

Cotton Research & Development Corporation



# Spotlight

Winter 2010

on Cotton R&D



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Spring 2010,

Cotton Research & Development Corporation

# Spotlight

on Cotton R&D

Bruce Finney Executive Director, CRDC



Widespread rain, rising dam levels and favourable cotton prices all point to a good start to the 2010-11 cotton season, which will 'officially' begin with planting this month. Let's hope the locusts are done and dusted by then.

Meeting the R&D information needs of a significantly larger number of growers (some first time and many returning) and in new areas is a welcome challenge. This will be the first season for the newly structured Cotton Industry Development and Delivery Team, who are settling in to their roles and looking forward to assisting you and your business with your needs in ensuring the next crop cotton is produced successfully and responsibly.

The formation of this new team, which in fact boasts a lot of familiar faces, has come about through the collaboration of CRDC, Cotton Australia and the Cotton Catchments Community CRC, to formulate a better way to support the delivery and adoption of the results of our world leading industry research. Leading this team and working collaboratively with researchers, growers, consultants, agribusiness and industry organisations is Ken Flower, General Manager – Best Practices and Research Implementation.

In this edition we profile the Development and Delivery team Specialists and their roles. If you have a suggestion or concern please let them know. They can even handle the occasional compliment!

After an elephant-like gestation period *myBMP* was launched at the Australian Cotton Conference last month by Stuart Higgins. A large number of people have been involved in the rebuild of the industry's best management practice program and on behalf of CRDC and Stuart we would like to acknowledge their commitment to bringing to fruition a support system second to none in Australian agriculture. Making sure the system is an enduring success for all will equally require collective commitment.

Lastly if you were unable to make the conference please take the time to read about and contemplate some of the key themes that emerged. For those who did make it, but couldn't make every session or are experiencing memory loss then you can download conference papers and presentations at [www.australiancottonconference.com.au](http://www.australiancottonconference.com.au). In wrapping up it was another great conference where the unique sense of industry was evident in how we deal with what's important and take time to recognise the contribution and achievement of researchers, growers and industry personnel. Well done to the Conference Organising Committee.

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Spotlight is brought to you by Australia's cotton producers and the Australian Government through the publisher Cotton Research & Development Corporation (CRDC).

CRDC is a research and development partnership between the Australian cotton industry and the Australian Government.

### Cotton Research and Development Corporation

ABN: 71 054 238 316

**Our vision:** A globally competitive and responsible cotton industry

**Our mission:** Invest and provide leadership in research, innovation, knowledge creation and transfer.

**Our outcome:** Adoption of innovation that leads to increased productivity, competitiveness and environmental sustainability through investment in research and development that benefits the Australian cotton industry and the wider community.

**Corporate background:** CRDC was established in 1990 under the Primary Industries and Energy Research and Development Act 1989 (PIERD Act.) which outlines its accountability to the Australian Government and to the cotton industry through the Cotton Australia. CRDC is responsible to the Australian Government through the Minister for Agriculture, Fisheries and Forestry, Tony Burke MP.

CRDC is committed to fulfil its legislated charter to: Invest in and manage an extensive portfolio of research, development and extension projects to enhance the ecological, social and economic values associated with cotton production systems and to benefit cotton industry participants, regional communities and the Australian community.

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**Cover Photo:** Cotton grower Andrew Newell of Goondiwindi with Australian Weaving Mills' Michele Pryor. By: Elizabeth Tout

**Further information:** ? Where this symbol appears, readers are invited to access further information from the identified source.



2010 australian **COTTON** conference  
10th, 11th, 12th AUGUST

fashioning  
the  
future



# Reaching markets with premium cotton



CRDC Value Chain Investment Manager Dallas Gibb with Premium Cotton Initiative Chair Pete Johnson at this year's Australian Cotton Conference.



Fletcher Jones' Carol Durrant and Duncan Weir (DEEDI) inspect the new 100 percent Australian Premium Cotton shirt which are now in stores.

Iconic Australian apparel and homeware brands Fletcher Jones and Koala Blue are now selling 100 percent Australian-grown premium products in stores right across the country. These products were on display to the industry for the first time at the recent Australian Cotton Conference.

Fletcher Jones' range of long-sleeved shirts were produced using high quality 60Ne yarn spun from the 2009 crop of Australian Long Staple Sicala 350B, grown in initial trials for the Premium Cotton Initiative (PCI).

This represents a major milestone for the Premium Cotton Initiative, which was established in 2008 to determine processing performance of premium Australian upland varieties, and has since evolved to work with Australian brand-owners to use the yarn and fabric produced in high-end branded products. The PCI is an initiative of CRDC, Cotton Australia and Australian Cotton Shippers Association.

"Fletcher Jones has set up very impressive in-store displays featuring a two metre by one metre window poster in their flagship Melbourne and Geelong stores," said PCI Chair Pete Johnson.

"They (Fletcher Jones) are aiming to increase their usage of Australian cotton throughout their product range.

"Marketing representatives from the company are now working with the PCI to sure-up supply chains

for additional 100 percent Australian cotton fabric and garments."

The Fletcher Jones shirts were spun by the Chinese company Esquel, whose representatives visited Australian gins and farms earlier this year.

Also showcased at the Cotton Conference were Australian Weaving Mills' towels also produced from Sicala 350B – spun into specialty pile yarn by India's Vardhman Group. The yarn was produced to AWM's Egyptian cotton specifications.

"AWM has been very impressed with the performance of the yarn and final product, and have since ordered additional volumes of Australian Long Staple yarn produced from 2010 crop of Sicala 350B, and CSX326BRF – the precursor to next year's commercially available Sicala 340BRF," Pete Johnson says.

"This yarn will be used to produce 100 percent Australian Long Staple towels, which will be available for retail in major department stores under the Koala Blue brand from February next year.

"They are also in the process of ordering fabric made from two containers of 100 percent Australian BMP cotton for bed linen.

"Australian Weaving Mills are similarly aiming to increase their usage of Australian cotton throughout their range."

Since the Cotton Conference, stakeholder

organisations of the PCI have received numerous enquiries from key Australian brands.

"We are currently working through those inquiries, trying to sure up supply chains and finalise license arrangements," Pete said.

"This is really good news for the industry as we aim to develop a new premium class which we hope will deliver increased premiums and help drive demand for the Australian crop as a whole.

"We will continue to promote the Australian cotton industry to a wider audience – 'going on the front foot' - in terms of telling our quality and environmental story, which potentially may encourage the adoption of BMP at the grower level.

"From a production angle things are also gaining momentum, with larger volumes of suitable premium cotton are expected this year, with the commercial release of Sicala 340 BRF.

"This variety is superior in that there is less yield lag than Sicala 350B – thereby making it a much more commercially viable option for producers."

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2010 australian  
**COTTON** conference  
10th, 11th, 12th AUGUST

**fashioning  
the  
future**



# New optimism as Cotton Conference fashions the future

By Elizabeth Tout



Chair of the conference organising committee, Cleave Rogan, presents a trophy to CRDC Executive Director Bruce Finney as the originator of the “Fashioning the Future” theme for the 2010 cotton conference.

A strong research and development effort with enthusiastic industry involvement has been a major factor in the success of the Australian cotton industry. The very presence of almost 1000 delegates at the 2010 Australian Cotton Conference – up 10 percent from 2008 – is testament to that fact. But as a number of people commented, what gave this year’s conference a noticeable buzz of hope and confidence went back to the old basics – recent rain, better prices and encouraging yields in most valleys last season.

The 2010 conference was the second to be held jointly with the Australian Cotton Shippers Association to cover off on the whole value chain but arguably the first where the hearts and minds of many delegates belonged to the idea that producing high quality cotton doesn’t stop at the farm gate. How cotton is

ginned, how it is classed, handled, stored, wrapped transported and processed are part of the story that is shaping up to be high quality Australian cotton, differentiated in the global market.

The conference theme spoke optimistically of *Fashioning the Future* and to a large extent the conference achieved that ambition. The launch of Vision 2029 on the first day by the Australian Cotton Industry Council Chair Peter Graham attracted a large audience. Following up the next day, CRDC Communication Manager Rohan Boehm, the Cotton CRC’s Dave Larsen and I spoke to a number of people to find out their reaction to the vision. Despite some responses such as “haven’t had a chance to read it” or “I’m a bit sceptical about the vision thing”, we found that, overwhelmingly, the delegates we spoke to saw a shared vision as

important to a sustainable industry future, given the number of challenges – and opportunities – the industry faces.

It’s probably true to say that some delegates felt that predicting a 20-year future is a pretty inexact science. Vision 2029, though, doesn’t seek to predict what situation will exist in 20 years. Rather, it’s about what sort of qualities we want the industry to have that enable it to forge the best possible path whatever the circumstances that exist into the future. Vision 2029 speaks of a industry that aims to be ‘differentiated, responsible, tough, successful, respected and capable.’

The vision of Australian cotton differentiated in the world market as a high quality product resonated greatly with a number of the people we spoke to, as did a capable industry with clever, well trained



# 2010 australian COTTON conference

10th, 11th, 12th AUGUST

fashioning  
the future



Giving the term towel down a new meaning - on further inspection this dress is made entirely from 100 percent cotton towels.

people committed to its future.

The conference also showed the Australian cotton industry is *fashioning a future* that involves women at all levels. Women were everywhere at the conference – as growers, as consultants or part of agribusinesses and as researchers and presenters. Take Barb Grey, a cotton grower from Mungindi, for example, who set out to develop a range of skills important to the industry and was central to a number of conference activities. She was sponsored by CRDC to undertake the Australian Rural Leadership Program, which she has just completed. Now, among her many industry activities she is a Director of the Cotton CRC, Chair of Wincott and a member of the Cotton Conference Organising Committee.

Or take the award of 2010 Innovative Cotton Grower of the Year to Rob and Susannah Tuck from Narromine. The Tucks won for their development and management of workplace health and safety and associated human resources management systems. That's notable on two counts. First, it acknowledges the importance of fashioning a future where the staff of a cotton enterprise are formally recognised as an integral part of the team, with their expertise acknowledged, developed and utilised. Second, at the awards dinner on the final night, Rob gave Susannah a great deal of credit for developing and implementing their innovative workforce policies. Many of the other women who attended the conference are also central to the operations of their family enterprises.

Speaking of women's achievements, Wincott once again had a well-patronised stand at the conference, evidence that over the past decade Wincott has become a healthy, self-sustaining organisation with a large membership of women working in roles across the industry, including researchers.

In the past year Wincott ran an extensive program of activities, including six 'Voices in Ag' leadership workshops, and a 'Climate Change 101' workshop. It's worth noting that women from other agricultural sectors are participating in Wincott activities in growing numbers.

In 2010–11 Wincott are undertaking two projects as part of the CRDC R&D program: a natural resources survey to assist women's understanding and awareness of environmental and ethical stewardship so as to enhance the uptake of positive practices which impact on the agricultural footprint, as well as a tour of a non-cotton growing agricultural area to look at how other industries disseminate information and assist grower uptake.

The launch of *myBMP* is certainly part of fashioning the future. Now covering best practice "from dirt to shirt", BMP is integral to the vision of a product recognised in the global market as high quality and environmentally friendly. From the perspective of CRDC and the Cotton CRC, seeing their jointly run stand overflowing nearly all the time with people keen to learn about *myBMP* and try it for themselves was most gratifying, as was the positive feedback on the new system.

The conference literally fashioned the future on Tuesday and Wednesday, with fashion parades showcasing new Australian premium cotton products that are shaping up as part of the industry's future. CRDC, Cotton Australia and ACSA established links with a number of local brand owners to promote Australian cotton and BMP cotton to consumers. The Australian brand owner, Fletcher Jones, and manufacturer, Australian Weaving Mills, expressed strong interest in promoting Australian cotton using the 'field to fabric' focus and the industry's BMP program. As a result, brands developed for Australian premium cotton and both companies will use BMP cotton and labels developed by the industry will be the first major promotion of Australian cotton to consumers in Australia.

Both companies have just launched ranges of products under a new premium Australian cotton/BMP brand and these were featured at the conference in trade stands and in the very popular fashion parade. We saw a range of smart new clothes from Fletcher Jones, and from Australian Weaving Mills we saw a new, high quality range of towels, marketed under the iconic Koala Blue label.

Fletcher Jones and Australian Weaving Mills are leading the way for other brand owners in using and promoting Australian premium cotton. Building on the success of these partnerships, the industry will work with brand owners in other market segments to encourage them to do the same.

Even though development of best practices in growing the crop is vital, and sessions and hands-on workshops were well attended, the industry's R&D effort doesn't end at the farm gate. The 2010 conference was testament to that. It's very unusual for an agricultural industry to have a serious research-focused conference like the Australian Cotton Conference and the industry should take a bow for embracing an R&D-led future so enthusiastically. The conference showed that enthusiasm in spades and it bodes well for a bright future for Australian cotton, whatever the fate throws at the industry over the next 20 years.

# 2010 australian COTTON conference

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the future



## What the delegates thought

### Barb Grey Grower, Mungindi.

It's a very good initiative of the industry to have this vision. I think our focus will be on differentiation – that will be our main area of still being a strong industry.

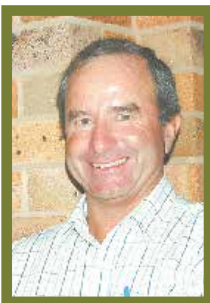
Our success will also depend on being relevant to our consumers.'

