



FARMING SYSTEMS



HUMAN CAPACITY



Australian Government

Cotton Research and
Development Corporation

Annual Operating Plan 2010—2011

"The quest for sustainable competitive advantage"



**Australian Government****Cotton Research and
Development Corporation****Responsible Minister**

The Hon Tony Burke MP, Minister for Agriculture, Fisheries and Forestry

Legislated representative industry body

Cotton Australia

CRDC Board of Directors

Chair Mike Logan
Vice Chair Leith Bouilly
Executive Director Bruce Finney

Non-executive Directors

Kerry Adby
Mary Corbett
Glen Fresser (Fleischfresser)
Juanita Hamparsum
Peter Hayes
Lisa Wilson

CRDC Management

Executive Director	Bruce Finney*
General Manager R&D Investment	Bruce Pyke
Manager – Communication and Capacity Investment	Rohan Boehm
Manager – Farming Systems Investment	Tracey Leven
Manager – Value Chain Investment	Dallas Gibb (Contractor)
Manager – R&D Implementation	Helen Dugdale
Project Administration Manager	Margaret Wheeler (Acting)
Executive Assistant	Dianne Purcell
Bookkeeper	Elizabeth Morrissey

* Bruce Finney is also responsible for conducting an environmental scan of the Corporation's operating environment in 2010–11

© Cotton Research and Development Corporation, April 2010

ABN 71 054 238 316
Address 2 Lloyd Street (PO Box 282)
NARRABRI NSW 2390
Australia
Phone +61 (0)2 6792 4088
Fax +61 (0)2 6792 4400
Email crdc@crdc.com.au
Website www.crdc.com.au



Australian Government
Cotton Research and
Development Corporation

23 April 2010

The Hon Tony Burke MP
Minister for Agriculture, Fisheries and Forestry
Parliament House
CANBERRA ACT 2600

Dear Minister

I am pleased to submit for your consideration and approval the Annual Operating Plan of the Cotton Research and Development Corporation for the 2010–2011 year, as required under sections 25 and 26 of the *Primary Industries and Energy Research and Development (PIERD) Act 1989*. This represents the third year of operation under the Corporation's Strategic Plan 2008–2013.

As in previous years, the Australian Government National Research Priorities and Rural Research and Development Priorities are central to CRDC planning and execution. The Corporation welcomes your identification of priority R&D areas for 2010–2011 and I am pleased to report that we have been able to incorporate and highlight them in our new annual plan. We have indicated specifically where your priorities are being addressed, and how. A number of the priority areas are addressed in more than one place, due to the integrated nature of our R&D investments, which were designed to deliver multiple strategic outcomes under our five-year plan.

In addition to the guidance provided by the Australian Government, our industry stakeholder, Cotton Australia, has been closely consulted in formulating the plan and ensuring it also addresses the industry's R&D priorities.

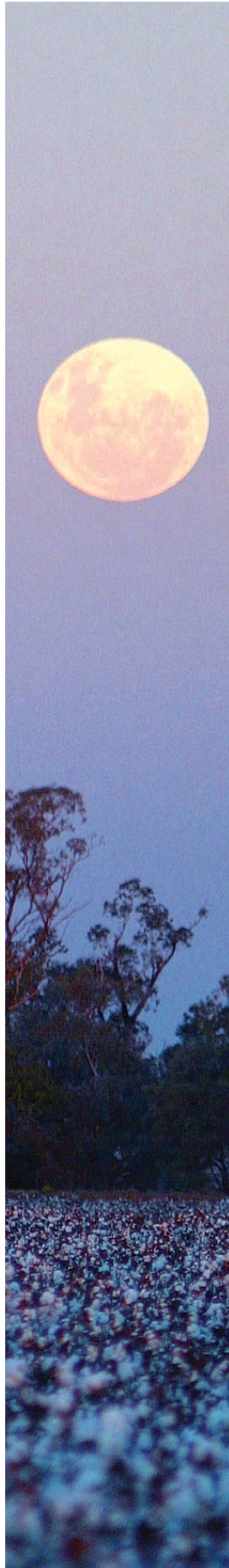
CRDC seeks to formulate its strategic plan, annual operating plans and annual reports in a manner that allows a clear and measurable accountability framework. This process has evolved and strengthened with input and assistance from our stakeholders and this Annual Operating Plan continues that evolution.

We look forward to implementing this plan and informing you of the benefits it has delivered to the Australian people, the Australian cotton industry and the regional communities within which it operates.

Yours sincerely

Mike Logan
CHAIR

Letter of Transmittal	iii
Foreword: The quest for sustainable competitive advantage	1
CRDC Values and Commitment	4
Industry Outlook, Success and Reporting	5
The Rural Research and Development Corporations	6
Stakeholder R&D Priorities	7
Stakeholder priorities incorporated into planning and execution	7
Addressing stakeholder priorities in 2010–11	8
National Research Priorities and Rural R&D Priorities attributed to R&D programs	12
R&D Program 2010–2011	
Program One VALUE CHAIN	13
Program Two FARMING SYSTEMS	15
Program Three HUMAN CAPACITY	18
Financial Information	
Financial outlook	20
Financial tables	21



"The quest for sustainable competitive advantage"

Achieving the Strategic Plan

The 2010–2011 year marks the mid-point of operation under the Strategic Plan 2008–2013. Under this plan CRDC, in collaboration with growers, researchers and the commercial sector, is working to achieve 'the quest for sustainable competitive advantage' for Australian cotton.

The importance of this quest is only increasing within the context of the strategic challenges and opportunities arising for the Australian cotton industry and agriculture in general. The Corporation plans to expend \$9.68 million in the 2010–11 year to drive industry performance improvements through ongoing gains in productivity growth, improved energy and water use efficiency. This will be done with complementary improvements to environmental performance and a focus on enhancing adoption and collaboration where it delivers impact and efficiency gains in R&D.

The continuing impact of drought on R&D expenditure

The Corporation, in planning for the 2010–11 year, has considered how it can best respond within the financial constraints of the ongoing impact of drought. The Australian Bureau of Agricultural and Resource Economics (ABARE) forecasts Australian cotton production to be 371,000 tonnes (some 1.6 million bales) in 2009–10 (ABARE *Australian Crop Report* no. 153, 16 February 2010). This is some 16 per cent higher than the previous year but still well below the pre-drought five-year average of three million bales and almost 400,000 bales below CRDC's budgeted forecast.

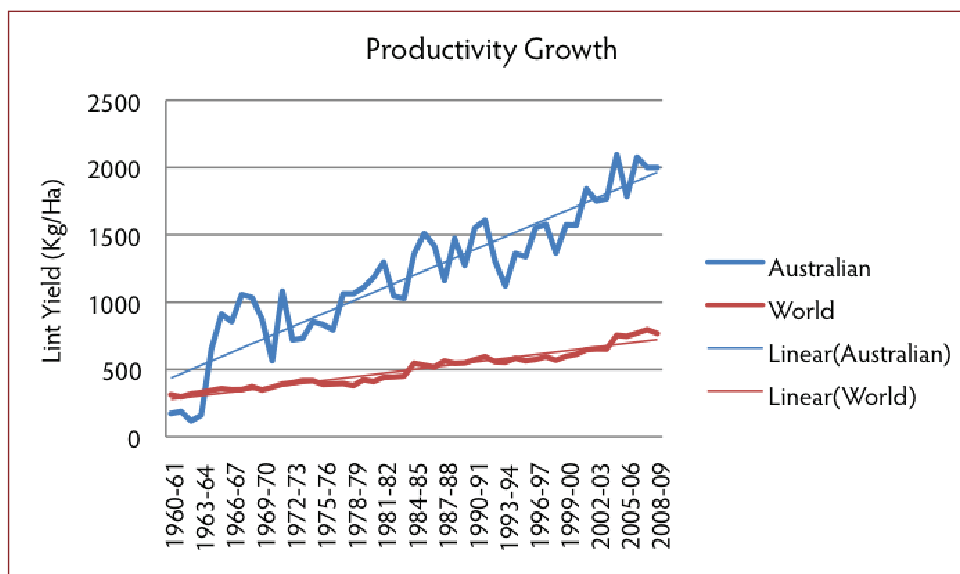
In the 2010–2011 operating year, CRDC will draw income from both the 2009–10 and 2010–2011 crops, with Australian Government matching expenditure of levies on eligible R&D, capped at 0.5 per cent of the three-year average gross value



of production or the cumulative levy receipts, whichever is the lesser. Whilst there is some optimism for increased production in 2010–11 the net effect is a continued constraint on the revenue that CRDC will have for R&D investments in 2010–2011, compared with historic levels. Budgeted expenditure is some 35 per cent less than pre-drought levels.

