts with the research scientists to

develop state-of-science programs for the cotton industry using a variety of delivery mechanisms.

- The CRC has been effectively and efficiently managed using a relatively small administrative structure and a management committee that fosters collaborative research and extension efforts for the good of the cotton industry and the community at large.
- Very importantly, the CRC benefits from serving an industry that is well educated and eagerly seeking immediate, feasible solutions to their on-farm production problems as well as long-term solutions addressing sustainability of their environment for future generations.

This CRC has been extremely successful in solving some of the most pressing problems of the cotton industry and demonstrating both economic and environmental benefits to producers and to the community at large. The success of the CRC is reflected in the exceptionally high levels of adoption of its research and in the 7:1 financial return on investment from its outputs.

Annual extension planning workshop held

The CRC brought together members of the National Cotton Extension Network in July for their annual planning session, to ensure local research priorities are properly reflected in national extension plans.

Highlights of the workshop:




- A review of members' reporting and evaluation processes by Bruce Pyke of CRDC;
- Network focus teams reported on the

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past 12 months' activities and planned their priorities for the coming year;

- Planning for the 'Hands-on research' session at the Cotton Conference, which aims to greatly increase the opportunity growers and consultants have to go one-on-one on a whole range of crucial issues;
- A special report by the National Extension and Evaluation Specialist, Ingrid Christensen, on optimising the interactions between research and extension.

CRDC endorses variety trials

As planting grows nearer, CRDC reminds growers and agronomists that choosing varieties that have had CRDC-approved commercial cotton variety trials is vitally important. Why is this?

Because it ensures the seed companies have conducted their commercial trials to comply with minimum acceptable standards. That way you are getting valid and reliable trial reporting that better enables you to make 'apples with apples' comparisons and choose the variety that best suits your circumstances.

You can have confidence that the CRDC badge delivers for you. CRDC-approved variety trials have been conducted for over

a decade, but have been ramped up over the past two seasons. CRDC cotton variety trial coordinator, Jodi McLean, is taking a hands-on approach to supervision of planting, picking, and ginning, and spot-checks independent observers in field inspections, to ensure seed companies' adherence to the protocol.

Jodi conducts a final audit of published results at the end of the season and reports on the results of the audits and each seed company's adherence to the protocol. Industry Development Officers serve as independent observers and make one field

inspection of each trial and perform a second inspection if it is warranted. The seed companies have posted their variety trial results on their websites, showing CRDC endorsement.

So the message is, always look out for the CRDC badge when you are choosing your varieties — because no badge means the trial was not approved by CRDC. For more information, contact Jodi McLean on 02 6792 4088 or email jodi.mclean@crdc.com.au.

Extension officer wins Churchill Fellowship

Congratulations to Graham Harris from the Queensland Department of Primary Industries and Fisheries, who has been awarded the 2004 Swire Group Churchill Fellowship. Graham, who heads Queensland's Rural Water Use Efficiency cotton and grains program and the CRC's water focus team, will travel to the United States and Israel in 2005 to evaluate research and the commercial use of precision irrigation in cotton and broadacre crops.

Graham has also been an essential part of the team that has developed WATERpak, a comprehensive new irrigation management resource for the cotton industry. 