Plant breeding has continued to deliver varieties of high quality and yield adapted to changing environments.

Improved farming systems especially those employing the benefits of a range of technologies have allowed much higher

water use efficiencies to be achieved as well as increasing the resilience of farming operations to climate volatility.

The industry continues to invest in improving its productivity and market performance.



### Andrew Pursehouse Grower, Quirindi

Like all good businesses we need to have a vision. I was really glad to see the industry looking for a vision.

I think it's a wonderful industry to be

involved in and as usual it's leading the fray.'

This is reflected in the industry's adoption of best human resources practices and

career development programs including scholarships.

The industry is renowned for its culture of innovation and responsiveness to change.

### Suzanne Tuck Grower, Narromine

I think we have to look forward, otherwise we won't go forward – it's something for us all to aspire to. One of the great things about the cotton industry is we're so united and if we can think that way we can head forward. Differentiating ourselves from any other industry I think is a big thing. We're

leaders – we're trying to be environmentally sustainable through the whole chain so that differentiates us in the global marketplace.

Plant breeding has continued to deliver varieties of high quality and yield adapted to changing environments.

Improved farming systems especially

those employing the benefits of a range of technologies have allowed much higher water use efficiencies to be achieved as well as increasing the resilience of farming operations to climate volatility.

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### Allison Young Crop consultant and agronomist

I think an industry with a vision makes it easier to highlight the potential for people coming into the industry – to encourage uni students to come in and do their PhD research in the cotton industry would be good, because more

people into research means better outcomes.

Also, it would be good if the vision can deliver to young people who aren't necessarily at university.

It needs to be pointed out that young people

from school can get into the industry and get a chance to move forward.

You can get the training to move your way up the ladder without necessarily going down the university path.

### Rose Roche Researcher

If people are asked in 20 years what they think of Australian cotton, I think the answer will be "carefully grown, naturally world's

best" and if we have done that, and it's not lip service – if BMP is something everyone's doing and continuing to improve – in my

role the research will be continuing to push the boundaries and support the growers on both the production and product side.



### Mary Whitehouse Researcher

I think maintaining capability is a very good thing and I think the argument of maintaining a core capability even in poor

conditions is very good. I think that often people don't recognise the importance of company memory of the industry and

having people who have been involved in it for a long time and have all that knowledge.



The D&D Team is charged with implementing best practice on-farm with Integrated Weed Management; Integrated Pest Management; Biosecurity, Farm Hygiene & Disease Management; Water Use Efficiency; Farming Systems & Energy Use; and Crop Nutrition & Soil Health.

# COTTON INDUSTRY DEVELOPMENT & DELIVERY 2010

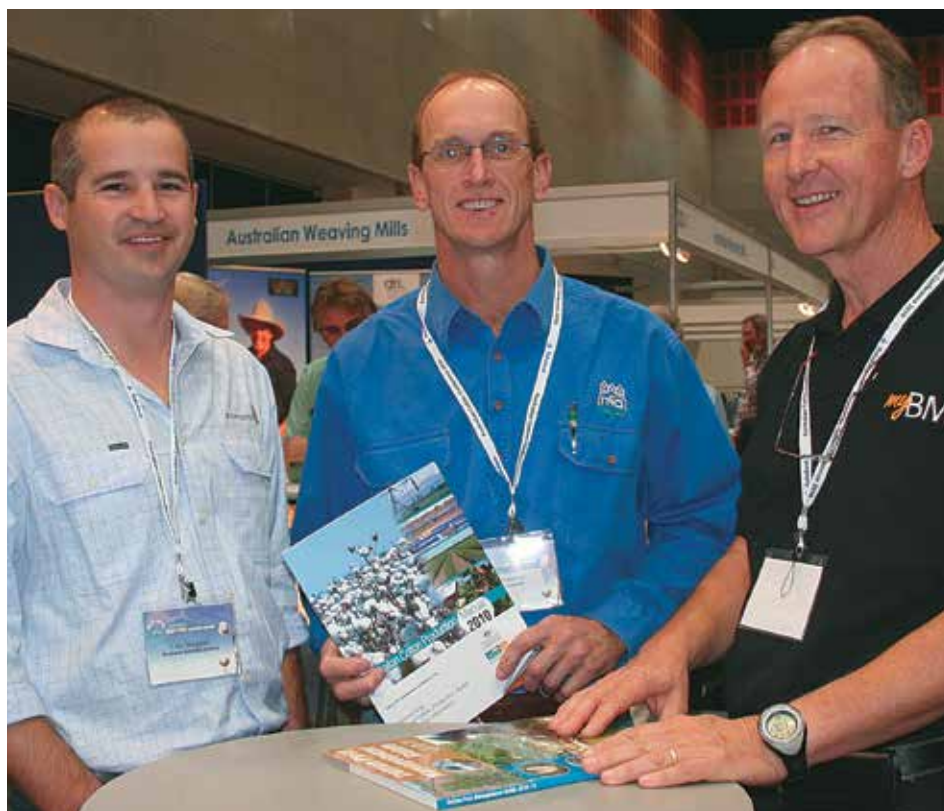
*Best Practice*



# On-time delivery from new team

By Melanie Jensen

Luke Sampson, Monsanto,  
Neil Robertson MCA  
Goondiwindi and GM  
Best Practice & Research  
Implementation, Ken  
Flower with the new  
Australian Cotton  
Production Manual at the  
Cotton Conference.



Six months into cotton's new approach to delivering R&D, the industry has seen the timely launch of three key products together with the new *Australian Cotton Production Manual* and the annual *Cotton Pest Management Guide 2010-11* along with the roll out of the web based *myBMP*.

The new approach to delivering R&D 'officially' kicked into action with the appointment earlier this year of Ken Flower as General Manager Best Practice & Research Implementation. His appointment is a collaboration between CRDC, Cotton Australia and the Cotton CRC.

Since then, it has been 'all systems go' to finalise staff appointments, commence benchmarking of key adoption targets and plan campaigns

for achieving higher adoption of industry best practice in target areas during the coming season. All the while ensuring that *myBMP*, the new growers' Manual and Cotton Pest Management Guide were ready for the new season. All three were launched at the Australian Cotton Conference in August.

"I am very pleased that the feedback from industry is positive about the progress on better publications that are timely and cost-effective. The Development and Delivery (D&D) Team and our industry have really shown what they can produce," Ken Flower said.

"We have worked hard to have the Australian Cotton Production Manual ready for the anticipated increase

in new and returning growers this season. *The Cotton Pest Management Guide 2010-11* has been extensively revised and importantly, is in the hands of growers and consultants before planting."

Ken said the rollout of *myBMP*, the industry's radically improved best practice management tool, was timely in that it is a valuable pathway for delivery of the latest R&D to growers.

"It is especially timely in that it integrates seamlessly with the D&D strategy and the Team's targets for adoption," Ken Flower said.

"For an industry committed to producing better cotton in a better way, the *myBMP* tool offers an improved approach to managing a

cotton farming business.

Under the new structure the D&D Team is charged with implementing best practice on farm in the areas of Integrated Weed Management; Integrated Pest Management; Biosecurity, Farm Hygiene & Disease Management; Water Use Efficiency; Farming Systems & Energy Use; and Crop Nutrition & Soil Health. Within each area, targets have been agreed and set by the Cotton CRC, CRDC and CA.

These relate to actual on-farm practices which the latest information suggests should become more commonly applied by the industry. The Team also charged to work towards the achievement of targets for the uptake of *myBMP* and support of new growers either starting cotton production for the first time, or returning after a few years.

Beyond the farm, the D&D Team works in areas of industry development, aiming to achieve the best future opportunities for cotton products and people. These areas are addressed with industry's new focus on Human Capacity; commercialisation of inventions and innovations arising from R&D; Catchment; Communities; and added value for cotton products beyond the farm gate.

The responsibility for achieving specific targets each area is now charged to individuals in the D&D Team – these people are regarded as D&D Team Specialists. (See full list next page).

## Key features of new development and delivery structure

- Implementing one approach across three industry organisations – Cotton CRC, CRDC and Cotton Australia.
- Targeted areas of best practice with a D&D Team Specialist leading each target
- *myBMP* is to become a valuable research delivery mechanism over time and seamlessly integrated into the industry's new approach for delivering R&D information and knowledge.
- D&D Team Specialists are regionally based, however they are charged with tailoring industry-wide campaigns that will lead to adoption of best practice
- Delivering more with less, Team Specialists will identify and appoint contractors and consultants where specific skills are required short term
- D&D Team funding is structured to maintain core services in seasons where cotton hectares are reduced
- The Team's delivery would be scaled up to meet new demands when needed



# Australian Cotton Production Manual a must

Cotton industry partners worked hard to have the new *Australian Cotton Production Manual* ready for the coming season. The effort brought in most leading researchers and organisations, including CSD, to produce the publication.

This whole-of-industry effort was celebrated with the launch at the Australian Cotton Conference on the Gold Coast in August.

This new publication is one of the first in a series of key products to be delivered by the newly created cotton industry Development and Delivery (D&D) Team.

The industry acknowledged the need to publish must-have R&D information which has occurred in recent years.

The manual is a key document for referencing current cotton production practices. Its purpose is to be a valuable resource for all cotton producers, past future and present.

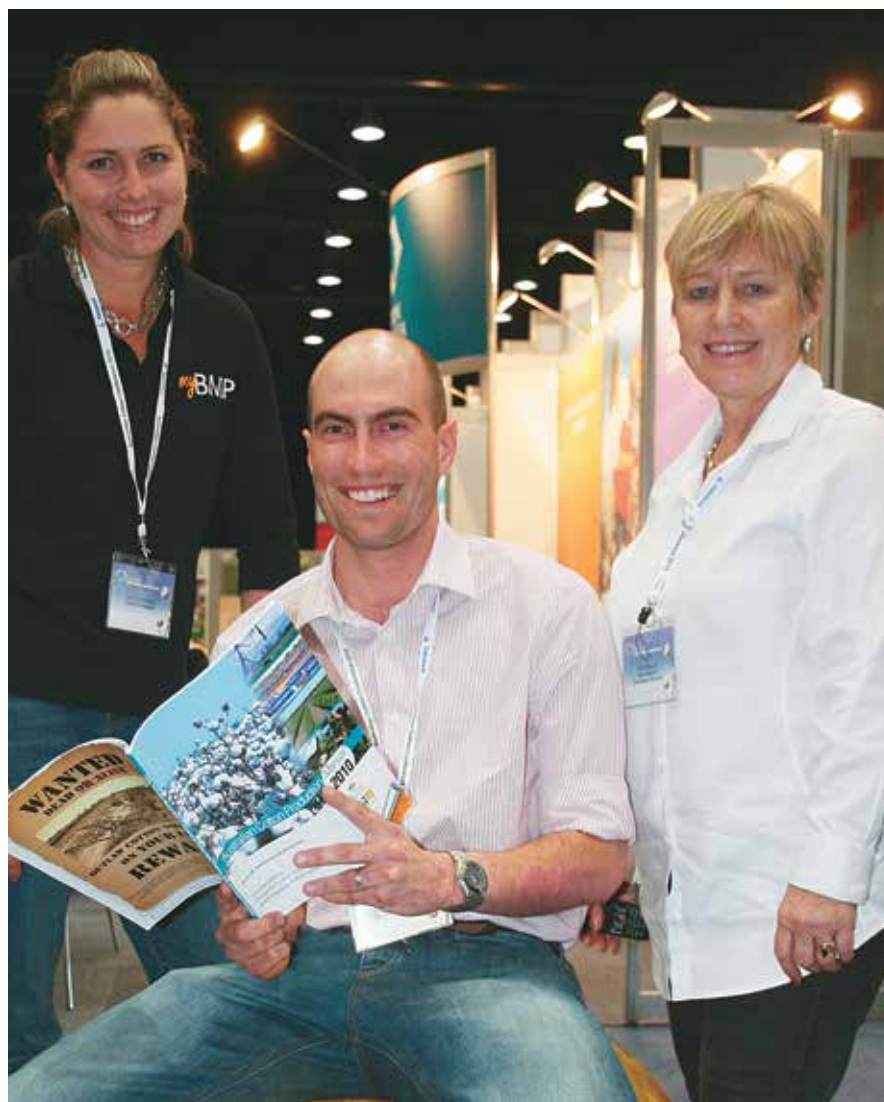
Ken Flower, General Manager – Best Practice & Research Implementation said the completion of this publication is a credit to what can be achieved in a very short time with full co-operation across the industry.

“I especially thank Helen Dugdale from CRDC and CSIRO’s Sandra Deutscher for taking on the major roles of co-ordinating this significant publication from the D&D Team,” he said.

“Also I must recognise the efforts of our commercial partners Greenmount Press and the advertisers who supported the publication.”

The manual is the first in a series of editions. Updates bringing key research results would be published regularly as needed.

To obtain your copy of the new *Australian Cotton Production Manual*, contact Dave Larsen at the Cotton CRC - 02 6799 2471, or mailto: [dave.larsen@industry.nsw.gov.au](mailto:dave.larsen@industry.nsw.gov.au)



CSIRO's Sandra Deutscher and Helen Dugdale worked tirelessly to have to A.C.P.M ready for launch at the Australian Cotton Conference. They are pictured with grower Brendan Warnock.

## Plan for pests this season

The Australian Cotton Conference was the perfect time to launch the new-look *Cotton Pest Management Guide 2010-2011*.