Improving the performance of cotton

Cotton operates in an environment where there is an ever-increasing demand for land, water, food, energy and labour. The Australian cotton industry is aided within this environment by consistent R&D gains, which have greatly increased productivity and allow the industry to make better use of scarce resources. Productivity has risen by a steady four per cent per year over the past decade, as shown in the accompanying graph. CRDC's investments in 2010–11 will sustain productivity growth and improve routes to market for premium Australian cotton products.



Source: CRDC (from International Cotton Advisory Committee data)

Energy Use

CRDC has recently invested in a series of case studies to better understand energy use on irrigated cotton farms in terms of cost, efficiency and greenhouse gas emissions. At around 10 to 11 per cent of total variable costs of production, fuel, oil and electricity, costs tend to run parallel to those of the major fertiliser input, nitrogen. Therefore it is not surprising to find that average energy related greenhouse gas emissions (0.712 t CO_{2-e} per hectare from seven case study farms) appear to be equal to average emissions from fertiliser use (0.67 t CO_{2-e} per hectare based on Australian Greenhouse Gas Inventory and industry production data from 1990 to 2007). A key message from this preliminary study is that a focus on improving on-farm energy use efficiency appears to be as important in irrigated systems as improving nitrogen use efficiency. As a result, CRDC will be extending its R&D investments to assist industry with reducing its carbon footprint in 2010–11.



Global food security

The CRDC and the Australian cotton industry have identified three ways in which it can contribute to increasing food production:

- ▶ Continuing to drive productivity gains in crop outputs

For every two tonnes of cotton lint produced, three tonnes of cottonseed are also produced. Cottonseed and its by-products are major food and stock feed ingredients. CRDC will continue to investigate opportunities to improve the yield and nutritional value of cottonseed during 2010–11.

- ▶ Continuing to drive the efficiency and resilience of the farming system

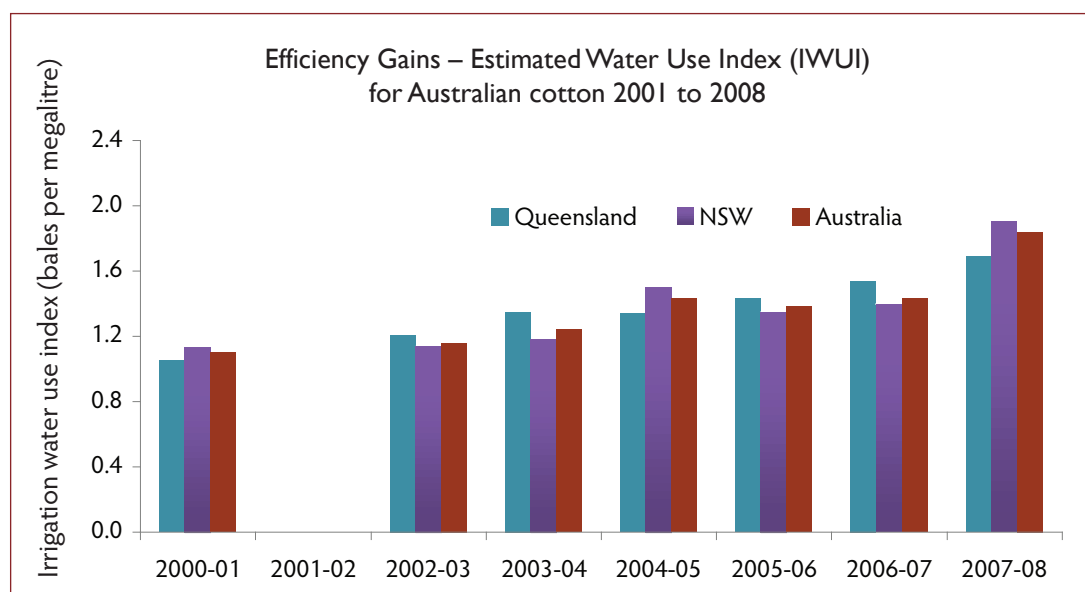
Cotton, usually the most profitable crop, drives the economics of a complementary farming system with grain crops. In 2010–11, CRDC will continue to work collaboratively with other RDCs and research providers in this area.

- ▶ Continuing to build the industry culture of innovation and learning

As a leading industry in productivity growth through innovation, the cotton industry can provide significant spill overs from the knowledge, practices and technology developed through cotton R&D for adaptation and application to the production of food crops. CRDC will also be working closely with the cotton industry, international partners and other RDCs to maximise opportunities for R&D knowledge and technology exchange in 2010–11

Water Use Efficiency

Water use is a major sustainability factor that the CRDC will continue to tackle through R&D investment during 2010–11. Water use efficiency has improved as a result of improved yields and the adoption of more efficient irrigation technology and management practices. The following graph shows the estimated Irrigation Water Use Index (IWUI represents bales per megalitre of irrigation water extracted) based on national cotton crop irrigation water use and crop production data. The



Source: Based on Australian Bureau of Statistics water data and Australian cotton industry production data

IWUI provides a measure of how effectively irrigation water is converted into cotton lint and the trend over the 8 years shown indicates that improvement since 2000/01 has been over 5 percent per annum.

Ensuring a skilled workforce

People working in the Australian cotton industry are, on average, more highly trained than in other agricultural industries, due in part to CRDC training investments in recent years. In 2010–11, CRDC will build on this base with a range of measures for those already in the industry and others who may be attracted to the industry. Measures include the University of New England/Cotton CRC Cotton Production Course, the Field to Fabric training course, the Cotton and Grains Irrigation Management course and Vocational Education Training in Schools (Certificates II to IV). We will also invest in travel and training opportunities for researchers and support a cotton industry scholarship in the Australian Cotton Leadership Program and in the Australian Rural Leadership Program. Women continue to take up many of these opportunities, with encouragement from CRDC. A schools-based traineeship program, developed by CRDC with the support of the Aboriginal Employment Strategy and the Cotton CRC continues, with a new student undertaking paid work experience at the Corporation in 2010–11.

Cotton research, development and extension sector plan

The development of a cotton industry vision to inform future strategic R&D needs and priorities should be finalised before the start of the 2010–11 year. This process includes consideration of the pressing issues of rising energy costs, likely technology breakthroughs, scarcity of water and competition from other textiles and food crops.

Increasing uptake of R&D outcomes

Under the Strategic R&D Plan 2008–2013, a great deal of thought has gone into devising a range of new and innovative methods for the delivery of knowledge and information that specifically address newly defined grower and industry needs and include, in particular, a new online environment and greater engagement with agribusiness. The 2010–11 year will see continued implementation of a new model for supporting adoption of industry R&D and the redevelopment of myBMP, the web-based version of the industry's Best Management practices Program, which will allow cotton growers to self-assess their performance and practices against industry agreed standards.



Biosecurity threats

The industry has been notified of an incursion in Queensland of an exotic species of mealybug, *Solenopsis mealybug* (pictured below, left), resulting in patchy and localised damage. CRDC is assisting the industry in its response through the Cotton Catchment Communities CRC, including increasing industry awareness and preparedness for major biosecurity threats, particularly silver leaf whitefly, the new mealybug, *Helicoverpa* and viruses.

Major collaborative activities

CRDC will engage and foster collaboration across the rural R&D system to deliver strategic outcomes and efficiency gains. CRDC will once again collaborate with organisations such as the Grains R&D Corporation, Horticulture Australia, the Rural Industries R&D Corporation and the Cotton Catchment Communities CRC. CRDC is a core partner and investor in the Cotton CRC and will continue to co-invest \$4 million during the life of the CRC.

In 2010–2011, the Corporation will also collaborate internationally, with Cotton Incorporated (the peak body for cotton R&D in the USA) and with spinning mills in China, India and Indonesia in important Value Chain value-adding research. Major collaborations in the coming year include:

Cotton and Grains

CRDC continues its Cotton and Grains collaboration with the Grains Research and Development Corporation (GRDC) in 2010–11. By the commencement of the operating year, CRDC and GRDC team members will have met to synthesise joint messages and plan how best to build on the collaborative R&D effort.

Cotton and Wool

CRDC, the Australian Cotton Shippers Association and Australian Wool Innovation (AWI) have reached agreement with a major mill in China and Australian brand owner, Fletcher Jones, to develop a new premium 100 per cent Australian cotton and wool blended natural fibre shirt. This is in addition to an agreement to develop a new Australian 100% cotton shirt (not involving AWI).

Sustainable irrigation

With the closure of Land and Water Australia, CRDC took on the role of Managing Agent for the National Program for Sustainable Irrigation (NPSI) in 2009. The 'visioning project' to inform a future direction in irrigation R&D is underway and will complement the Council of Australian Governments National Water Knowledge and Research Strategy and the Primary Industries Standing Committee cross-sector Water Use in Agriculture initiative. CRDC believes that a long-term plan and commitment to irrigation R&D that services the broad needs of agriculture is of national significance. We look forward to the challenges our new role will bring in 2010–11.

Australian Cotton Conference

The 15th Australian Cotton Conference, to be held 10–12 August 2010, is organised by CRDC's legislated industry body, Cotton Australia and the Australian Cotton Shippers Association. As a foundation sponsor, CRDC will provide Cotton Australia with \$50,000 and will also be closely involved in the broad range of conference-related activities.