The publication is extensively updated each year to make sure it a valuable asset to decision makers in the cotton industry and it is home to the best information the cotton industry can offer growers and consultants on all aspects of crop protection in cotton production.

“The future of the industry depends on ongoing commitment to integrated approaches to the management of pests, weeds and diseases. Biosecurity risks from exotic species, flaring secondary pests and evolution of resistance – in both

insects and weeds – are always threats to future productivity,” said CRDC’s Manager Farming Systems Investment, Tracey Leven.

The guide was produced by the cotton industry’s newly-formed Development and Delivery (D&D) Team Specialists. Further extensive support was received from the cotton industry’s researchers.

The *Cotton Pest Management Guide* is the product of ongoing collaboration between the partners of the Cotton CRC, CSIRO, CRDC, DEEDI and I&I NSW.

Another major change in the 2010 edition has been the engagement of Greenmount Press, publisher of the industry’s Australian CottonGrower magazine

to lay out and produce the publication. Greenmount Press were instrumental in ensuring the publication came out earlier than ever before and to develop he fresh new look and greatly enhanced visual appeal. Greenmount Press were also responsible for ensuring advertisers had access to sponsoring sections and inserting their messages in the industry’s premier pest management publication.

Susan Maas, the D&D Team’s Biosecurity, Farm Hygiene & Disease Management Specialist, who was Technical Editor of the Guide said the new improved layout with many more photographs and information would make the guide even more user-friendly and sought after.

**FOR GROWERS, POWERED BY RESEARCH**

*Best Practice*

# Know your Development & Delivery team

“Key to delivering the industry’s adoption targets is the regionally based Development and Delivery (D&D) Team. Each member has a strategic plan to achieve practice change in their area of specialisation,” says general manager, best practice and research implementation, Ken Flower.

“The D&D Team is responsible for delivering high quality, targeted campaigns to the cotton industry that encourage the early and maximum uptake of best practice and innovation. Ultimately the aim is for cotton growers to enjoy better business performance with a reduced ecological footprint.

“I urge growers, if they are not already, to become acquainted with the members of the D&D Team and apply their expertise and their access to information.

“The D&D Team is our industry specialists who are committed to and focussed on to helping growers and consultants implement real change at the farm level where this need exists.

“It is also a two-way street in that these D&D Team Specialists are also important contacts to give input back to the research community and to funding organisations on emerging research or extension needs. They can also assist in co-ordinating an all of industry response to local issues as was the case last year with mealy bug in Emerald.”

## D&D Team Specialist roles

- Engage in industry issues associated with their specialist area and develop strategic, integrated campaigns to promote stronger adoption of industry recognised best practice.
- Benchmark current industry practices in their specialist area and identify how to best help growers adopt best practice when they are looking for this.
- Work with their local cotton community to tailor the implementation of campaigns to meet local needs.
- Evaluate changes in attitudes and practices of growers and consultants over time.
- Lead the development of products used to communicate research knowledge.
- Provide feedback to the research community on issues requiring research.

## The strategy

The D&D Team strategy is:

### Focus

Leadership of specific, measurable adoption targets enabling the development of skill and knowledge specialisations.

### Co-operation

Develop stronger relationships within local cotton communities to ensure delivery of R&D is highly relevant and assisting commerce, not competing with it.

### Collaboration

Working on new ways to deliver across organisations and funding opportunities

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Be the best you can be

myBMP

myBMP supports continual improvement, one of the keys to Australian cotton growers' ongoing status as world leaders in quality, sustainability and best practice.


myBMP "my" stands for BMP tailored to your farm

myBMP Dynamic web based management system


myBMP Flexibility of use – participation, performance, compliance

myBMP Access to extensive industry resources.


website: [www.mybmp.com.au](http://www.mybmp.com.au)  
help line number: 1800COTTON



Cotton Catchment Communities



COTTON AUSTRALIA



Australian Government  
Cotton Research and Development Corporation

for Growers, powered by Research

Best Practice



# A system for everyone all in one place

While relatively new to the position of Business Manager for myBMP, the 20-plus years Jim Wark has spent working within the Australian cotton industry has given him a great insight into the supportive and progressive nature that makes the Australian cotton industry so successful.

“It’s my belief that myBMP will be another excellent tool that helps the Australian cotton industry to continue to be viewed as a leader for cotton production on the world stage,” Jim says.

“I am proud to have been involved in the highly successful launch of myBMP at the August 2010 Australian Cotton Conference and look forward to continuing to work with the myBMP team to support the implementation of this extraordinary resource that is now available to the Australian cotton industry.”

myBMP is an exciting new web-based management system that provides growers access to the Australian cotton industry’s best practice standards, supported by the latest scientific knowledge, resources and technical support. It represents a complete rejuvenation and extension of the original BMP Manual providing users with an extensive array of tools designed to outline minimum legal requirements, help improve production performance, better manage business risk and demonstrate responsible and sustainable natural resource management to the community.

myBMP has a dedicated team established to support a transition period and subsequent ongoing operations.

“The focus for the myBMP team over the next 12 months will be to ensure any current BMP growers have a smooth transition to the new system and to support those new users who would like to be involved in myBMP,” Jim says.

“With strong interest in myBMP and its associated resources and benefits already being generated, it has been essential for the myBMP team to plan a transition process to work closely with growers, ensuring that everyone wanting to use myBMP receives the necessary training and support to enable them to take advantage of all of the website’s benefits.”

myBMP offers a range of support options. Those people who have any questions about the site or require advice on myBMP can call Allison Davis on 1800COTTON or e-mail Allison [admin@myBMP.com.au](mailto:admin@myBMP.com.au). For more technically oriented questions, the Technical Help function within the myBMP assessments gives direct access to the researchers and extension team with expertise in the relevant area.

To gain access to myBMP simply visit the website [www.myBMP.com.au](http://www.myBMP.com.au) and select the “Register Now” button, which will lead you through the short process to become a registered user. Once fully registered, growers will have access to all of the resources and tools available on myBMP.



Mungindi cotton grower Ralph Grey with myBMP technical assistant Sandra Deutscher exploring the new on-line myBMP system at this year’s Australian Cotton Conference.

myBMP

## JIM WARK

So how is myBMP different and what makes it a better tool for cotton producers?

- A system for everyone, from the seasoned BMP user, to growers who have never grown cotton or used BMP before, tailored by you for you – myBMP allows you to work through the program modules in the order that suits you and your farm business priorities .
- A new system of levels – Level 1 is the entry level that covers off your legal requirements while Level 2 contains what is considered industry best practice. It is the growers choice to determine if they wish to operate at Level 1 or progress to Level 2 and ultimately to become an audited and certified myBMP grower.
- Simplified content and delivery - being web-based, myBMP has done away with clunky manuals and paper-based assessments. All of your information is lodged electronically and stored in your own confidential farm online filing cabinet – myBMP allows you to upload documents relevant to your myBMP practices in one easy to manage place.
- myBMP practices provide guidelines and practical advice on how to comply with your legal requirements from the storage and use of chemicals to a farm’s human resource requirements.
- Resources, resources, resources – every practice is linked to its own mini reference source, with a pop-up box that provides definitions, explanations, templates, calculators and links to further information. No more need for Google searches because myBMP provides access to all the latest information and research results without having to search the Internet.



FOR GROWERS, POWERED BY RESEARCH

Best Practice

# Act now to prevent problems later

Since commencing work as a Cotton Extension Officer with the Department of Employment, Economic Development and Innovation in 2004, Susan Maas has established excellent relationships with researchers, research funding organisations CRDC and Cotton CRC and most importantly local cotton growers and consultants. As previous leader of the crop protection extension team (sub-group of National Cotton Extension Team), Susan has contributed greatly to the development of *myBMP* and is the current technical editor for the *Cotton Pest Management Guide*.

As Cotton CRC Development & Delivery Target Lead for Biosecurity, Farm Hygiene and Disease, Susan now has a greater focus on best practice and pre-emptive crop protection which is focused on “action now to prevent problems later” approach.

Susan’s targets are:

50 percent of ha having effective management of weeds and volunteer regrowth cotton

50 percent of ha are industry best practice as defined by the *myBMP* guidelines for disease management including farm hygiene practices

The extension strategy for these targets focuses primarily on:

- Ensuring growers, consultants and agronomist are aware of these issues;
- Identifying if any, the barriers to adoption; and
- Acting to remove these barriers through and the delivery of appropriate training and identifying areas of future research.

Linkage to the newly launch *myBMP* is key to the success of these targets.

“Farm hygiene underpins the successful management of a number of major pests and diseases,” Susan said.

“Volunteer cotton and other weed hosts allow pests such as silverleaf whitefly, cotton stainers, aphids and now mealybugs to maintain populations over winter. Higher starting numbers give pests the edge over their natural enemies and reduce the number of generations it takes to reach outbreak levels.

“Carrying pests between seasons could also cause resistance to both conventional chemistry and Bt to escalate. In addition, volunteer cotton is a potential establishment point for exotic pests which pose a biosecurity risk.”

Management of volunteer and ratoon cotton has been identified as a significant challenge for the industry and the project will look to raise awareness and address barriers to adoption.

Disease best practice is underpinned by good farm hygiene. Volunteers and ratoons allow inoculums of soil borne diseases such as black root rot, fusarium and verticillium to build up, and host vectors of diseases such as bunchy top and tobacco streak virus. Good farm hygiene and disease best practice requires appropriate Come Clean Go Clean action.

“Cotton breeders have made remarkable progress in developing cultivars with improved resistance to Fusarium wilt, meaning in recent seasons, the impact of such diseases has reduced significantly,” Susan said.

“However, when environmental conditions are favorable and inoculums levels are high, only 35 percent of plants will survive in the most resistant cultivar that is commercially available.

“Growers and their agronomists need to be able to actively manage disease risks using best research.”

Part of this new focus will include updates of disease publications to ensure growers and agronomists are able to link into this research particularly through *myBMP*.

“Increasing industry capacity to identify diseases is also linked to this practice and this strategy will encompass agribusiness training as well as grower awareness,” Susan said.

Come Clean Go Clean remains a key message for the industry, not only from a disease perspective but also to address weed, insect and biosecurity issues.

“The message stays the same, but the reasons to Come Clean Go Clean are broader now. The project will work with agribusiness to promote this message”



Susan Maas inspecting volunteer cotton around sheds and out buildings, the message is it must go.

## Biosecurity, Farm Hygiene and Disease

**SUSAN MAAS**

# WANTED

## ~~DEAD OR ALIVE~~



## OUTLAW COTTON VOLUNTEERS ON YOUR FARM

# REWARD

FEWER WHITEFLY & APHIDS \* LOWER RISK OF BUNCHY TOP AND MEALY BUG  
 \* LESS DISEASE CARRYOVER \* REDUCED SELECTION PRESSURE ON BT  
 \* BETTER PROTECTION AGAINST THREATS FROM EXOTIC PESTS & DISEASES

**For more information:**  
 Susan Maas 07 4983 7403 [susan.maas@deedi.qld.gov.au](mailto:susan.maas@deedi.qld.gov.au)  
[www.planthealthaustralia.com.au/biosecuritycotton](http://www.planthealthaustralia.com.au/biosecuritycotton)

*Best Practice* 



# IPM research better manages pests on farm

Sally Ceeney has been involved with the cotton industry for more than 10 years, most recently as the Regional Extension Officer for the Macquarie Valley, with I&I NSW based in Warren. Prior to this Sally worked as an agronomist in the Macquarie and Bourke districts. Now based in Narromine, Sally is the D&D Team Integrated Pest Management (IPM) Specialist.

As IPM Specialist, Sally's role is to ensure that the industry achieves:

- At least 50 percent of cotton hectares adopting industry best practice on recommended sampling and thresholds.
- At least 50 percent of cotton hectares selecting chemistry to conserve beneficial insect populations using published IPM guidelines.

To achieve the cotton industry's targets for pest management, Sally says, "a plan will be implemented and monitored that will enable growers and consultants to utilise industry research to better manage pests on farm."

"This will ultimately result in cost savings for the industry and the achieving of industry pest management targets," she said.

"Despite the strong focus on IPM in the cotton industry during the past two decades, the adoption of some aspects of IPM is still relatively low. Each season, less than half the cotton crop is managed using industry recommended thresholds for key pests such as mirids."

Sally has identified that the key IPM issues relate to silverleaf whitefly, mirids and the threat of resistance, particularly in *Helicoverpa* species to Bt.

The potential economic impact of silverleaf whitefly, to both growers and the industry as a whole means it continues to be one of the top IPM concerns for growers. SLW continues to require management in the northern areas and is steadily increasing in numbers in the southern cotton growing regions. Growers and consultants in the southern valleys require support and information as they learn how to deal with this emerging pest in their regions.

Managing whitefly is inherently linked to the management of other pests. Good IPM practices in mirid management are vital to ensure that other secondary pests, particularly SLW, are not flared inadvertently as a result of sprays applied targeting the green mirid.

Mirids pose a number of management difficulties as in-crop numbers, and the damage being caused can be difficult to monitor. Spray decisions for mirids can have an impact on other pests, particularly SLW so good IPM practices need to be followed.

Sally said the approach to improving adoption of IPM will also consider resistance issues and management of potential resistance remains an important IPM issue. In order to protect efficacy of insecticide products and that of future forms of GM cotton, the threat of resistance can never be overlooked.



Whitefly honeydew. Managing whitefly is inherently linked to the management of other pests. Image courtesy of Lewis Wilson.

## Pest Management

### SALLY CEENEY

The delivery of IPM extension will be tailored to meet regional or national needs, depending on the issue. Some of the targeted activities that form part of the plan to achieve the industry IPM targets include:

- An annual review of the myBMP modules that relate to Integrated Pest Management, ensuring the information and links contained in myBMP is up to date and that the information is clear and easy for growers to use.
- Continued delivery of the Cotton Pest Management Guide with an aim to have it released prior to each cotton growing season. This Guide is to be updated annually with the latest research to ensure growers and consultants are able to utilise this research on farm.
- A series of early season grower and consultant meetings in the southern valleys targeting effective IPM primarily for green mirids and silverleaf whitefly.
- Delivery of the IPM short course in the Murrumbidgee region due to the potential expansion of the cotton industry in this region with a large influx of new growers.
- Delivery of latest IPM research information nationally via grower newsletters, case studies, other publications with a particular emphasis on showcasing grower success stories of implementing good IPM practices on farm.
- Continued support to the industry Bollgard II resistance strategy.



# New growers helped to meet challenges and opportunities

The Cotton CRC has identified assisting new growers to the industry as an important area for the D & D Team in 2010-11. Recognition that it is vital for industry to have these new growers have accessing relevant information when it is timely has emerged as a new role for an experienced cotton industry extension specialist.

James Hill is industry's Specialist for New Growers in the D&D Team.

In his new capacity, James is providing assistance to the many new growers entering the industry in Southern NSW (including Griffith, Coleambally, Booligal, Hillston, Deniliquin, Darlington Point and Narrandera). His experience is also proving valuable in assisting other members of the D & D Team process information for new growers in other regions as the industry experiences rapid escalation in hectares primed for planting in 2010.

No stranger to the needs of new growers, James has extensive experience in assisting many new growers in recent years in the Murrumbidgee region in his capacity as NSW DPI Southern Regional Extension Officer, and also operating earlier as a private agronomist based in Hay.

His experience in providing information to these new growers had made it clear to James the need for a comprehensive printed manual that encompassed the important considerations for newcomers when embracing growing cotton for the first time.

This led to him becoming an early advocate for developing the new *Australian Cotton Production Manual* 2010.

"This manual provides not only information related to growing the crop, it also provides a basic explanation of the various organisations associated with the industry, for example Cotton Australia, Cotton CRC and the CRDC," James said.

"The new *Australian Cotton Production Manual* will prove to be a great resource when discussing decisions with new growers. It can help new growers come to terms with what is required to grow a cotton crop and where the best sources of information are going to be found. That is where D&D Specialists working in a team can be best used.

"The idea is to give potential growers all the information required regarding cost effective solutions to meet the challenges and opportunities associated with growing cotton.



## New Growers

### JAMES HILL

FOR THE BEST RESULT  
YOU'VE GOT TO  
START EARLY



- ▶ Premium quality
- ▶ Carefully grown
- ▶ Naturally world's best

FIBREpak is available at [www.cottoncrc.org.au](http://www.cottoncrc.org.au)

Contact Mike Bange for more information.

☎ 02 6799 1500 [michael.bange@csiro.au](mailto:michael.bange@csiro.au)

Best Practice

## DELIVERY & DEVELOPMENT SPECIALISTS



# Importance of IPM cannot be underestimated

James Hill is Weeds Management Specialist in the industry D&D Team.

Based at Hay in Southern NSW, James has been involved in the cotton industry for 15 years and has engaged broadly with farmers in agronomy, farm management and extension services.

This would be achieved by promoting the threat of weed resistance in the cotton farming system, particularly the emerging threat of glyphosate resistance.

A main feature of this will be the extension of David Thornby and Geoff Werth's (DEEDI) Glyphosate Resistance Tool. This tool is on-line assessment tool and it will be employed together with herbicide resistance workshops to ensure producers have the most effective information available to make weed management choices.

James intends to convene workshops across the industry attended by Geoff Werth and David Thornby. Graham Charles (NSW DII) will assist in NSW. Other initiatives include the promotion of Graham Charles' work in relation to herbicide damage symptoms in cotton, as detailed on the Cotton CRC website.

The depth of the glyphosate resistance problem was highlighted this year at a Crop Consultants Australia meeting held at Goondiwindi, and a specialist focus from James Hill industry wide is expected to ensure industry's targets are met.

"The challenge will be to learn from those growers who now have resistant weeds both in terms of control options and prevention," he said.

"Resistance does not occur simply by being dependant on glyphosate only. It can equally occur through contamination of machinery or even wind-blown seed.

It is best practice to have an integrated weed management plan together with a well-developed appreciation of the latest tools than can be used to help minimise the chance of resistance developing," James said.

James' second target area will involve assisting Cotton Australia and growers in weed management through myBMP.

He said myBMP is going to be a fantastic tool for growers and the industry as it will be a one-stop information source," James says.

"myBMP provides multiple links to assist growers with what they need and where they can find it via internet links and it is going to be particularly useful to new growers and growers re-entering the industry after some time away.

Essentially both target areas inter-relate as Best Management Practice involves having a good resistance management plan.

"There have been a lot of changes in terms of weed management in the cotton system with the introduction of Roundup Ready (RR) technology.

"Prior to RR growers utilised a number of weed controls options where as now a lot of growers depend on the RR technology.

"Therefore it is essential that if we as an industry want to continue enjoying the benefits of the technology it is vital that we do all that we can to prevent resistance."



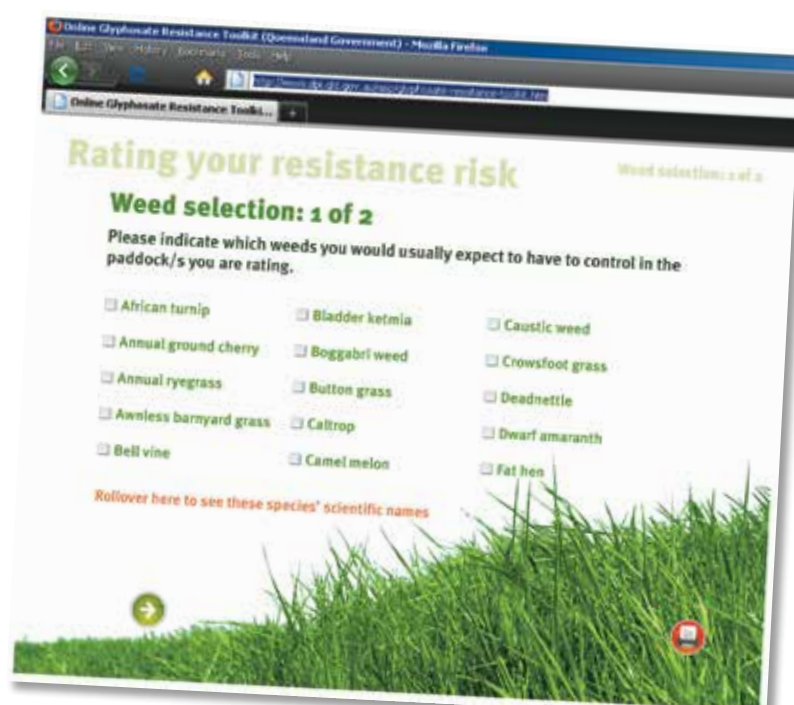
## Weeds Management

### JAMES HILL

Industry-wide, James' main role of extension activities will be based around assisting growers and consultants understand and appreciate the importance of having an integrated weeds management strategy in place.

The two main target areas for weed management are:

- 80 percent of planted hectares utilising a weed resistance management plan
- 50 percent of hectares managed with industry best practice, as defined by myBMP guidelines for weeds.



Development of this tool was supported by CRDC, Cotton CRC, Monsanto and GRDC.

**FOR GROWERS, POWERED BY RESEARCH**

*Best Practice*



# Raising awareness of natural assets high on agenda

In the Catchment Development and Delivery Team, Jane Macfarlane, Stacey Vogel of Namoi Catchment Management Authority (CMA) and Peter Verwey of the Cotton CRC are working to give ongoing support to the myBMP Natural Assets module.

They Catchments Team ran a pilot shed workshop on September 16 in Wee Waa to discuss myBMP, natural assets, farm mapping, and energy and input efficiencies. If demand is high, further workshops will be scheduled.

“Planning is underway for a series of three groundwater research workshops to be held in the lower, mid and upper Namoi valleys between November 30 and December 2,” Jane Macfarlane said.

“The workshops will cover research, monitoring, and management of groundwater.”

## Stacey Vogel

- Stacey Vogel is employed by the Namoi CMA and Cotton Catchment Communities CRC as the Catchment Officer for the Lower Namoi Catchment. She is based at the Australian Cotton Research Institute. Stacey’s role is to provide cotton growers as well as other landholders and the general community within the Namoi Catchment technical advice and support on a range of natural resource management issues.

Stacey is working towards achieving the following targets:

- 20 percent of the woodland and riparian areas on cotton farms in the Namoi managed sustainably
- 50 percent of irrigated cotton land farmed sustainably for salinity and water use efficiency.

## Peter Verwey

- Peter Verwey is the Cotton Catchment Officer in the Namoi Catchment. This position is a partnership with funding coming from both the Namoi CMA and Cotton CRC. Peter is working with Namoi cotton growers to develop and deliver the resources that growers require to successfully implement natural resource management activities.

Peter is working towards achieving the following targets:

- 50 percent of cotton growing hectares in the Namoi having regularly monitored groundwater.
- 70 percent of cotton growing hectares in the Namoi with an up to date property plan.
- Five percent of riparian area in cotton growing area managed for riparian values.

This includes working closely with the grower associations, developing property plans, assisting with monitoring groundwater quality, and providing technical advice in natural resource management and the industry best practices through face to face meetings and grower workshops.

Peter is the key contact for technical advice helping grows move through the Natural Assets module in myBMP system.



## Catchments

### JANE MACFARLANE

Jane Macfarlane is the Catchment Program Leader for the Cotton Catchment Communities CRC and is industry’s D&D Team Specialist in this field. This target area includes research to better understand groundwater, surface water, water quality, ecosystem services and projects to provide guidelines for growers, CMAs, NRM bodies and other decision makers.

“Our adoption targets in the Catchment Target Area aim to improve growers’ awareness and management of natural resources in cotton catchments,” Jane said. Uptake of the myBMP Natural Assets module is a key focus for the team to achieve these goals.

“We have an exciting opportunity to extend our catchment research into the Border Rivers Gwydir Catchment, in partnership with Landcare, the CMA and grower groups which I am currently pursuing.

“And as our research in our Biodiversity and Ecosystem Services subprogram winds up we are scoping the development of an ECOpak to support growers go through the myBMP Natural Assets module and assist CMAs to increase the value of ecosystem services on a landscape scale.”

Catchment research also aims to provide the best available science to decision makers particularly for critical policy issues affecting growers. Targets to achieve this include:

- Best practice approach for determining sustainable groundwater yield predictions demonstrated in four Murray Darling catchments.
- At least two best-practice guidelines for managing terrestrial biodiversity and ecosystem services on farms published, enabling growers to sustain production and assisting catchment bodies achieve catchment targets.



Stacey Vogel



Peter Verwey

## DELIVERY & DEVELOPMENT SPECIALISTS



# Understanding water balance key to efficiency

Irrigation is vital to the Australian economy, and critical to the many communities relying on it within the Murray-Darling Basin, says Graham Harris.

"It is important in the future that irrigation remains a significant part of the Australian rural landscape," he said.

"This means that we will need to continually improve the way we use and manage our water resources.

"We can improve the management of our existing irrigation systems and look towards adopting new technologies that may further improve the productivity of our water use."

Graham is the Principal Development Extension Officer with the Queensland Department of Employment, Economic Development and Innovation, is joint leader of the Irrigated Farming Systems Team in Queensland and also The Farm Program within the Cotton Catchment Communities CRC.

Graham has 29 years' experience in irrigated crop agronomy and economics extension within Queensland. In 2005 he used his Swire Group Churchill Fellowship to study precision irrigation technologies in the US and Israel.

There has been significant improvement in water use efficiency within the cotton industry in the past decade.

The Irrigation Water Use Index for cotton in 2000-01 of 1.1 bales/ML has increased to 1.84 bales/ML in 2007-08. This figure fluctuates with seasonal conditions but there has been an upward trend in this index over time. This improvement has been in response to the limited water situation experienced at this time.

At the farm scale, however, we continue to see great variability in the efficiencies achieved.

Graham said the focus for the 2010-11 season will be providing myBMP support to irrigators and collating evidence of the progress the industry has made in improving water use efficiency in the past decade.

Information on production and water use will be collected from a range of sources – including the Australian Bureau of Statistics and those collected from irrigators in past and current projects.

"We are also relying on information collected through completion of the myBMP Water Module which will demonstrate the extent of irrigation best management practices being used across the industry," Graham said.

"Completion of the myBMP Water Module will enable growers to assess their irrigation practices and identify where improvements can be made – improvements leading to more profit per drop."

"If growers have any questions as to how they can improve their water productivity and/or need support with the myBMP water module, we have team of experienced people available to provide support.

"In addition to the team of Janelle Montgomery, Rod Jackson, Peter Smith, Lance Pendergast and myself, we have two new staff in Bec Raymond (nee Smith) at Goondiwindi and Nikki Pilcher at St George who are employed through the Healthy Headwaters Water Use Efficiency (HHWUE) project funded by the Australian Government under the Water for the Future initiative.