VISION

A globally competitive and responsible cotton industry

MISSION

The quest for sustainable competitive advantage

PURPOSE

Enhancing the performance of the Australian cotton industry and community through investing in research and development, and its application

OUTCOME

A more sustainable, profitable and competitive cotton industry, providing increased environmental, economic and social benefits to regional communities and the nation.

It acts as a formal and informal information source for stakeholders and client groups (facilitated by its location in a major cotton growing centre), through general industry media activities and the Corporation’s website, www.crdc.com.au.

CRDC researchers are actively involved in the dissemination of research results, working through a range of complementary public, industry and commercial delivery pathways.

Our Corporate standards

In carrying out the functions of the Corporation, Directors and staff members are required to:

- ▶ Commit to excellence and productivity
- ▶ Be accountability to stakeholders
- ▶ Act legally, ethically, professionally and responsibly in the performance of duties
- ▶ Strive to maximise return on investment of industry and public funds invested through our Corporation
- ▶ Strive to make a difference in improving the knowledge base for sustainable cotton production in Australia
- ▶ Value strategic, collaborative partnerships with research providers, other research and development bodies, industry organisations, stakeholders and clients, for mutual industry and public benefits; including cooperation with kindred organisations to address matters of national priority
- ▶ Value the contribution, knowledge and expertise of the people within our organisation and that of our contractual consultants, external program coordinators and research providers
- ▶ Promote active, honest and effective communication
- ▶ Commit to the future of rural and regional Australia
- ▶ Comply with and promote best practice in corporate governance
- ▶ Commit to meeting all statutory obligations and accountability requirements in a comprehensive and timely manner.

Our background

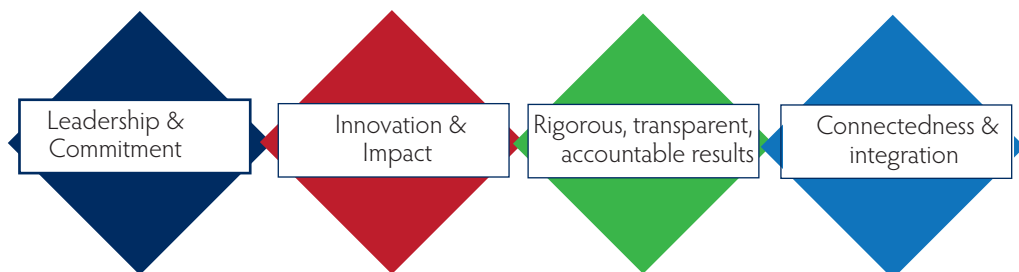
CRDC was established in 1990 under the *Primary Industries and Energy Research and Development (PIERD) Act 1989*, which outlines its accountability to the Australian Government and to the cotton industry, through Cotton Australia.

CRDC invests in and manages a portfolio of research, development and extension projects that seek to enhance the environmental, social and economic values associated with cotton production systems and to increase benefit to cotton industry participants, regional communities and the Australian people.

CRDC funds and coordinates the development of technical and non-technical documents, guides and other information tools and coordinates workshops, seminars and field days for a range of purposes including research review and progression, information sharing or technology transfer to industry.

CRDC produces a range of publications about corporate activities and operations and to disseminate research outcomes.

Values CRDC embraces to execute its Strategic Plan 2008–2013



Our purpose is to enhance the performance of the Australian cotton industry and community through investing in resear and development, and its application

Our underlying principles are to implement our objectives and outcomes using a triple bottom line framework for planning, implementation and reporting:

- | | |
|---------------|-------------------------------------------------|
| Economic | Profitability and International Competitiveness |
| Environmental | Sustainable Production Systems and Catchments |
| Social | Empowered People and Communities |

Crop outlook

Most cotton valleys received substantial rainfall in late 2009 and early 2010; however, this came too late for growers to increase cotton plantings in the 2009-10 season.

The rainfall has significantly improved the outlook for agriculture and dryland cotton production in southern Queensland and north-west New South Wales in the 2010-11 season. Unfortunately these rainfall events have as of March had little effect on water levels in the major irrigation dams serving the cotton growing regions, particularly in New South Wales. Hence the industry outlook for production in 2010-11 is for an increased area of 250,000 hectares producing 2.0 million bales of cotton. It is likely that the proportion of dryland production will be much higher than historical 12-20% levels.

International competitiveness

On a positive note, the world textile market is continuing to improve, driven by progress in global economic growth. The projection for mill demand for cotton in 2010-11 is 114 million bales. The market fundamentals are sustaining world prices for cotton, with domestic prices similar to the historic average of \$450 per bale, excluding the value of cottonseed.

The higher prices for cotton, combined with falls in the prices of grains, are forecast to underpin a 10 per cent increase in world production to 112 million bales in 2010-11. Ending stocks, or stocks remaining from previous seasons, are forecast to fall to 46 million bales by July 2011. Australian cotton, which overwhelmingly sells in the highest category of upland cotton on the Liverpool Cotton Outlook 'A' index, continues to perform well against the industry SJV benchmark and has a track record of successfully selling into this competitive market.

Achieving the outcomes

During 2010-11, CRDC will continually review performance and achievement against the strategic R&D Plan goals and measures of success and will set directions for 2011-12. At the same time, CRDC will monitor and consider the strategic importance of changes in the operating environment. In forming decisions, the advice of industry and Australian Government stakeholders will remain of critical importance.

While the emphasis of investment is in applied research, the goal of transformational change requires that CRDC invest in some higher risk blue sky research. In these instances, detailed business cases evaluating the risks, the pathway to adoption and the benefit to industry and Australia will be undertaken. CRDC research programs will be implemented through a combination of open call and commissioned projects. Implementation will also involve investment through collaborative joint ventures or cross-primary industry initiatives where CRDC identifies synergies and cost benefits. In implementing this plan, CRDC will seek to achieve a balance between shorter term and longer term strategic investment.

The R&D investment process

CRDC has relied on a two-part process to evaluate and make R&D investment decisions. This process continues to evolve as implementation of investment in value chain and human capacity research requires new collaborations and the attraction of new

partners and research providers. Hence, commissioning of R&D investments is of increasing importance.

An online database system, Clarity, supports assessment and management of R&D investments. This system allows CRDC to manage all existing and future investments with the highest levels of probity whilst providing for in-depth analysis of its investment portfolios against a wide range of economic and management criteria to the benefit of industry stakeholders.

The two-part process begins with calls for Preliminary Research Proposals (PRPs) nationwide in August/September, using advertising in national newspapers, research publications and on the Corporation's website. The deadline for receipt of proposals is 1 September.

In the second phase, the PRP is assessed against the Corporation's strategic priorities, based on Government Research Priorities and industry policy. Applicants who satisfy Stage I criteria are then invited to submit a full proposal by late January. All project proposals are assessed and performance-reviewed by CRDC's industry stakeholder, Cotton Australia, who also assess and offer recommendations on commissioned research.

At an annual budget meeting in March, the CRDC Board of Directors makes final decisions regarding investments for nominated projects based on proposals for commissioned research and applications for new projects, together with report from continuing projects.

Beyond these processes, where necessary, CRDC may commission research to fill any identified gaps in the research program, where additional research projects may meet the needs of industry. The Board also sets aside an amount for contingencies so that urgent R&D projects can proceed without undue delay.

Measures of Success and Reporting

The CRDC Strategic R&D Plan 2008-2013 and Annual Operating Plans are formulated to implement the Corporation's objectives and outcomes, using a triple bottom line framework for planning, implementation and reporting. They deliver one integrated outcome via three outputs

- ▶ Economic – Profitability
- ▶ Environmental – Sustainable production systems
- ▶ Social – Empowered people and communities.

CRDC has developed measures of success for each program to achieve these broader triple bottom line outputs over the Strategic Plan's five-year period. These are summarised in tables in this AOP.

Key research providers

- ▶ Cotton Catchment Communities CRC (Cotton CRC)
- ▶ Australian and state governments primary industry agencies
- ▶ CSIRO Divisions of Plant Industry, Entomology and Materials Science and Engineering
- ▶ Rural Research and Development Corporations (RDCs)
- ▶ Cooperative Research Centres (CCAs)
- ▶ Agribusinesses
- ▶ Registered Training Organisations (RTOs)
- ▶ Consultants.



The model

- ▶ The Rural R&D Corporations (RDCs), including CRDC, take a leading national role in planning, investing in and managing research and development for their respective industries.
- ▶ RDCs are not research 'grant' agencies. Their enabling legislation requires them to treat R&D as an investment in economic, environmental and social benefits for their industries and the people of Australia.
- ▶ Rather than focusing principally on generating new knowledge for its own sake, RDCs strive to deliver high rates of return on R&D investment by influencing the full range of interactions along the innovation chain.
- ▶ Striving for high returns on investments also leads RDCs to apply significant resources to translating research outputs into practical outcomes.
- ▶ RDCs are required to conduct their activities in accordance with strategic research and development plans and annual operating plans that take account of the needs of end-users and other stakeholders. The plans are approved at ministerial level.
- ▶ Although RDCs fund basic research, a high proportion of activity is applied to both short-term and long-term research and development.
- ▶ RDCs are fully accountable to their major stakeholders and to the wider community.