"Part of their role is to provide support to cotton growers completing the myBMP water module."



## Water

### GRAHAM HARRIS

The primary water target of the Cotton CRC is the improvement of water use efficiency with a 50 per cent increase in water productivity (measured by an increase in cotton yield per mega litre (ML) of water supplied to farms).

The achievement of this target is dependent upon an enhanced understanding of the water balance in cotton farming systems by growers and consultants, and the adoption of tools and management practices that maximise on-farm water productivity.

Key practices leading to the achievement of this target include:

- Optimising deep drainage in relation to water losses, nutrient and salt movement.
- Minimising water losses from storages and channels
- Optimising furrow irrigation.
- Adoption of alternatives to furrow irrigation (drip & overhead) where appropriate.
- Using best practice water use as identified in emerging research.
- Making water management decisions based on precision data or using precision application to enhance the system.
- Increased use of technical support resources for increased adoption of myBMP.

# Providing the link between farmers and researchers

As well as the Crop Nutrition and Soil Health Specialist, Duncan Weir is also the Darling Downs Senior Development Extension Officer (Cotton & Grain Farming Systems) for Agri-Science Queensland, Department of Employment, Economic Development and Innovation (DEEDI).

Duncan has managed several research stations on the Darling Downs and brings to his role 20 years' experience in commercial hybrid seed production throughout Australia, producing crops such as maize, forage and grain sorghum, sunflower, canola and sweet corn.

Duncan has two main areas of responsibility, as Crop Nutrition and Soil Health Specialist and a regional responsibility to the Darling Downs and Border Rivers area. In this role, his Qld-based program promotes and facilitates the adaptation, validation and adoption of research outcomes from Agri-Science Queensland research programs together with those of CRDC and the Cotton Catchment Communities CRC. This involves providing education and training to growers and the dissemination of information through regional trialing, demonstrations, field days and workshops. This role also involves providing support to growers and addressing specific regional issues and requirements.

Duncan said in order to achieve the desired industry outcomes and targets, a working group of scientists, extension and industry representatives had been established to develop and implement targeted programs.

"The first priority has been to develop a benchmarking survey targeting cotton crop nutrition and soil health," he said.

"The survey has been designed to identify how growers are making decisions, the information they are using to make these decisions, the soil management practices they are implementing and the relevant issues for growers.

"The information generated from the survey will be used to drive the direction of future programs across the industry."

There are two aspects to Duncan's role.

"The first part being a link between growers and researchers and this involves interpreting the results and outcomes of research and presenting it in a form which the growers can use," he says.

"It also involves relaying feedback or issues that growers may have, back to the researchers.

"The second part of my role involves working with regional extension staff, growers, grower associations and service providers to co-ordinate demonstrations, workshops or field days which address regional issues and provide the relevant information to growers that will enable them to make more informed decisions."

A series of field demonstrations will be set up this season at locations across the growing areas looking at nitrogen and nitrogen use efficiency (NUE).

These demonstrations will be the focal point of a series of field walks and discussion groups examining NUE, cotton nutrition and how growers can make better informed management decisions.

"Overall I would like to be able to provide growers with the tools, the knowledge and skill set that will enable them to make informed decisions about crop nutrition and have the capability to manage their soils sustainably," Duncan said.

"If there are any specific issues that growers or grower associations would like to address I would welcome the opportunity to discuss these with them.



Duncan Weir (right) led discussions on crop nutrition and soil health at this year's Big Day Out, which included a presentation from David Lester (DEEDI).

## Crop Nutrition & Soil Health

### DUNCAN WEIR

In his current role as Crop Nutrition and Soil Health Specialist, Duncan has three key targets.

- 50 percent of hectares with industry best practice as defined by the myBMP guidelines for soil health practices.
- 70 percent of hectares utilising objective measurements to adjust nitrogen applications.
- 50 percent of hectares applying best practice as defined by the myBMP guidelines for crop nutrition practices.

#### HOW ABOUT A SECOND OPINION?

Recent surveys have shown that Australian cotton growers on average apply 50kg of Nitrogen per hectare in excess of optimal crop requirements.

NutriLOGIC allows you to estimate fertiliser needs for irrigated cotton based on results from nutrition research conducted in Australia.

A photograph of a stack of white fertilizer bags. The bags are arranged in a grid. Some bags have labels that read 'TOO MUCH FERTILISER?', 'EFFICIENT N USE?', 'OPTIMUM PLANT GROWTH?', and 'GREENHOUSE GAS?'. A person is standing next to the bags, looking up at them.

NutriLOGIC is available at [www.cottassist.cottoncrc.org.au](http://www.cottassist.cottoncrc.org.au)  
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☎ 02 6799 1500 [sandra.deutscher@csiro.au](mailto:sandra.deutscher@csiro.au)

Best Practice



# A culture of professional development

As part of the new position as Professional Development Target Specialist, Mark Hickman continues his long working career in the cotton industry in a key role to develop a culture of professional development and learning within the cotton industry. Mark's renewed focus will be to establish new products, services and career pathways.

The role will be a continuation of Mark's role as the National Cotton Training Co-ordinator, where he had a Cotton CRC target to deliver short training courses to at least 200 industry personnel by 2012. This target has already been surpassed, with 47 workshops training 577 participants since the Cotton Catchment Communities CRC commenced.

As of January 2010, Mark's project expanded in focus to reflect the increasing demands for human capacity industry-wide. It was then that the position of Professional Development Manager (Cotton) was created.

"We all learn in many different ways and for most of us it occurs in the workplace using both in a formal and informal sense," he said.

"This position is all about creating multiple opportunities for learning and innovation to occur. Ensuring producers and agribusiness are able to develop skills in their businesses from the grass roots will enhance their enterprises both now and into the future.

"As a first step toward creating this opportunity, myself and Rohan Boehm (CRDC Human Capacity Investment Program Manager) held a 'listening tour' across the industry to hear what people's needs are and gauge their understanding of what professional development actually is.

"The resulting feedback has helped determine the direction and investment CRDC are considering in 2011 and beyond."

Complementing this approach Mark is developing programs and products which support industry innovation by -

- Recognition of Prior Learning (RPL) assessments of producers. Currently producers can access major subsidies to recognise and determine both their skilling needs and those of their business. The industry's individual BMP award called a Certified BMP Farm Manager award is one example. Acknowledging the management skills of implementing BMP and rewarded with a Diploma of Agriculture as well.
- Developing E-learning tools beginning with staff management and skill assessments. These two products support the Human Resource module with myBMP.
- Extension activities that can support both an on-line and traditional face to face methods of delivery to ensure producers can learn at times that suit their needs. This is known as a blended approach to workplace learning.
- Working with initiatives such as the Agribusiness Gateway school program in Queensland, the Cotton Basic school program in NSW, Primary Industry Science Centre for Excellence (PISCE) and support the various regional workforce initiatives with organisations like Agrifood Skills Australia and industry. These are foundation initiatives which build industry's human capacity.



Marck Hickman (centre) at one of the 47 workshops he has coordinated, training 577 participants.

## Professional Development Manager

### MARK HICKMAN

Mark said a series of broad strategies will be employed to address the vision to develop a culture of professional development and learning within the cotton industry by establishing products, services and pathways that lead to innovation. Three broad strategic areas will be addressed.

- Provision of strategic leadership for skilling and professional development in the industry
- Leadership and co-development of capacity building programs
- Promotion and advocacy of a culture for professional development

According to Mark, central to these strategies is the concept of lifelong learning.

Mark is keen to engage people in this development space and welcomes those who are passionate about capacity building the industry to have the conversation with him.

"Creating a mechanism to connect like-minded passionate people across industry is the next step," he said.

More thoughts on how to create innovation and life-long learning can be obtained from Mark's recent cotton conference paper (August 2010). Contact Mark Hickman mailto: [Mark.Hickman@deedi.qld.gov.au](mailto:Mark.Hickman@deedi.qld.gov.au)



# Study outlines impacts of less irrigation water

Gaining a greater understanding of the current and future social and economic conditions facing rural communities is a key focus of the Cotton CRC Communities Program. Dr Paula Jones, Cotton CRC Research Programme Director and Communities Program manager said the effect of water availability is of great interest to cotton growing communities given the importance of irrigation to the local economy.

A research report commissioned by the Cotton CRC titled *Social and Economic Impacts of Reduced Irrigation Water* aims to describe and predict the potential social and economic impacts that might occur to communities in the Murray Darling Basin resulting from possible changes in water availability.

Published last month, the study involved extensive consultation and field visits to eight case study local government areas – Bourke, Moree and Griffith NSW, Balonne and the aggregate communities of Dalby-Wambo in Qld, Murray Bridge SA, Mildura and Campaspe in Victoria.

The study also showed that there would be a significant difference in social and economic impacts when considered at different geographic scales. The greatest impacts are most likely to be experienced at the local or regional level, with some communities disproportionately affected due to their size, degree of remoteness, proportion of disadvantaged Aboriginal residents, proximity to another major urban centre or alternative economic resource, and their degree of reliance on irrigated agriculture.

Judith Stubbs & Associates, who conducted the study, worked with the Cotton CRC over the last three years undertaking research in this area, other reports already published from this research project include:

- Report 1: *Exploring the Relationship Between Community Wellbeing, Resilience & Cotton Production in the MDB* sets out the rationale for the study, the social, economic, environmental and policy context, and the conceptual framework for the study.
- Report 2: *Understanding Agricultural Employment* identifies employment associated with cotton production and enabled the development of a model which can be used to predict changes in employment at a local and national level as agricultural uses of land and water vary as a result of changes in water availability.
- Report 3: *Irrigated Agriculture and Socio-Economic Indicators* provides data on a wide range of socio-economic indicators of community wellbeing including economic performance, health, crime, employment, changes in population and age profile and other socio-economic data for irrigation and non-irrigation communities in the Murray Darling Basin. This provides a valuable 'snap-shot' of the relative wellbeing of these communities against current socio-economic indicators

These reports in full are available in the Cotton CRC website [www.cottoncrc.org.au](http://www.cottoncrc.org.au)



## Communities

### PAULA JONES

The study into social and economical impacts of reduced irrigation water in the Murray Darling Basin examined the effects of reduced water availability at a local, basin and national level and focussed on jobs as a measure of loss productivity resulting from reduced water for irrigation.

The study found that:

- At the local level, a loss of employment and population was predicted for all case study areas (assumed that water reductions are evenly distributed across all irrigators)
- A 10 percent reduction in water availability predicted job losses of around two percent or 6000 jobs.
- A 50 percent reduction in water availability in the MDB will have predicted job losses of around nine percent, which translates into a loss of 28,000 jobs and a cost of \$2.7 billion annually.





# Best practice ensures most efficient systems

Dallas King has been involved with the cotton industry for many years, working with growers in the St George and Mungindi areas to improve yield and quality while also improving efficiency and sustainability across their farming systems.

Prior to heading the Farming Systems and Energy Use Target Area, Dallas through his agricultural consultancy business Western Rivers Agriculture, was contracted on a part time basis to the CRDC and Cotton CRC to provide extension services to cotton growers in the Lower Balonne region.

He was the point of contact for the Cotton CRC and in conjunction with the St George and Dirranbandi CGAs continued to co-ordinate research outcomes between growers and the CSIRO team.

With the Cotton CRC's renewed focus on cotton industry targets, Dallas is now the lead for Cotton Farming Systems. These targets are:

- 50 percent of hectares have adapted farm practices for cotton production to enable response to variable climate conditions.
- 20 percent of farms have adapted management practices to reduce energy consumption per bale of cotton produced.

"Due to the ongoing commitment of the cotton industry to continually reduce its impact on the surrounding environment and the communities it belongs to, new, more efficient practices being developed by growers will be measured and promoted to the industry at large," Dallas said.

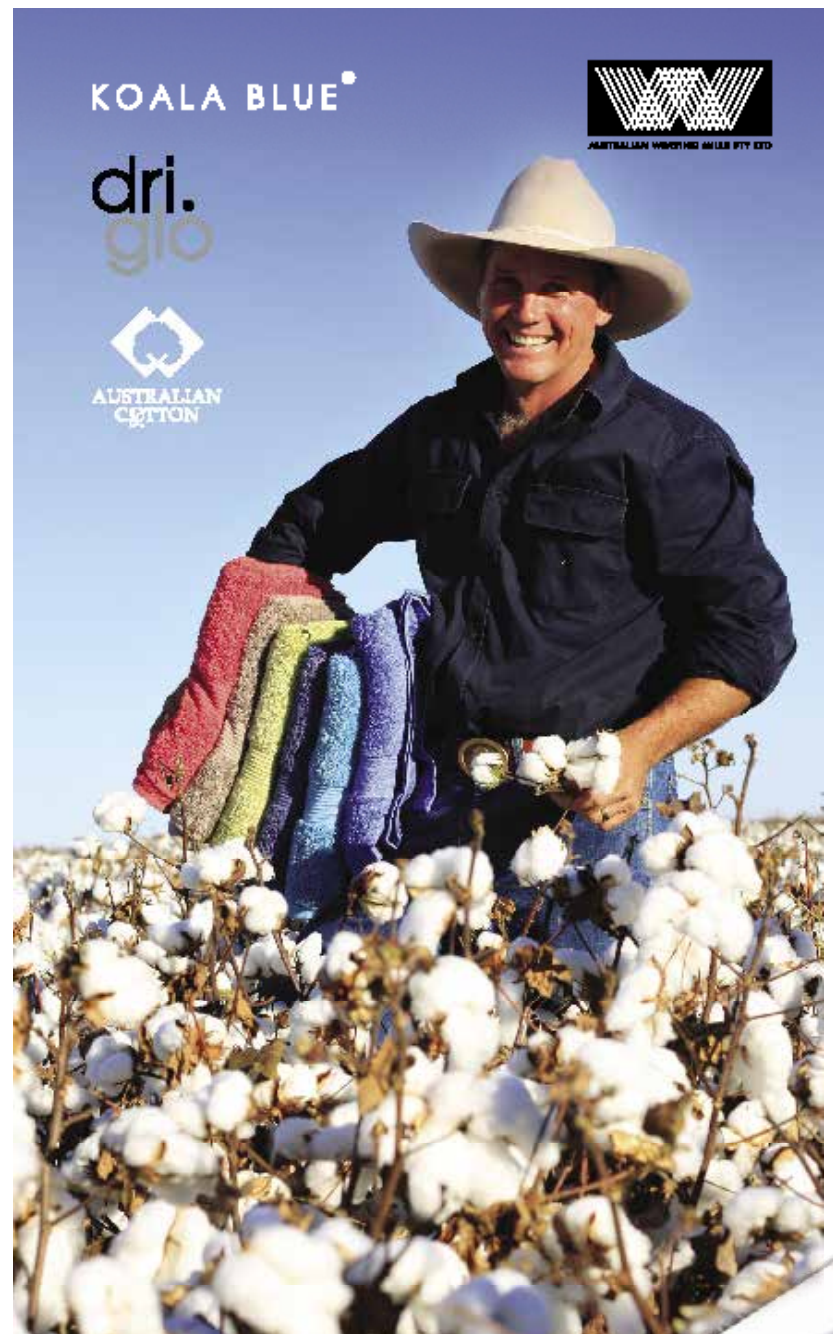
"It is the combination of best practice in all target areas, that is, Integrated Pest Management, Water and Nitrogen Use Efficiency, Farm Hygiene and precision agriculture that will provide growers with a more efficient cotton farming system while helping them to reduce their total energy consumption per bale produced.

"The new myBMP will be an important tool in allowing growers to assess and measure their current practices and comparing with other growers not just within their region but on a national scale as well."



## Farming Systems

### DALLAS KING



**FOR GROWERS, POWERED BY RESEARCH**

*Best Practice*





Dr Mary Whitehouse, CSIRO has recently analysed the way pest managers make decisions about controlling mirids. Her analysis shows that the pest manager's decision to sample mirids visually or by using a beatsheet will influence their confidence to follow the industry's recommended thresholds.

# Believe the beatsheet

Over the past five seasons various surveys have shown that more than half the decisions to spray for mirids occur when populations are below threshold. Why is it so, and are yield improvements associated with early action?

Dr Mary Whitehouse, Research Scientist with CSIRO, has recently undertaken an in depth look at the large data set on decisions to spray for mirids collected in 2006/07. Her analysis has uncovered some very interesting trends, one of which is the need for pest managers to 'believe the beatsheet'.

"Yield can be affected by uncontrolled mirid populations, so we undertook a survey to look at the response of pest managers to mirid numbers," Mary said.

"We looked at 80 fields managed by 51 consultants. Collectively this represented 37 percent of the entire cotton crop in the 2006/07 season."

In explaining the impact of mirid management on yields, Mary observed that the field data supported the use of the thresholds.

"In no instance was there a yield penalty from only spraying mirids once they had reached threshold. Nor was there any yield increase associated with the decisions to spray low numbers of mirids below the threshold," she said.

However exceptional circumstances were identified where crops were water stressed, spraying for

mirids below threshold was actually associated with lower yields.

"It appears as though crops would have fared better with lower retention during periods of water stress," Mary said.

"In all situations it is best to wait until mirid numbers reach the threshold before acting."

Yield was not the only indicator of crop profitability that was analysed. When it comes to managing mirids, there may still be money to be saved in pest management.

Mary found that where mirids were sprayed before the threshold was reached, these fields were more likely to require retreatment for mirids.

Further to this, "the use of below label rates of insecticide was effective, but when very low rates of insecticide were used, respraying was more likely".

There is no doubt that decision-making for mirid management is a balancing act, as Mary points out, cost efficiency often drives the decision to spray before thresholds were reached.

"One of the common reasons for spraying below threshold was to take advantage of a spray application being instigated for another purpose, such as the application of herbicide that was tank-mix compatible with the mirid insecticide or acting while a groundrig could be still be used," she said.

"The initial cost efficiency needs to be balanced against the higher likelihood of respraying, risk of reducing beneficial populations and the subsequent risk of flaring other pests such as whitefly that are inherently more expensive to control."

During the 2009/10 season, CSIRO Principal Researcher Dr Lewis Wilson confirmed that mirid management decisions interact with whitefly population growth.

"Where mirids were sprayed with harder chemistries, whitefly populations developed more quickly and reached higher levels of infestation," he said.

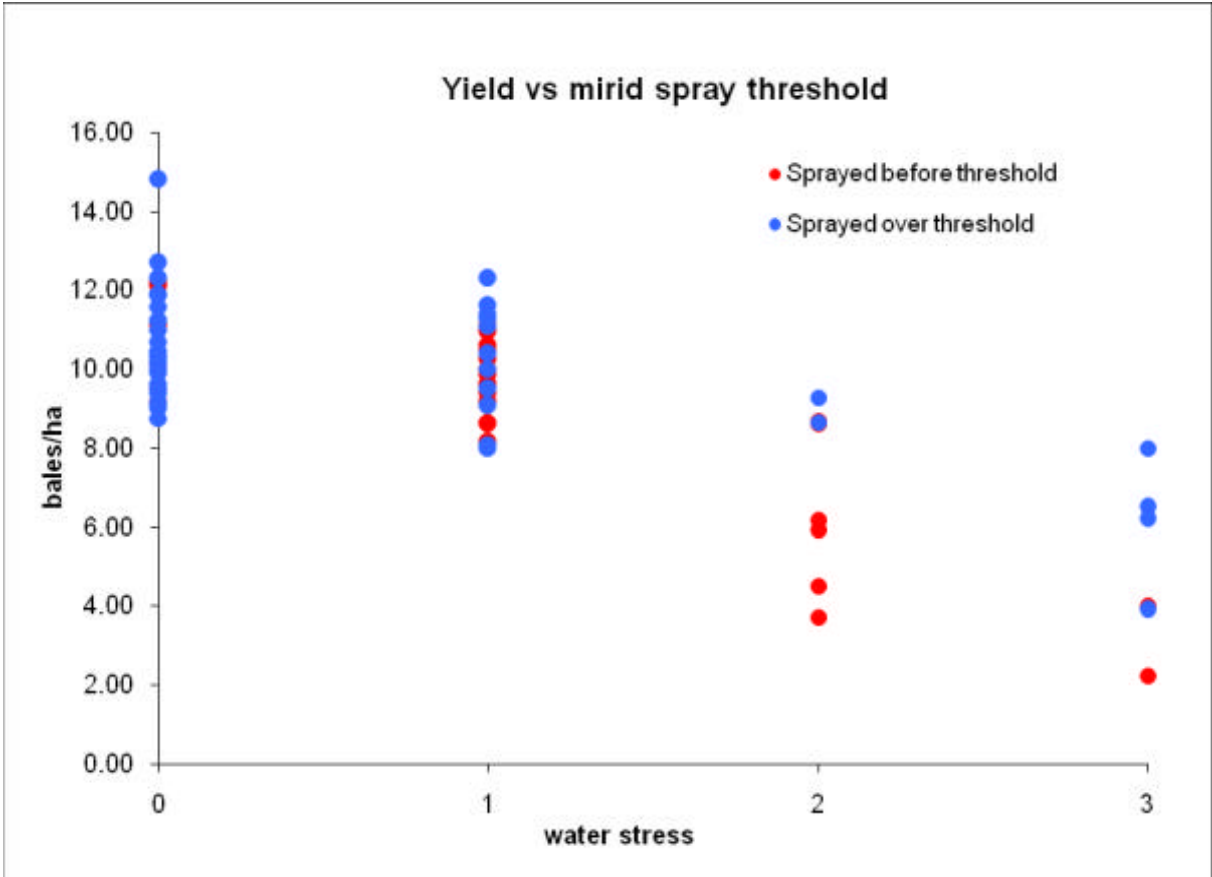
"In a commercial situation this would translate to needing to react sooner and be more likely to require the use of a more expensive control option."

Perhaps the most unexpected finding from the analysis of mirid control decisions was the impact of sampling method on the use of the thresholds. Pest managers were generally reluctant to accept the higher thresholds that are recommended when sampling the populations with a beatsheet.

Mary Whitehouse explains, "Formal studies have shown that three times more mirids are found in a beatsheet sample than will be observed during visual sampling.

"Beatsheet sampling is also more consistent. Consequently the industry recommends that the





Water stress was qualitatively assessed, where 0 = full irrigation program, 1 = slight stress due to waterlogging or one irrigation being missed, 2 = moderate stress, particularly during flowering and 3 = severe and prolonged moisture stress.

The 2006/07 survey of 107 spray events for mirids did not reveal any yield benefit from spraying before the threshold was reached. In fact when crops were moisture stressed, there was a yield advantage from waiting for the threshold to be reached before acting.

Industry Recommended Thresholds for Mirids

	Flowering to 1 open boll/m	
	Cool Region	Warm Region
Adults or Nymphs /m		
Visual Sampling	0.5	1.0
Beatsheet Sampling	1.5	3.0
Crop Damage		
Fruit Retention	60–70%	60–70%
Boll Damage	20%	20%

threshold for beatsheet sampling is three times that for visual sampling.

“The difference appears to arise because people using beatsheets are concerned by the insects they see flying off the sheet before they are counted but those that use visual sampling do not worry in the same way about the insects they never see. So visual samplers seem to be more comfortable with the thresholds that beatsheet samplers.”

As season 2010/11 commences, good rains have fallen across many of the cotton valleys, ensuring plentiful supply of spring host plants for early pest populations. Looking ahead, Mary advises that IPM will be as critical as ever to the industry this season. Sampling is the foundation of good decision making in IPM. Pest managers should feel confident to believe the beatsheet.

Check out all the details on sampling methods, thresholds and IPM tactics for all the key pests of cotton in the 2010/11 Cotton Pest Management Guide.

Dr Mary Whitehouse, Australian Cotton Research Institute

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mailto:mary.whitehouse@csiro.au

DON'T BE KEPT IN THE DARK TO WHATS HAPPENING IN YOUR CROP

► Protect your crop  
► Protect your technology

The Cotton Pest Management Guide is available at [www.cottoncrc.org.au](http://www.cottoncrc.org.au)

**For more information:**  
David Larsen 02 6799 1500 [David.larsen@industry.nsw.gov.au](mailto:David.larsen@industry.nsw.gov.au)

*Best Practice*



## HUMAN CAPACITY

NATIONAL PROGRAM FOR  
**Sustainable Irrigation**

CRDC funded Alison's PhD project *Improved irrigation of cotton via real-time, adaptive control of large mobile irrigation machines*, which developed a simulation framework, called VARIwise,

## NPSI supporting water science

Alison McCarthy is this year's National Program for Sustainable Irrigation/Irrigation Australia Limited travel fellowship recipient. Alison was awarded the fellowship at the Irrigation Australia Conference dinner held in Sydney in June.

The National Program for Sustainable Irrigation, of which CRDC is managing agent, provides \$10,000 each year to support the fellowship which will see Alison travel to the United States to visit Department of Agriculture irrigation engineering research facilities in March next year, taking in the states of Texas and Montana.

Developments in technology for precision irrigation decision making is one of Alison's key interests, which includes studies of the potential for improved production and water use efficiency using plant and soil sensing with high spatial resolution to signal when an irrigation is required for optimum growth.

Alison's findings are expected to be initially used in research to help develop automatic, real time decision-making controllers for site-specific irrigation.

The information arising from this study will potentially help inform growers of strategies for improved water management and result in the development of new decision-making tools.

"My goal is to become actively involved in the practical application of advanced engineering systems and the fellowship provides me with the opportunity to build on knowledge gained during my recently-completed PhD studies at the University of Southern Queensland," Alison said.

"It will enable me to establish relationships with leading researchers in the field, which will be important in my post-doctoral research that involves field trials of irrigation control systems."

Alison is interested in how Australia might gain from US developments of automated control systems which apply irrigation with the aid of such techniques as crop canopy temperature measurement using infrared and advanced real-time soil moisture and temperature sensing.

NPSI Coordinator Guy Roth said this fellowship was awarded to outstanding individuals who have demonstrated an understanding of the major strategic issues facing irrigation practice and policy and who have demonstrated they can make a significant contribution.

"This fellowship and our (NPSI) summer student research scholarships address the important dimension of human capacity by supporting bright, enthusiastic individuals who are committed to making a difference in their chosen field through research," he said.

CRDC also funded Alison's PhD project *Improved irrigation of cotton via real-time, adaptive control of large mobile irrigation machines*, which developed a simulation framework, called VARIwise, to simulate and evaluate adaptive control strategies for variable rate irrigation of cotton with lateral moves and centre pivots.