Assessing Return on Investment

The Council of Rural Research and Development Corporations Chairs (CRRDCC) developed a rigorous external process in 2006 to determine the value of RDCs investments to the industries involved and to the Australian taxpayers.

Year Two results from the *impact of Investment in Research and Development by the Rural Research and Development Corporations* conducted under the auspices of the CRRDCC, showed that RDCs invested \$441 million in R&D in 2008–09, which covered a range of priority areas such as productivity, climate change and natural resource management. This amount included \$244 million of industry investment and \$207 million in Government matching contributions under the legislated funding formula.

The Year Two study evaluated 59 individual programs in 2009, covering a range of applied research, extension, capacity building and information management investments in areas ranging from forestry, meat, fodder crops and soil biology, through to education in dairy and fisheries resource management. The study found a quick and strong return on investment, with a benefit cost ratio of 2.36 after five years, 5.56 after 10 years and 10.51 after 25 years, and identified a broad range of environmental and social benefits.

Review of the RDCs model

The Minister for Agriculture, Fisheries and Forestry, The Hon Tony Burke MP, has announced a Productivity Commission Review of the Rural RDCs, which will be conducted in 2010. The Corporation welcomes the review as an opportunity to highlight the outcomes of past R&D investment and the need and opportunities for future rural R&D and to promote continuous improvement in the rural R&D system.



Stakeholder priorities incorporated into planning and execution



NOTE: The National Research Priorities

Not all the Australian Government National Research Priorities' associated goals are applicable to the work of the Corporation. The following are the associated goals that are relevant to our 2010–11 R&D program and are addressed in this plan:

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A An environmentally sustainable Australia</p> <ul style="list-style-type: none"> A1 Water – a critical resource A2 Transforming existing industries A3 Overcoming soil loss, salinity and acidity A5 Sustainable use of Australia's biodiversity A7 Responding to climate change and variability | <p>C Frontier technologies for building and transforming Australian industries</p> <ul style="list-style-type: none"> C2 Frontier technologies C3 Advanced materials C4 Smart information use C5 Promoting an innovation culture and economy |
| <p>B Promoting and maintaining good health</p> <ul style="list-style-type: none"> B4 Strengthening Australia's social and economic fabric | <p>D Safeguarding Australia</p> <ul style="list-style-type: none"> D3 Protecting Australia from invasive diseases and pests |

ADDRESSING STAKEHOLDER PRIORITIES IN 2010–11

Australian Government			Cotton Australia	CRDC R&D focus 2010–2011
Applicable NRP goals	Rural R&D Priorities	Minister's Priorities for 2010–11	Australian Cotton Industry R&D Priorities	
C5	<p>Productivity and Adding Value</p> <p><i>Improve the productivity and profitability of existing industries and support the development of viable new industries</i></p>	<p>Productivity improvement</p> <p><i>Generate new knowledge, which will lead to improved technology that will be adopted by producers to increase productivity</i></p>	<p>Improve the profitability of the cotton industry</p> <p>Create and support a strong, focused and committed research program</p>	<ul style="list-style-type: none"> ▶ Support ongoing R&D cross-sectors partnerships addressing climate change, irrigation, farm health and safety and encouraging the development of future scientists. ▶ Consolidate new collaborations with Grains RDC addressing productivity and climate change preparedness in cotton and grains farming systems. ▶ Extension of case studies to farmers demonstrating the impact of farming systems innovation on improved production efficiencies and resource management (soils, water, fertiliser, energy) and environmental performance. ▶ Further testing and commercialisation of novel bio-pesticides for key cotton and grain pests ▶ Enhancement of the best management practices system to integrate planning, risk management and benchmarking with development of skills, knowledge and adoption of research outputs throughout the value chain.

Australian Government			Cotton Australia	CRDC R&D focus 2010–2011
Applicable NRP goals	Rural R&D Priorities	Minister's Priorities for 2010–11	Australian Cotton Industry R&D Priorities	
C2; C3	<p>Supply Chain and Markets</p> <p><i>Better understand and respond to domestic and international market and consumer requirements and improve the flow of such information through the whole supply chain, including to consumers.</i></p>	<p>Maintaining and improving international Market access opportunities</p> <p><i>Work to combat pests and diseases that can potentially be obstructive to trade and to guide production decisions in accordance with the requirements of consumers</i></p> <p>Value chain effectiveness and efficiency</p> <p><i>Investment in research and development must extend beyond the farm gate to ensure the whole value chain is able to operate at optimum levels</i></p>	<p>Improve the profitability of the cotton industry</p> <p>Create and support a strong, focused and committed research program</p>	<ul style="list-style-type: none"> ▶ Maintaining and improving international market access opportunities ▶ Improved industry awareness and preparedness for major biosecurity threats, particularly silver leaf whitefly, <i>Solenopsis mealybug</i>, <i>Helicoverpa</i> spp. and viruses. ▶ Continue to improve market intelligence and customer feedback on Australian cotton's competitive advantage. ▶ Facilitation of post-farm gate best-practices for classing, ginning, transport and storage and handling ▶ Value chain effectiveness and efficiency ▶ Facilitation of post-farm gate best-practices for classing, ginning, transport and storage and handling ▶ Enhancement of the best management practices system to integrate planning, risk management and benchmarking with development of skills, knowledge and adoption of research outputs throughout the value chain. ▶ Continue to improve market intelligence and customer feedback on Australian cotton's competitive advantage. ▶ Continue the development of collaborative R&D partnerships with Australian cotton shippers and overseas cotton spinning mills to investigate opportunities for using newly developed Australian premium-quality cotton varieties, innovations in objective fibre measurement and textile processing knowledge. ▶ Build new collaborations with Australian Wool Industries (AWI), spinners and domestic brand owners
A1;A2;A3; A5	<p>Natural Resource Management</p> <p><i>Support effective management of Australia's natural resources to ensure primary industries are both economically and environmentally sustainable</i></p>	<p>Sustainable environmental resource management</p> <p><i>Build and share our knowledge to ensure our soils, water and vegetation are managed properly and invasive pests are controlled</i></p>	<p>Improve the sustainability of the cotton industry and its catchments</p> <p>Create and support a strong, focused and committed research program</p>	<ul style="list-style-type: none"> ▶ Support ongoing R&D cross-sectors partnerships addressing climate change, irrigation, farm health and safety and encouraging the development of future scientists. ▶ Enhancement of the best management practices system to integrate planning, risk management and benchmarking with development of skills, knowledge and adoption of research outputs throughout the value chain.

Australian Government			Cotton Australia	CRDC R&D focus 2010–2011
Applicable NRP goals	Rural R&D Priorities	Minister's Priorities for 2010–11	Australian Cotton Industry R&D Priorities	
A7	<p>Climate Variability and Climate Change</p> <p><i>Build resilience to climate variability and adapt to and mitigate the effects of climate change</i></p>	<p>Climate change</p> <p><i>Reduce greenhouse gas emissions and improve soil management, and assist producers to adapt and change farming practices whilst boosting productivity</i></p>	<p>Improve the sustainability of the cotton industry and its catchments</p> <p>Create and support a strong, focused and committed research program</p>	<ul style="list-style-type: none"> ▶ R&D investments in biosecurity as well as cropping systems for improved nitrogen, energy and water use efficiency that will increase farm business' climate change preparedness and reduce greenhouse gas emissions ▶ Extension of case studies to farmers demonstrating the impact of farming systems innovation on improved production efficiencies and resource management (soils, water, fertiliser, energy) and environmental performance. ▶ Support ongoing R&D cross-sectors partnerships addressing climate change, irrigation, farm health and safety and encouraging the development of future scientists. ▶ Consolidate new collaborations with Grains RDC addressing productivity and climate change preparedness in cotton and grains farming systems. ▶ Scope the potential impacts of climate change on textile production and markets
D3	<p>Biosecurity</p> <p><i>Protect Australia's community, primary industries and environment from biosecurity threats</i></p>	<p>Biosecurity</p> <p><i>Maintain our research capability to prevent and deal with disease outbreaks, particularly as such biosecurity threats are expected to become more prevalent with climate change</i></p>	<p>Create and support a strong, focused and committed research program</p>	<ul style="list-style-type: none"> ▶ Improved industry awareness and preparedness for major biosecurity threats, particularly silver leaf whitefly, <i>Solenopsis mealybug</i>, <i>Helicoverpa</i> and viruses. ▶ Further testing and commercialisation of novel bio-pesticides for key cotton and grain pests ▶ Continue surveying for the incidence of endemic diseases and pests and surveillance for the presence of exotic diseases and pests in all cotton growing districts ▶ R&D investments and activities to underpin the stewardship of biotechnologies and chemicals.
Supporting the Rural Research and Development Priorities				
B4; C4	<p>Supporting the Rural R&D Priorities 1:</p> <p>Improve the skills to undertake research and apply its findings</p>	<p>Workforce, skills, education</p> <p><i>Take a strong role in educating future scientists, improving the knowledge and skills of producers and encouraging people to work in the sector</i></p>	<p>Invest in the skills, knowledge and occupational health and safety of the human resources in the cotton industry and its communities</p>	<p>Workforce, skills, education</p> <ul style="list-style-type: none"> ▶ Support ongoing R&D cross-sectors partnerships addressing climate change, irrigation, farm health and safety and encouraging the development of future scientists. ▶ Continuing support for: <ul style="list-style-type: none"> ▶ Schools level programs (Primary Industries Centre for Science Education – PICSE) ▶ Undergraduate level programs (Cotton Production Course sponsorship; Undergraduate Studentship Program scholarships) ▶ Post-graduate scholarships (PhD and Masters) ▶ Leadership programs (Australian Rural Leadership Program scholarship support and Future Cotton Leaders program).