Alison's research stemmed from the fact that irrigation application in cotton is traditionally discharged at a constant rate within each field, delivering the same volume of water to each plant. However not all plants in a field require the same volume of water due to many variables. This may result in lower volumetric and water use efficiencies.

Although eight to ten percent of cotton crops are currently irrigated by large mobile irrigation machines, this is expected to increase to approximately 30 percent by 2020.

VARIwise uses historical data and/or quantitative measurements of crop status, weather and soil, either singularly or combined, to automatically adjust the irrigation application. It allows for field scale variations in input parameters and will allow for the application of the various levels of control strategies for site-specific irrigation at different spatial scales. Spatially varied irrigation is a term used to describe systems that are able to deliver differential amounts of water to different areas of the field.

"Using VARIwise we will be able to simulate and evaluate adaptive control strategies under a range of spatially varied conditions and targets," Alison says.

"From these evaluations we may then explore optimal control strategies for irrigation, temporal and spatial scale requirements for irrigation control, and the usefulness of additional sensors."

Alison McCarthy 07 4631 2189

mailto:mccarthy@usq.edu.au



Alison McCarthy with NPSI Coordinator Guy Roth at this year's Cotton Conference.





Yvette Cunningham (Cotton CRC), Eric Royer (ENSAIT - France), Mark Hickman (DEEDI QPIF) and Mick Foster (Auscott Ltd) at the 10th Field to Fabric course with one of the hosts Fred Horne of CSIRO's Centre For Materials, Science and Engineering.

# Glowing reviews for F2F

The 10th Cotton Field to Fabric course was held at CSIRO Materials Science & Engineering at Geelong in July, with four CRDC sponsored participants full of praise for the experience.

This year, a module on breeding and variety selection was part of the course, and a cotton gin has been installed at CMSE which assisted in the presentation of the ginning module.

And to keep up with moving trends, the course has broadened to look not just at the Australian cotton industry, but the industry world-wide, making this 10th course the most comprehensive to date.

Since its inception five years ago the Cotton Field to Fabric course has educated nearly 250 people from various sectors in the cotton production pipeline.

The initiative was the brain child of René van der Sluijs, Textile Technologist with CSIRO's Division of Materials, Science and Engineering (CMSE), and one of the industry's most knowledgeable people in his field. The course is jointly funded by the Cotton Catchment Communities CRC and is developing into a flagship project for the Cotton CRC.

Details of 2011 courses will be available on the CSIRO website - <http://www.csiro.au/events/Cotton-Field-To-Fabric-Course.html> or Cotton CRC - [www.cotton.org.au](http://www.cotton.org.au)

René van der Sluijs 03 5246 4000  
mailto:rene.vandersluijs@csiro.au

## Mick Foster, Auscott

"This course reinforced the importance of good agronomics and farm hygiene required to produce a quality product. The benefits of the farmer producing a quality product flow right through the production chain."

## Nigel Corish

"There were people attending the course from all stages of the value chain. It was good learning their thoughts and views on how quality is affected during the manufacturing process. It was a good group size as well, as it was small enough (around 20 people) to have a good interaction between everyone attending.

Another highlight I got by attending the course was to see the CSIRO research and factory site in Geelong. It was impressive to see the amount of research being undertaken to improve the quality of Australian cotton. Viewing the Cottonscan, Siromat and AFIS machines in operation gave me a good understanding of what the research potential is at the site.

"The knowledge I have gained by completing the course will be shared by a wide range of people in the cotton industry. I intend to apply the knowledge on a farm level to increase the quality of lint produced. I will therefore be working closely with my agronomist and the ginners to achieve this.

I will also be using the knowledge I have gained and apply it to the Cotton Australia value chain panel. Meeting the researchers who conducted the course was invaluable, as they are the people who are undertaking the research projects for the CRDC. By spending time with them it was good to see how passionate they are in increasing the quality of Australian cotton therefore benefiting the industry going forward. The knowledge gained will also allow me to make better informed decisions when reviewing the value chain projects in the future.

I feel it is important for the industry to continue putting pressure on the federal government to increase the research spending as it is still needed to improve the quality of Australian cotton.

The only recommendation I would make about the course is that everyone on the value chain panel should attend the course at some stage."

## Neal Stevenson, Dalby

"I now have a better understanding of the whole production chain, from when the seed is planted in the field to when the yarn is spun and the fabric is dyed. The process to turn the lint from the field into a piece of fabric is a very intense procedure, where any of the stages involved can affect the quality of the end product.

"The highlight of the course was witnessing the various and numerous pieces of equipment and machines used in the processing of the lint into a fashionable piece of fabric. Viewing the weaving and knitting machines were the main highlight."

## Helen Dugdale CRDC

"What impressed me most about the course was the passion all the researchers at the Geelong facility have for their research. They love thinking up new ways to work with cotton and make fabulous fabrics. They obviously enjoy their work.

"I was interesting learning about how different materials are processed compared to cotton. Just because something sounds 'green' it isn't necessarily so. For instance, hemp and bamboo use up an enormous amount of water and chemicals in the processing stage compared to cotton, and hence the finished product is not exactly 'natural'. The three days were definitely worthwhile."



## HUMAN CAPACITY



CRDC-sponsored Youth Undergraduate Naomi Marks

# Students call on industry support

An enthusiastic university student interested in pursuing a career in agriculture is looking to the cotton industry to provide short-term work experience.

Naomi Marks is the 2010 CRDC-sponsored Youth Undergraduate, as part of the Rural Industries Research and Development Corporation's (RIRDC) Investing in Youth Scholarships. Naomi is one of 10 students who were selected for their commitment and dedication to agriculture, their leadership skills and initiative and their commitment to achieving and delivering through the program.

Naomi was Vice Captain of Dorrigo High School and Dorrigo Lions Youth of the Year Winner.

She also received the Principal's gold medal for outstanding achievement for two years running.

Growing up on a dairy farm, she has her own cattle stud and actively promotes the jersey dairy cattle breed. She studied agriculture at school and this year started a Bachelor of Agribusiness at The University of New England. Naomi has a strong interest in agricultural finance and marketing and in pursuing a career in agribusiness.

CRDC is calling on interested bodies, businesses or individuals in the cotton industry to step forward to provide work experience

opportunities for Naomi.

"Naomi has expressed an interest in undertaking her industry placement in agribusiness finance or agribusiness marketing," said CRDC Manger Human Capacity Investment Rohan Boehm.

"The industry placement is for a period of two weeks and Naomi is available from the end of Semester, (November 17) until Christmas.

"RIRDC, through CRDC's sponsorship support, will cover all Naomi's costs and ensure she is covered by the Corporation's public liability."

Rohan said the Investing in Youth Undergraduate Studentship Program supports these undergraduates in achieving their career goals by providing them with financial assistance throughout their degrees, along with industry placements and career exposure and tailored support from an experienced mentor.

"Investing in Youth seeks to promote the dynamic and diversified number of career pathways that agriculture offers students entering tertiary education, while helping to address the chronic shortage of rural industry professionals," he said.

## A supply-chain approach for industry's workforces

The cotton industry believes a long-term approach is best when addressing its future workforce needs. Investing in Youth is a pilot initiative of RIRDC which involves co-investment with many rural Research and Development Corporations. Other successful examples of where industry is beginning to implement a supply-chain approach of co-investing with others to address future workforces is found with the Primary Industry Centre for Science Education (PICSE), Future

Cotton Leaders (Cotton Australia, Australian Rural Leaders Program (ALRP), Gateway Schools and the Aboriginal Employment Strategy (AES) School-based Traineeships.

For further information on how to become involved in supporting the cotton industry's future workforce development projects, contact Rohan Boehm.

📞 Rohan Boehm, CRDC 02 6792 4088  
mailto:rohan.boehm@crdc.com.au



The first high school student taking part in the Student Industry Placement Program through PICSE is The Armidale School's James Kirk from Moree, who is studying with researchers at ACRI.





Teacher Brony Nielsen with Calrossy students Anna Pursehouse, Laura Duncan, Kirsty McCormack, Alana Johnson and Helen Dugdale of CRDC who co-ordinated the girls' visit to the Cotton Conference.

# Conference covers it all for Calrossy

By Melanie Jensen

CRDC and Cotton CRC had much pleasure in sponsoring four students studying agriculture from Calrossy school in Tamworth, along with their teacher Brony Nielsen, to the Australian Cotton Conference on the Gold Coast last month.

At the last conference in 2008, a group of students from Farrer Agricultural College attended under the same scheme.

It is just one of the avenues CRDC supports in an effort to expose school students to the industry and commitment to build our future workforce. Other initiatives include the AES School-based traineeships, Gateway Schools Program, Primary Industry Centre for Science Education (PICSE) students and the RIRDC Youth Undergraduate Program.

The continued support of students to the cotton conference is an important aspect of this support.

"The girls made a very good impression on the cotton fraternity, with their enthusiasm, and willingness to learn about the industry," said CRDC Helen Dugdale

"All the girls mentioned how appreciative they were for the opportunity to attend and collected a mountain of information about the industry."

Hosted by Wincott during the conference, the girls were asked by the conference committee to run the

microphones during question time, which meant they attended all presentations.

"While learning a lot about issues facing the industry, their visions for the future and the production, distribution and retailing of cotton, we established connections with people within different industries to allow us, in the future, to obtain work experience, funding and employment," the students said in a report on the trip.

"On the first day we heard from Professor David Hughes who was one of, if not, the most entertaining presenter for the week. David showed some amusing comparisons between trends in the food industry and the Australian Cotton Industry, with Australia representing the small white boy and the large sumo the rest of the world!

"The second day's sessions provided us with a new outlook on the cotton industry and focusing on vertical integration, going from crop to shop.

"There were products available in the exhibition centre so you could locate exactly where the fiber was grown, spun and made within Australia."

The girls cited one of the most beneficial parts of the conference the hands-on workshop - "Women - Are We Ready for Change?" run by Jo Eady of Ruralscope, where they "learnt about positive principles and concepts".

"We stayed at this session for a second round we enjoyed the first round so much.

"The final session we attended was 'Getting the Most out of People and Your Personal Resilience' which was run by Dennis Hoiberg.

"This session was as equally as beneficial. We all contributed greatly and learnt a lot about how our personal wellbeing is reflected by our environment and what we do."

The experience has been one the girls will benefit from for years to come.

"I think it is fair to say that we all had a most memorable week, soaking up information about the cotton industry and obtaining invaluable contacts, whilst also enjoying ourselves," they said.

"We would like to express our gratitude and thanks to our sponsors Cotton CRC, CRDC and also Georgie Carrigan and Helen Dugdale for their help throughout the week stewarding us around all the friendly, influential and motivational people.

"And last, but definitely not least, our Agricultural teacher, Brony Nielsen for making the opportunity a reality and tirelessly organising everything for our trip.

"Thank you for all your hard work we thoroughly appreciate it."



## HUMAN CAPACITY



Hosting students in the workplace is a rewarding experience for all involved, say CRDC Executive Assistant Di Purcell (left) and IT Support Marg Wheeler, pictured with current student trainee Erika Anderson.

# Traineeships prove their worth

Cotton industry Indigenous school-based traineeships help students become confident and skilled individuals, while also benefiting employers.

The school based traineeship program is an initiative of the Aboriginal Employment Strategy, Cotton CRC and CRDC. It provides an opportunity for local indigenous students currently enrolled in Years 11 and 12 at Wee Waa and Narrabri High Schools to gain paid work experience, a nationally recognised qualification, credit towards their Higher School Certificate and exposure to the different career opportunities available in the cotton industry.

Three students completed their traineeships last year, and two students began their courses this year, with Danielle Murray-Smith of Narrabri High, working at ACRI, studying Business Studies Cert II and Erika Anderson at CRDC.

Erika Anderson from Wee Waa High School is completing her Office Skills Cert II traineeship at CRDC, and is pleased with her progress so far, both at a personal and work level.

"My confidence has majorly improved, I am able to speak to people in person and on the phone a lot more confidently," Erika said.

"I can also productively operate office equipment and complete daily tasks with confidence."

It has also opened up a whole new world and many career pathways.

"My understanding of the cotton industry has certainly widened and has been a learning experience all the way," Erika said

"It has given me an insight in to what working in this industry would be like."

The students are overseen by Executive Assistant Di Purcell and IT specialist Marg Wheeler, who provide guidance and mentoring as part of their usual day to day roles. They say the benefits of having these students are many and varied, with real improvement and satisfaction for both staff and student.

"The students go from being shy, uncertain and uncomfortable to being self assured, confident and capable," says Di.

"Initially, I had reservations about being the student's supervisor, but now I would thoroughly recommend this initiative to other businesses.

"It is very rewarding to see a young person become more confident and self assured and hone skills that they may not know they have.

"It is also a delight to catch up with them each week and hear about what is happening in their lives."

Marg Wheeler agrees.

"I think it's great to see the change in them after a year.

"They are booming with confidence and personality and over the time we have given them many different tasks and shown them new software and so on, so I think we have given them a real head start."

In this two-way street, a business or organisation also has much to benefit, with both Marg and Di recommending the experience to other businesses and organisations.

"There are the obvious benefits of having an extra person to help with a range of different jobs - an extra pair of hands," Di said.

"We have rescheduled our fortnightly staff meetings to the day the student comes in as she can answer the phone and act as receptionist, which is great for everyone.

"In saying that, the most significant benefit to the organisation is job awareness.

"When you are responsible for training someone you actually are much more aware of what you do and how you do it and what is the best way of doing it.

"It is a well known fact that what you do has more influence than what you say and we see this in the AES students."

"CRDC sees this as part of its corporate





AES School-based Traineeship participants Beau Quirk, Bronwyn Scott, CRDC's Helen Dugdale and Chloe Pokarier-Baker at the students' graduation ceremony last year.

responsibility and benefits practically," says Marg.

"We are helping out a student who may not ordinarily have a chance at viewing how organisations work and how an office is run, and the students are paid for it and also earning a qualification.

"Practically, CRDC benefits by another hand in the office to answer the phone, typing, filing and so on."

In early July, at the 2010 AES Partnership Awards, CRDC and Cotton Catchment Communities CRC were acknowledged for their commitment to the program.

Helen Dugdale, who co-ordinates the program within the industry, accepted the award and was also commended by AES CEO Danny Lester for her commitment to the program and seeing it through to success.

On receiving the award, Helen said it was accepted on behalf of the cotton industry – CRDC and Cotton CRC, and the actual researchers and office staff who work with the trainees.

"This award represents the recognition and contribution of CRDC and the Cotton CRC in assisting the AES in reaching the vision of a career opportunity for every Indigenous Australian," AES CEO Danny Lester said.

"We want our corporate partners to be recognised for their efforts towards providing careers to Indigenous Australians."

"Our goal is not only to provide meaningful traineeships and exposure to the cotton industry for the individual students but to also provide evidence to other organisations which will encourage them to take on an AES school based trainee," Helen Dugdale said.

"Taking on a trainee while at school gives structure, supervision and consistency to the students to take on a job for one day a week, which is also provides a great start in workplace ethics.

"I encourage other cotton-related businesses to become involved."

**Helen Dugdale CRDC**  
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## A student's view

*Spotlight* asks current CRDC student trainee Erika Anderson how this experience is shaping her future.

### How did you become involved in this scheme?

The Traineeship position was advertised in our school newsletter last year and I was interested so my Career's Advisor organised an interview with both Kate Schwager from the ACRI and Helen Dugdale from the CRDC. I chose to complete my two year school-based traineeship at the CRDC and started January this year. Being involved in this school-based traineeship means I can work whilst still being at school. In order to complete the traineeship, I have to do a minimum of 800 hours work over the two years and have completed a TAFE Certificate II in Business Services.

### What have you enjoyed the most about it so far?

I have enjoyed the learning experience and meeting a variety of different people. Being involved in this school-based traineeship means I can earn and learn at the same time. It gives me a head start in the workforce and gives me a valuable qualification and TAFE Certificate at the end. I have also enjoyed working with the staff, all of whom are very friendly and helpful, and never short of a joke.

### What have you learned about being in the workplace so far?

I have learned a lot about working in an office environment including how to answer and transfer incoming phone calls, operate the Microsoft Suite and work effectively using Online Databases. Working in an office environment has taught me a great deal; I can perform tasks more quickly and efficiently, and have learnt about working with other staff members. My understanding of the Cotton Industry has certainly widened and has been a learning experience all the way.

### Do you feel your confidence has improved? What other improvements have you seen in yourself?

Yes, I think it has majorly improved. I am able to speak to people in person and on the phone a lot more confidently. I can also productively operate office machinery and complete daily tasks with confidence.

### What else would you like to achieve while you are there?

I would definitely like to be able to learn more and be exposed to new technologies. The more skills I learn now whilst still at the school, the better off I will be in the future.

Does being part of CRDC make you more likely to become involved in the cotton industry or agriculture?

I'm still not sure what career path I want to choose in the future but working at the CRDC has definitely given me an insight as to what working in this industry would be like and has given me a different perspective and understanding of an office occupation. The skills I have gained since becoming a trainee at the CRDC have been very useful and I know will they benefit me in the future.

# 100 percent Australian

## A dream becomes reality for this Cecil Plains Cotton Grower

Forty years ago Ruth Armstrong's 100 percent Australian cotton clothing would have been just one of hundreds of such products on the market in this country.

Today it is one of just a handful and the only brand which grows its own cotton.

On a farm near Cecil Plains on Queensland's Darling Downs, Ruth Armstrong and her husband Dave produce the cotton which goes into this range of men's polo shirts made entirely in Australia.

From the Cecil Plains gin, the cotton goes to the CSIRO Centre for Materials Science and Engineering facility

at Geelong to be spun into yarn, then to Melbourne for knitting into fabric.

Finally the fabric is dyed in Ballarat and sewn into shirts in Collingwood, hence never leaving the country at any stage of the processing chain.

Ruth's product is unique in this way and is the result of a desire to give consumers the choice of 100 percent Australian product in a market dominated by cheaper imported clothing from major processors.

The 'Lea Creek' label was launched at the Australian Cotton Conference last month, the culmination of two and a half years of work.

Ruth Armstrong at her "Lea Creek" shirt display at the Australian Cotton Conference with AWH Pty Ltd's Max Dugmore.

Spotlight's **Melanie Jenson** caught up with Ruth after the conference to find out more about this unique venture.

### How did this venture start?

*My husband Dave returned from a business trip to the US with some long sleeve tees for our daughters as gifts, but disappointingly, they were made in Honduras. It's difficult to buy clothing in the States that's actually made in the States now, and it's the same situation here in Australia. Very difficult to buy anything that's made in Australia, and if it is made in Australia, it almost certainly won't be 100 percent Australian cotton. I'd been toying with the idea of producing a clothing line for a number of years. Because I'm tall (6ft), I struggle to buy clothes that actually fit me and figured that the only way I was ever going to get clothes to fit was to make them myself. I'd also been reasonably frustrated by the lack of availability of Australian made clothing, even our iconic Aussie clothing labels were now manufactured offshore. Then when Dave returned from the States with these tees, it sort of clicked into place. Why couldn't I make 100 percent Australian cotton and Australian made clothing? So I set about seeing if I could actually do it. (Down the track, I would like to be able to cater to those of us who have trouble getting clothes to fit.)*

**However taking on this task has been no mean feat, what obstacles and challenges did you have to overcome?**

*I actually thought the dream was over before it had even begun. I could not find a commercial cotton spinner in the country and was giving consideration to shipping cotton to Indonesia for spinning. But during one of my many internet searches in those early days, I happened upon the CSIRO Field to Fabric website. Dave and I registered for the 2008 course, and a month or two*

*leading up to the course in July of that year I rang course convenor (and CSIRO textile technologist) Rene van der Sluijs and told him of my plans. He informed me that CSIRO Centre for Materials, Science and Engineering (CMSE) had spinning capabilities, and would be in a position to help me out with small quantities. We agreed to do a single bale trial to see how things went.*

*I had originally planned to produce a bale's worth of men's, women's and children's t-shirts — keeping it simple for starters. But when I received my fabric samples from the dyer I discovered that my t-shirt material was in fact polo shirt material. (When selecting colours, I send the dyer the colours I would like, on any fabric, and they colour match on my fabric and send back to me to sign off on.)*

*So when I had my first meeting with the manufacturer to discuss the design of the shirts — my men's, women's and children's t-shirts had evolved into polo shirts. Then I was informed that I only had men's collars. So my men's, women's and children's polos had further evolved into just men's polos - even though I had a roll of nice pink fabric!*

*My greatest hurdles were legal. I had trademark issues that took a year to sort out, and this slowed the whole process considerably.*

### How did you make it happen?

*Everyone involved in the entire process was most helpful. I mentioned how I met Rene. He liaised with the knitters on my behalf and had the yarn transported there — Avanti knitting mills in Melbourne. Hilton Dyers and Finishers in Ballarat are a sister company to Avanti Knitting. And the dyer who dyed my fabric,*

*Frank Baccalini, recommended Sandy Di Pietro of Qualitops Pty Ltd in Collingwood for manufacture. I had my labels made by Namemakers in Brisbane, and the embroidery on the finished garments was done by ALE clothing Co in Toowoomba.*

**Traceability was a major theme running through the conference this year, and this is a feature of your garments, how important is this to your business?**

*When I attended the Field to Fabric course at CSIRO Geelong in 2008, I was surprised to learn how cotton is blended once it gets to the spinning mills in Asia. A mill will purchase cotton from many different countries around the world, and will specifically use Australian and Californian cottons to improve the overall quality of the yarn produced. So a mill may line up 20 to 40 bales from China, West Africa, India, etc and add a couple from Australia and/or California and blend them together to create a yarn of reasonable quality. So the fabrics that we handle every day are a blend of cottons from all over the world and we have no way of knowing where the cotton was originally sourced from. In contrast to this, I can tell you which field on our farm the cotton for these polos has come from. I can tell you the variety of the cotton, the fibre quality, whether it was raingrown or irrigated, and the agronomic inputs that occurred during the season. Consumers have been interested for a number of years in knowing where their food comes from, and I think that wanting to know where our clothes and our linens and a whole host of other products actually come from is only going to become more popular as consumers become more aware and informed.*





**Going forward, Ruth still hopes to expand to include women's and children's wear. How can the industry help you (advocate for your product) going forward?**

*I think the process has already begun. The Australian cotton industry has done a very good job of promoting Australian cotton in the global marketplace. Australian cotton is very highly regarded internationally and BMP has further emphasised this. Australian cotton is sought after, because it has a reputation of being consistently high in quality and low in contaminants. And of course, very recently a number of other 100 percent Australian cotton products have emerged in the marketplace. That's probably the single most significant factor that needs emphasising now. Australian cotton already has the reputation, 100 percent Australian cotton needs to be promoted. Hopefully, the consumer will one day speak about 100 percent Australian cotton in the same way they speak about Egyptian cotton.*

**What does it mean to you to have the industry support – from the use of their processing facilities to inclusion at the course and the conference?**

*I have actually been overwhelmed by the level of support I have received. Rene has been like a mentor to me, and to be frank, without his support and enthusiasm for the project it would never have happened. Likewise, the Cotton Conference Committee was most generous and supportive in allowing me to launch the label at this year's conference.*

*Wincott, and particularly Barb Grey, who rang me out of the blue to offer her support and assistance, and David Bone, Cotton Australia, who made sure I was speaking to all the right people at the conference. In short, I have had an overwhelming positive response to my new business, and not one single detractor, and I've been speaking to a lot of people these last couple of years.*

**How could industry be more supportive of initiatives like yours?**

*How about getting a commercial spinning mill back in Australia! Perhaps the industry needs to consider forging (stronger) ties with Australia's textile clothing and footwear industry. I actually don't know the answer to that question. Honestly, I've already mentioned that the support that I have received has been fabulous. But at the end of the day, there is only limited scope for projects such as mine. Wholly Australian products cannot compete in the marketplace, except in a niche, boutique capacity, and that makes it difficult for the industry to support such initiatives, proactively at least.*

**Advice to anyone else thinking of taking on such a challenge...**

*I really want to say 'don't', I don't need the competition! Jokes aside, if you have a novel idea, do your market research. Identify what the consumer wants and don't be afraid to ask for help.*

**?** Ruth Armstrong  
mailto:sales@leacreek.com





Against the backdrop of the image of a boy and sumo wrestler David Hughes asked Australian Cotton Conference attendees “Remind me. Australia’s cotton is famous for...? And from a shopper’s perspective...? Australia’s position in the world market?”

# Fashioning the Future

By Bruce Finney

A highlight of the 15th Australian Cotton Conference was the keynote presentation by Dr David Hughes, Emeritus Professor of Food Marketing at the Imperial College in London. David spoke to the major global issues and developments shaping the future of cotton using many insightful and amusing anecdotes from the food industry.

Most importantly he challenged the Australian cotton industry to define its future position in the word cotton market. Against the backdrop of the image of a boy and sumo wrestler David asked “Remind me. Australia’s cotton is famous for...? And from a shopper’s perspective...?”

Australia’s position in the world market?

David Hughes suggested the mega-issues which will have impact on the global cotton industry will be:

- Economic recovery and consumer confidence in developed countries (double dip recession?)

- The rate of economic and population growth in emerging countries
- Global food insecurity and its impact on demand for agriculture – food vs fibre
- Future oil prices and their impact on global economic growth, the costs of producing and market prices for cotton and competing synthetic fibres

The importance and influence of environmental credentials was put in perspective with numerous examples of lobby group, brand owner and retailer initiatives. Consumer analysis highlights that a proportion of shoppers are willing to pay more for organic food, ethically produced goods or goods that are better for the environment.

So what about factors influencing apparel purchases?

Firstly the available data confirms that consumers see natural fibres as safest for the environment. Secondly the brand value for the top 10 apparel brands is big, it’s estimated to be worth in excess of US\$86 billion. Research by Cotton Incorporated, USA, in 2009 showed that on a scale of importance consumers rated fit 98 percent, price 93 percent, style 89 percent, colour 88 percent and environmental friendliness 51 percent.

David Hughes made the important observation that globally food and fibre producers are being squeezed by market power polarisation. With the life science companies taking control of genetics and major food and fibre retailers the ownership of information on consumer behavior.

So David’s challenge is clear. Rather than relying upon adversity in other cotton producing nations and commodity traders for market spikes what unique and sustainable market position should we seek for Australian cotton into the future? In doing so how will we manage our genetics and marketing messages to avoid being squeezed?

The cotton industry Vision 2029 provides the platform for industry to engage in developing and implementing a response.