Australian Government			Cotton Australia	CRDC R&D focus 2010–2011
Applicable NRP goals	Rural R&D Priorities	Minister's Priorities for 2010–11	Australian Cotton Industry R&D Priorities	
(continued)		<p>Diversity</p> <p><i>Take on a greater role in building strong leadership capacity in the sector and encourage a diversity of people in primary industries, including a greater role for Indigenous Australians, women and young people</i></p>		<p>Workforce, skills, education (cont.)</p> <ul style="list-style-type: none"> ▶ Building on the “Sustaining Rural Communities Initiative” ▶ Continue establishing networks and collaborations with education providers to develop e-Learning and enhance Recognition of Prior Learning opportunities. ▶ Enhancement of the best management practices system to integrate planning, risk management and benchmarking with development of skills, knowledge and adoption of research outputs throughout the value chain. ▶ Improve understanding of future industry human capacity and R&D capability needs <p>Diversity</p> <ul style="list-style-type: none"> ▶ Improve understanding of future industry human capacity and R&D capability needs ▶ Invest in projects and partnerships with Wincott (Women in Cotton), the AES (Aboriginal Employment Strategy) and Future Cotton Leaders program
	<p>Supporting the Rural R&D Priorities 2:</p> <p>Promote the development of new and existing technologies</p>	<p>Collaboration</p> <p><i>Finalise the National Primary Industries Research, Development and Extension Framework sector plans, develop the cross-sectoral plans and work through implementation</i></p> <p>Evaluation</p> <p><i>Support the current joint RDC evaluation process, to demonstrate returns on investment and guide future investment decisions</i></p>	<p>Create and support a strong, focused and committed research program</p>	<p>Collaboration</p> <ul style="list-style-type: none"> ▶ Complete the Cotton Sector Plan and coordinate RDC input for the Water Use in Agriculture Cross-Sectoral plan under the PISC National R, D & E Framework ▶ Continue management and stewardship of the National Program for Sustainable Irrigation (NPSI) ▶ Maintain the former LWA website to ensure the knowledge assets remain accessible ▶ Build new collaborations with AWI, spinners and domestic brand owners ▶ Invest collaboratively in human capacity development for workforce, industry leadership, research and innovation skill outcomes ▶ Support ongoing R&D cross-sectors partnerships addressing climate change, irrigation, farm health and safety and encouraging the development of future scientists ▶ Consolidate new collaboration with Grains RDC addressing productivity and climate change preparedness in cotton and grains farming systems <p>Evaluation</p> <ul style="list-style-type: none"> ▶ Continue to support the evaluation framework developed by the Council of Rural RDC Chairs by conducting at least three Benefit Cost Analyses per year ▶ Invest in industry surveys and develop an information repository to improve triple bottom line performance reporting capacity, particularly environmental and social performance. ▶ Map CRDC's investments and achievements against previous and current strategic plans.

Composition of National Research Priorities (NRPs) attributed to each CRDC R&D Program 2010–11 (\$'000)

National Research Priorities (NRP)	An Environmentally Sustainable Australia							Promoting and Maintaining Good Health							Frontier Technologies for Building and Transforming Australian Industries					Safeguarding Australia					Total
	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	Total			
Expenditure	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m			
Program 1: Value Chain						50					700														
Program 2: Farming Systems	277	163	159		188	745					920		425			113			1,803			4,793			
Program 3: Human Capacity	40	10	20		20	110					253		10		47	541			45			1,096			
Total	317	173	179	208	208	905	1,873	658	60	122	654	1,848	890	604	6,997										

Composition of Rural Research and Development Priorities (RRDPs) attributed to each CRDC R&D Program 2010–11 ('000)

Rural Research & Development Priorities (RRDP)	Productivity and Adding Value	Supply Chain and Markets	Natural Resource Management	Climate Change and Climate Variability	Biosecurity	Supporting the Priorities		Total
						Innovation Skills	Technology	
Expenditure	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Program 1: Value Chain	380	320		50			358	1,108
Program 2: Farming Systems	920		787	745	1,803	63	475	4,793
Program 3: Human Capacity	241	12	80	120	45	541	57	1,096
Total	1,541	332	867	915	1848	604	890	6,997

Note:
 These tables exclude \$1.066m in expenditure for items such as Cotton Catchment Communities CRC untied funding, general contingencies, post graduate project contingencies and R&D corporate activities, as an accurate attribution to NRPs and RRDPs cannot be made until this funding is allocated during the 2010-11 year.



PROGRAM ONE VALUE CHAIN

Strategic Goal

Add value to the Australian cotton industry with premium products in improved routes to market

Expenditure 2010–11

Excluding any contingency funding that may be allocated to this program, planned expenditure is \$1,107,690.

Strategic Plan 2008–2013

Value Chain Strategic Objectives	Value Chain Outputs and Measures of Success
1 Develop contemporary knowledge and intelligence about products, markets and supply	<ul style="list-style-type: none"> ▶ Markets, risks and opportunities for Australian cotton products are clearly defined and understood within the industry ▶ New partnerships between industry, researchers and end-users ▶ Post-farm gate best management practices are developed and adopted ▶ New and improved products, processes and measurements. Assessments of the competitive advantage of the Australian cotton industry
2 Develop improvements in current products	
3 Facilitate the development of novel products	
4 Advance cotton product processing	
5 Develop objective measurement of Australian cotton fibre	

Investments and planned outputs in 2010–11

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
Strategic Objective 1 Develop contemporary knowledge and intelligence about products, markets and supply		
1.1 Researching existing market and supply chains for Australian cotton products	A pilot study to develop and monitor raw cotton, yarn and textile indices relevant to Australian cotton	Textile indices pilot study established and results evaluated by industry
1.2 Communicating market intelligence and knowledge to the Australian industry	Completion of surveys with key international mills on the use of Australian cotton	Final reports on mills surveys completed and results discussed with industry
1.3 Facilitating new engagement mechanisms with industry and end-users to enable a common understanding of the competitive advantages of Australian cotton products	A continuation of the Premium Cotton Initiative (PCI), Including spinning trials	PCI project established and results prepared for extension to international spinners of Australian cotton
	Further trial market developments with mills and brand owners to evaluate the competitive advantages of Australian cotton	Trial cotton and cotton/wool blend products tested in Australian and International markets
Strategic Objective 2 Develop improvements in current products		
2.1 Identifying opportunities for improvements in fibre quality and cotton seed properties	A new project to investigate development of low twist fine count yarns and fabrics from Australian long staple upland cotton	Low twist, fine count project established
2.2 Developing pathways for exploiting the competitive advantage of current premium products	A new project to validate Cottonspec: a program for predicting yarn fibre quality	Project commissioned to evaluate Cottonspec in one or more international mills
	Continued study of agronomic management to optimise textile performance	Extension of results to industry demonstrating best practice in agronomic management to maintain high quality
	A continuation of the Premium Cotton Initiative including spinning trials	PCI project established and results prepared for extension to international spinners of Australian cotton

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
2.2 (continued)	Further trial market developments with mills and brand owners to evaluate the competitive advantages of Australian cotton	Trial cotton and cotton/wool blend products tested in Australian and International markets
	A pilot study to develop and monitor of raw cotton, yarn and textile indices relevant to Australian cotton	Textile indices pilot study established and results evaluated by industry
Strategic Objective 3 Facilitate the development of novel products		
3.1 Reviewing market intelligence and knowledge to identify needs and opportunities	Completion of surveys with key international mills on the use of Australian cotton	Final reports on mills surveys completed and results discussed with industry
3.2 Creating and fostering initiatives that uncover innovative and novel products	A commissioned collaborative project to investigate cotton and cotton blend fabrics with directional water transfer and/or other novel new properties	New collaborative project to develop cotton fabrics with novel properties established.
3.3 Fostering the formation of partnerships to develop novel products	The commissioned project anticipated under 3.2 will create new partnerships	New partnerships established
Strategic Objective 4 Advance cotton product processing		
4.1 Scanning and evaluating ginning, spinning and textile innovations	At least one forum with industry stakeholders and researchers to review R&D results and identify new opportunities for Australian cotton	At least one forum held, new opportunities identified
4.2 Improving fibre moisture measurement and management	A continuation of industrial testing and commercial development of moisture and contamination sensors	Reports demonstrating commercial potential for improved moisture and contamination sensors.
4.3 Supporting the development of Best Management Practices with the post-farm gate sector to assure the quality of Australian cotton products	Completion of Ginning BMP development and implementation	Report demonstrating increased adoption of ginning BMPs in Australian cotton gins
	Ongoing support to ensure high standards for the classification of cotton are maintained	Evidence that the standards of Australian classing facilities are maintained at the highest level
	Further development and initial implementation of warehousing and despatch Best Management Practice	Project to complete development of warehousing BMPs established.
Strategic Objective 5 Develop objective measurement of Australian cotton fibre		
5.1 Determining appropriate methods and tools that more effectively describe the textile qualities and their values of Australian cotton fibre	Several investments will contribute to this key tactic area: e.g. Premium Cotton Initiative; validation of Cottonspec; and commercialisation of Cottonscan and SiroMat	An improved capacity to integrate several tools and methods to better demonstrate the textile qualities and values of Australian cotton fibre
5.2 Fostering partnerships with the post-farm-gate sector and end-users to support the evaluation, creation of and uptake of advancements in objective measurement	Support for the commercialisation of Cottonscan and SiroMat instruments	Commercialisation pathway for both instruments is finalised



PROGRAM TWO FARMING SYSTEMS

Strategic Goal

Cotton in a highly productive farming system with improved environmental performance

Expenditure 2010–11

Excluding any contingency funding that may be allocated to this program, planned expenditure is \$4,792,661.

Strategic Plan 2008–2013

Farming Systems Strategic Objectives	Farming Systems Outputs and Measures of Success
<ol style="list-style-type: none"> 1 Build the industry's understanding of climate and natural resource challenges 2 Enhance the capacity of the industry to adopt resilient and adaptive farming systems 3 Protect industry from biosecurity threats 	<ul style="list-style-type: none"> ▶ Climate and natural resource management risks and opportunities for Australian cotton producers are defined and understood ▶ Climate and natural resource policy implications are interpreted ▶ Collaborations and partnerships within and between rural industries delivering innovation, capacity and knowledge for farming systems ▶ Benchmarking, assessing and reporting on productivity and environmental performance

Investments and planned outputs in 2010–11

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
Strategic Objective 1 Build the industry's understanding of climate and natural resource challenge		
1.1 Researching jointly the implications of climate change and natural resource management policy for farming systems	Participation in ongoing work under the Climate Change Research Strategy for Primary Industries (CCRSPI)	CCRSPI continues to provide strategic direction and coordination
1.2 Investigating the potential impacts of future climates to cotton production and the capacity of the industry to adapt to, and mitigate, its impacts	A new project to investigate improving prediction of cotton growth and production in a changing climate	PhD student identified, project established
1.3 Researching the implications of a future carbon economy on cotton production	A new commissioned project to improve capacity to assess greenhouse gas emissions from broadacre irrigated cropping systems	Post-doctoral project identified and established
	A new project to develop a protocol for assessing on-farm energy use and associated greenhouse gas emissions	Project established and case study sites identified
Strategic Objective 2 Enhance the capacity of the industry to adopt resilient and adaptive farming systems		
2.1 Developing conceptual systems thinking to synthesise knowledge	Further application of systems thinking to map key leverage points within farming systems for improvement.	Key leverage points identified. Opportunities for improvement through R&D assessed.

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
2.2 Benchmarking existing production efficiencies and environmental performances	A new project to establish a social, economic, environmental performance information repository and a reporting framework for the cotton industry	Project established and key Triple Bottom Line performance data identified and collected
	Ongoing work to benchmark cotton and grains water use efficiencies use	Reports showing cotton and grains water benchmark data
	A continuation of the Crop Consultants Association post-season survey series	Survey results analysed and reported to industry and more widely
2.3 Delivering innovative solutions to major farming management constraints and future climate-driven challenges	Additional resources to support completion of the Burdekin cotton feasibility study	Annual reviews to report progress
	A new project to investigate applying plant based measurements for irrigation in water limited environments	Project established with co-investment from Cotton Inc., post-doctoral project identified and established
	A new commissioned project to investigate optimal irrigation of cotton via real-time adaptive control	Project established
	Finalisation of an investigation on Deep Drainage Under Irrigated Cotton - Surface and Groundwater Implications	A report to industry detailing the implications of deep drainage on surface and groundwater
	Continuing research into farming systems aiming to maintain profitability and soil quality	A report demonstrating key farming systems management options to maintain profitability and reduce environmental impact
	Ongoing research into the development of dynamic deficits- matching irrigation to plant requirements in a variable climate	Reports showing the potential for dynamic deficits to improve water use efficiencies
2.4 Researching optimisation of farming inputs, processes and capacities with environmental benefits	A new project to develop a protocol for assessing on-farm energy use and associated greenhouse gas emissions	Project established and case study sites identified
	Ongoing research to define critical soil nutrient concentrations in soils supporting irrigated cotton in Northern NSW and Qld	Reports identifying the range of critical soil nutrient concentrations in cotton growing soils
	A new commissioned project to encourage cotton systems that are nutrient-efficient and promote healthy soil	Evidence that the knowledge to improve nitrogen use efficiency is being adopted by the industry
	Ongoing support to build cotton and grain industry capacity to improve pesticide application and drift management	Evidence that drift damage incidents are declining
2.5 Supporting a best-practice framework as the primary integrated planning, risk management, benchmarking, knowledge development and extension delivery system	Ongoing support for the myBMP system to enable linking of research, extension and BMP-Facilitation	Release of the new myBMP systems with improved access for R&D knowledge and resources

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
<i>Strategic Objective 3 Protect industry from biosecurity threats</i>		
3.1 Identifying and communicating major biosecurity threats	Completion of the first Cotton Biosecurity Manual	Biosecurity Manual launched successfully in the Australian cotton industry
3.2 Supporting the industry's preparedness to deal with biosecurity threats	New research projects for improving management of cotton diseases and disease surveillance	Projects established and disease survey results communicated to industry annually
	Continuing research to develop capacity to manage cotton viral diseases	Report recommending areas for where improvements to the industry's viral disease preparedness can be made
3.3 Researching the management of established, invasive and endemic insect pests, weeds and diseases	A commissioned project to investigate factors associated with the spread and incidence of <i>Solenopsis</i> Mealy Bug	Project established
	A new project to investigate IPM for Silverleaf whitefly and emerging pests in central regions	Project established, evidence that silverleaf whitefly management is improving in central cotton regions
	Continuing research to improve the management of mirids and stinkbugs in Bollgard II®	Report with recommendations for improved management of mirids and stinkbugs
	A new project to provide Whitefly resistance monitoring 2010-2013	Project established and resistance results reported to industry at least annually
	A continuing project to provide <i>Helicoverpa</i> spp. insecticide resistance: monitoring, management and esterase gene research	Resistance results reported at least annually
	Continuing research to provide sustainable chemical control of mirids, aphids and TSM in cotton	Resistance results reported at least annually and implications for maintaining ongoing control analysed
	A new project to support the commercialisation and develop new applications for fungal insecticides against cotton pests	Registration package submitted by commercial partner; research on new applications for bio-fungicide commenced
3.4 Assuring industry capacity to manage the stewardship of biotechnologies and crop protection products	A new project to provide resistance monitoring of <i>Helicoverpa</i> spp. to <i>Bt</i> cotton	Resistance results reported regularly and implications discussed with industry
	Ongoing research projects for managing weeds and herbicides in a genetically modified cotton farming system	Reports demonstrating improved management opportunities for weeds in GM systems
	A new project to revisit ecology of <i>Helicoverpa punctigera</i> in relation to migration, overwintering and implications for <i>Bt</i> resistance	PhD student identified, project established
	A new project to examine ways to improve management of cotton refuges within the BMP framework	PhD student identified, project established
	Ongoing research to enhance the efficiency of <i>Bt</i> refuge crops within a changing cotton environment	Reports showing options for improving refuge efficiency
	Ongoing research into the flight characteristics of <i>Helicoverpa</i> spp. in relation to the efficacy of transgenic cotton refuges	Interim reports completed



PROGRAM THREE HUMAN CAPACITY

Strategic Goal

A culture of innovation and learning

Expenditure 2010–11

Excluding any contingency funding that may be allocated to this program, planned expenditure is \$1,096,175.

Strategic Plan 2008–2013

Value Chain Strategic Objectives	Value Chain Outputs and Measures of Success
<ol style="list-style-type: none"> 1 Identify, understand and plan for future industry capacity needs 2 Improve human resource development and capacity 3 Enhance capacity to innovate 	<ul style="list-style-type: none"> ▶ Industry and R&D capacity needs identified and gaps being addressed ▶ An industry with the capacity to deliver our future R&D innovation needs and their adoption ▶ The adoption of a shared vision for the cotton industry's future ▶ Assessments of industry capacity to innovate, lead and adapt

Investments and planned outputs in 2010–11

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
<i>Strategic Objective 1</i> Identify, understand and plan for future industry capacity needs		
1.1 Scoping and determining future human resource needs	Ongoing initiatives and needs analysis by the Professional Development Officer (Cotton) – formerly the National Cotton Training Coordinator	Reports on needs; initiatives established to improve planning for human capacity
1.2 Investigating best practice for attracting, developing and retaining people	A commissioned project to develop approaches for human capacity assessment and benchmarking	Project established and interim benchmarking results reported
1.3 Researching jointly the implications of demographic changes for the supply of human resources to agriculture and cotton	A new commissioned project to study the relationship between the cotton industry and cotton communities 1996-2006	Reports identifying implications for demographic information to be used to benefit planning for future HR needs
1.4 Encouraging and assisting development of rural and cotton industry action plans	A new project commissioned to assist planning for changes in the market for industry skills in cotton regions	Project established and key changes in the market for skills identified
	Completion of a vision for the Australian cotton industry	Vision finalised and supported by all key cotton industry organisations
1.5 Investigating alternative methods for research and development	A new project to develop an on-Farm environmental resources survey	Survey established and initial results reported

Key tactics 2008–2013	R&D Investments 2010–2011	Outputs
Strategic Objective 2 Improve human resource development and capacity		
2.1 Supporting initiatives which encourage adaptation to change	A new project to enable an educational tour of adaptability and innovation in other rural industries	Tour undertaken, results shared with cotton industry stakeholders
2.2 Targeting investments in human capacity to meet future needs	A new pilot project to better understand career pathways into the cotton industry	Pilot project established, results evaluated and reported
	Cotton Australia Future Leaders Course 2009-2010	Individual reports from participants provided demonstrating the influence the course has had on their role in the industry
	Enhancement and development of e-Learning opportunities for BMP Farm	Project established and e-learning opportunities tested and evaluated
2.3 Leveraging industry development	An evaluation of the impact of the Cotton Australia Future Leaders Course	Individual reports from participants demonstrating the influence the course has had on their roles in the industry
2.4 Establishing and nurturing strategic partnerships	A new commissioned project piloting a Cotton Agribusiness Engagement Strategy - by developing innovation through the corporate agribusiness sector	Pilot project established and new pathways for engagement of agribusiness identified and tested
	Ongoing support for the cooperative partnership for farming and fishing occupational health and safety	Progress against the partnership strategic plan reported
2.5 Funding participatory R&D	A new project to share on-farm innovation to reduce the cost of cotton production in the Lower Namoi Valley	Grower group established, activities documented and results evaluated and reported
Strategic Objective 3 Enhance capacity to innovate		
3.1 Developing best practice in communication and adoption	A new project to establish a repository of social, economic, environmental performance information for the cotton industry	Key triple bottom line performance indicators identified, data gathered and communicated to industry and other stakeholders as context for prioritising and measuring changes in capacity
3.2 Developing industry capacity to adopt outputs of research	Ongoing support for the St. George/Dirranbandi Cotton Extension Officer	Key farming systems adoption framework targets being met
	A new commissioned project to provide resources for the Adoption and myBMP programs	Key adoption framework targets being met
	Ongoing support to deliver regional extension in Qld farming systems – Central Queensland	Key biosecurity adoption framework targets being met
	Ongoing support to deliver regional extension in Qld farming systems – Darling Downs	Key nutrient management adoption framework targets being met
3.3 Establishing and empowering creative forums and initiatives	A commissioned project to promote R&D results and outcomes at the 15th Australian Cotton Conference 2010	Evaluation of conference showing a high level of satisfaction from growers. Big Day Out field day held
3.4 Recognising and rewarding innovation	Support and planning for the third annual “Big Day Out” field day to highlight achievements of the 2010 Cotton Innovator of the Year	Big Day Out field day held; highlights documented for <i>Spotlight</i> and <i>Australian Cottongrower</i> magazines. High grower participation and positive feedback received



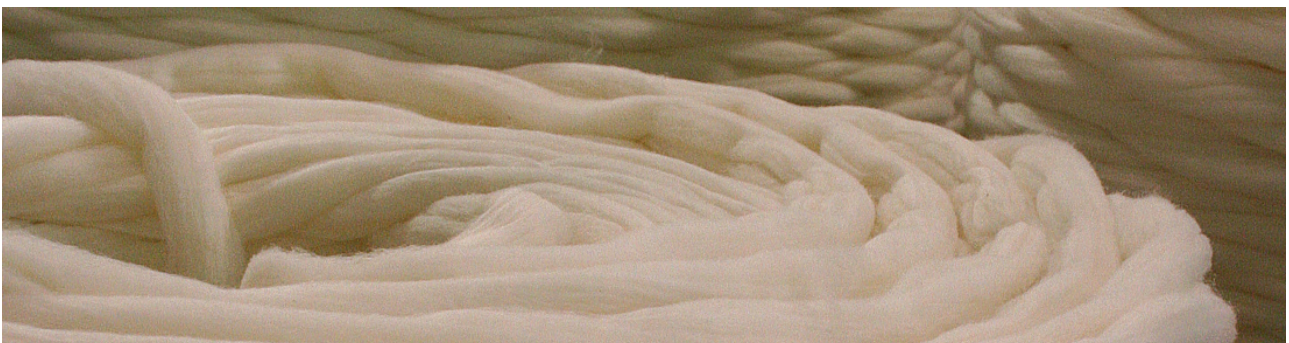
FINANCIAL OUTLOOK

The 2010–11 year

CRDC will draw revenue from both the 2009–10 and 2010–11 crops in 2010–11. CRDC estimates the 2009–10 crop size at 340,500 tonnes (some 1.5 million bales): almost 500,000 bales below CRDC's budgeted forecast. The Corporation has forecast a crop size of 1.75 million bales in 2010–11.

The Corporation had budgeted for revenue of \$9.68 million in 2010–11, with expenditure of \$9.68 million, bringing about a balanced budget. CRDC has been able to sustain this level of R&D investment in core industry R&D capacity through recent drought impacted years through the use of its reserves. The budget for 2010–11 reflects the need to ensure sufficient reserves are maintained for this purpose into the future.

The Australian Government general matching of industry contributions is expected to be limited to 0.5 per cent of the cotton industry's three-year average Gross Value of Production (GVP).



CRDC revenue sources

CRDC's revenue is drawn from two main sources:

- ▶ Cotton farmers pay a levy of \$2.25 for each 227 kilogram bale of cotton. Cotton levy revenue is collected at the point of ginning: that is, when cotton has been picked and delivered to cotton gins which then separate the cotton lint from the seed. This occurs from March to September of each calendar year, so that cotton levy revenue in any financial year is drawn from two consecutive cotton crops.
- ▶ The Australian Government matches expenditure of levies on eligible R&D, capped at 0.5 per cent of the three-year average gross value of production or the cumulative levy receipts, whichever is the lesser. The setting and collection of the industry levy is enabled by the *Cotton Levy Act 1982* and the *Primary Industries Levies and Collections Act 1991*.

Royalties from the sale of domestic and international planting seed, interest on investments, external grant revenue and research project refunds make up the balance of Corporation income.

FINANCIAL TABLES

**Table I.1: CAC Act Body Cotton Research and Development Corporation
Resource Statement
Budget estimates for 2010–11 as at Budget May 2010**

Source	Estimate of Proposed prior year at Budget amounts available in		Total Estimate	Actual available appropriation
	2010–11 \$'000	2010–11 \$'000	2010–11 \$'000	2009–10 \$'000
Opening balance/Reserves at bank	9,069		9,069	9,376
REVENUE FROM GOVERNMENT				
Special Appropriations (portfolio agency)				
Primary Industries and Energy Research and Development Act 1989 s. 30 (3) – Cotton R&D Corporation	–	7,274	7,274	6,827
Total special appropriations	–	7,274	7,274	6,827
Total funds from Government	–	7,274	7,274	6,827
FUNDS FROM INDUSTRY SOURCES				
Levies ¹	–	3,766	3,766	3,024
less amounts paid to the CRF	–	(3,766)	(3,766)	(3,024)
Total	–	–	–	–
FUNDS FROM OTHER SOURCES				
Interest	–	386	386	277
Other	–	1,883	1,883	3,681
Total	–	2,269	2,269	3,958
Total net resourcing for agency	9,069	9,543	18,612	20,161

**All figures are GST exclusive
CRF – Consolidated Revenue
Fund**

CRDC is not directly appropriated, as it is a CAC Act body. Appropriations are made to the Department of Agriculture, Fisheries and Forestry, which are then paid to CRDC and are considered 'departmental' for all purposes.

¹ CRDC collects levies through regulation. The levy regulations are made each year and are a legislative instrument for the purposes of the Legislative Instruments Act 2003. The levy amount collected includes a CRDC management levy and a research component. The levies collected are remitted to DAFF and transferred to CRF. An equivalent amount to the CRDC management levy is paid by DAFF to CRDC under a special appropriation under the PIERD Act.

Table 2.1 Budgeted Expenses and Resources for Outcome I

Outcome I: 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	2009–10 Estimated actual expenses \$'000	2010–11 Estimated expenses \$'000
Program I: Cotton Research and Development Corporation		
Revenue from Government		
Special appropriations	2,763	3,508
Revenues from industry sources	3,261	3,893
Revenues from other independent sources	2,934	2,275
Reserves	741	-
Total for Program I	9,699	9,676
Outcome I Totals by Resource type		
Revenue from Government		
Special appropriations	2,763	3,508
Revenues from industry sources	3,261	3,893
Revenues from other independent sources	2,934	2,275
Reserves	741	-
Total expenses for Outcome I	9,699	9,676
	2009–10	2010–11
Average Staffing Level (number)	8	8

Program Expenses

	2009–10 Revised budget	2010–11 Budget	2011–12 Forward year 1	2012–13 Forward year 2	2013–14 Forward year 3
(‘000)					
Annual Departmental Expenses:					
Cotton Research and Development Corporation	9,699	9,676	8,382	7,912	7,475
Total program expenses	9,699	9,676	8,382	7,912	7,475

Table 3.2.1 Comprehensive Income Statement (Showing Net Cost of Services)

for the period ended 30 June

	Estimated actual	Budget estimate	Forward estimate	Forward estimate	Forward estimate
	2009–10	2010–11	2011–12	2012–13	2013–14
	\$'000	\$'000	\$'000	\$'000	\$'000
EXPENSES					
Employee benefits	1,171	1,282	1,384	1,440	1,497
Supplier	355	271	306	315	324
Grants	8,120	8,063	6,644	6,109	5,606
Depreciation and amortisation	53	60	48	48	48
Total expenses	9,699	9,676	8,382	7,912	7,475
LESS:					
OWN-SOURCE INCOME					
Revenue					
Industry contributions	3,261	3,893	3,330	3,330	3,330
Interest	452	320	400	400	400
Royalties	1,937	1,760	1,170	900	630
Other revenue	545	195	115	115	115
Total revenue	6,195	6,168	5,015	4,745	4,475
Total own-source income	6,195	6,168	5,015	4,745	4,475
Net cost of (contribution by) services	3,504	3,508	3,367	3,167	3,000
Revenue from government	2,763	3,508	3,367	3,167	3,000
Surplus (Deficit)	(741)	–	–	–	–
Surplus (Deficit) attributable to the Australian Government	(741)	–	–	–	–
Total comprehensive income	(741)	–	–	–	–
Total comprehensive income attributable to the Australian Government	(741)	–	–	–	–

Table 3.2.2: Budgeted departmental balance sheet (as at 30 June)

	Estimated actual 2009–10 \$'000	Budget estimate 2010–11 \$'000	Forward estimate 2011–12 \$'000	Forward estimate 2012–13 \$'000	Forward estimate 2013–14 \$'000
ASSETS					
Financial assets					
Cash and equivalents	9,069	8,966	8,985	8,931	8,876
Trade and other receivables	1,128	1,261	1,260	1,332	1,405
Total financial assets	10,197	10,227	10,245	10,263	10,281
Non-financial assets					
Land and buildings	541	532	523	514	505
Infrastructure, plant and equipment	60	38	28	18	8
Intangibles	32	43	54	65	76
Other	25	25	25	25	25
Total non-financial assets	658	638	630	622	614
Assets held for sale					
Total assets	10,855	10,865	10,875	10,885	10,895
LIABILITIES					
Payables					
Suppliers	30	30	30	30	30
Grants	1,000	1,000	1,000	1,000	1,000
Total payables	1,030	1,030	1,030	1,030	1,030
Provisions					
Employees	271	281	291	301	311
Total provisions	271	281	291	301	311
Total liabilities	1,301	1,311	1,321	1,331	1,341
Net assets	9,554	9,554	9,554	9,554	9,554
EQUITY*					
Reserves	206	206	206	206	206
Retained surpluses or accumulated deficits	9,348	9,348	9,348	9,348	9,348
Total equity	9,554	9,554	9,554	9,554	9,554

*Note: 'equity' is the residual interest in assets after deduction of liabilities.

Table 3.2.3: Budgeted departmental statement of cash flows (for the period ended 30 June)

	Estimated actual 2009–10 \$'000	Budget estimate 2010–11 \$'000	Forward estimate 2011–12 \$'000	Forward estimate 2012–13 \$'000	Forward estimate 2013–14 \$'000
OPERATING ACTIVITIES					
Cash received					
Industry contributions	3,024	3,766	3,443	3,330	3,330
Revenue from Government	3,803	3,508	3,367	3,167	3,000
Interest	277	386	360	400	400
GST received	954	833	695	642	593
Other	3,681	1,883	1,213	943	672
Total cash received	11,739	10,376	9,078	8,482	7,995
Cash used					
Employees	1,161	1,272	1,374	1,430	1,487
Suppliers	826	298	337	346	356
Grants	10,059	8,869	7,308	6,720	6,167
Total cash used	12,046	10,439	9,019	8,496	8,010
Net cash from or (used by) operating activities	(307)	(63)	59	(14)	(15)
INVESTING ACTIVITIES					
Cash received					
Other	–	–	–	–	–
Total cash received	–	–	–	–	–
Cash used					
Purchase of property, plant and equipment	–	40	40	40	40
Total cash used	–	40	40	40	40
Net cash from or (used by) investing activities	–	(40)	(40)	(40)	(40)
Net increase or (decrease) in cash held					
Cash at the beginning of the reporting period	9,376	9,069	8,966	8,985	8,931
Cash at the end of the reporting period	9,069	8,966	8,985	8,931	8,876

Table 3.2.4: Departmental statement of changes in equity — summary of movement (Budget year 2010–11)

	Retained earnings	Asset revaluation reserve	Total equity
	\$'000	\$'000	\$'000
Opening balance as at 1 July 2010			
Balance carried forward from previous period	9,348	206	9,554
Adjusted opening balance	9,348	206	9,554
Comprehensive income			
Surplus (deficit) for the period	–	–	–
Total comprehensive income recognised directly in equity	–	–	–
Estimated closing balance as at 30 June 2011	9,348	206	9,554

Table 3.2.5 Capital Budget Statement

	Estimated actual 2009–10 \$'000	Budget estimate 2010–11 \$'000	Forward estimate 2011–12 \$'000	Forward estimate 2012–13 \$'000	Forward estimate 2013–14 \$'000
PURCHASE OF NON-FINANCIAL ASSETS					
Funded internally from departmental resources ¹	–	40	40	40	40
TOTAL	–	40	40	40	40
RECONCILIATION OF CASH USED TO ACQUIRE ASSETS TO ASSET MOVEMENT TABLE					
Total purchases	–	40	40	40	40
Total cash used to acquire assets	–	40	40	40	40

¹ Includes the following sources of funding:

- annual and prior year appropriations
- donations and contributions
- gifts
- internally developed assets
- s31 relevant agency receipts
- proceeds from the sale of assets

Table 3.2.6: Statement of Asset Movements (2010–11)

	Asset Category (as appropriate)				
	Land	Buildings	Other infrastructure, plant and equipment	Intangibles	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
As at 1 July 2010					
Gross book value	170	380	137	118	805
Accumulated depreciation/amortisation	-	(9)	(77)	(86)	(172)
Opening net book balance	170	371	60	32	633
CAPITAL ASSET ADDITIONS					
Estimated expenditure on new or replacement assets					
By purchase - other	-	-	-	40	40
Sub-total	-	-	-	40	40
Other movements					
Depreciation/amortisation expense	-	(9)	(22)	(29)	(60)
As at 30 June 2011					
Gross book value	170	380	137	158	845
Accumulated depreciation/amortisation	-	(18)	(99)	(115)	(232)
Closing net book balance	170	362	38	43	613

The numbers in this table are subject to review under the Government's net cash framework as part of the operation sunlight review.



 COTTON RESEARCH AND DEVELOPMENT CORPORATION

2 Lloyd Street (PO Box 282)
NARRABRI NSW 2390
Australia

Phone +61 (0)2 6792 4088
Fax +61 (0)2 6792 4400
Email crdc@crdc.com.au

www.crdc.com.au