



# ANNUAL OPERATING PLAN 2014-15



Australian Government  
Cotton Research and  
Development Corporation

# Cotton Research and Development Corporation

## Responsible Minister

The Hon. Barnaby Joyce MP, Minister for Agriculture

## CRDC Board

Chair

Vice Chair

Executive Director

Non-executive Directors

Dr Mary Corbett

Hamish Millar

Bruce Finney

Richard Haire

Michael Robinson

Cleave Rogan

Lorraine Stephenson

## CRDC Management

Executive Director

General Manager R&D Investment

General Manager Business and Finance

CottonInfo Program Manager

Communication Manager

R&D Manager

R&D Manager

R&D Manager

R&D Technical Specialist

Accountant

Project Administration Assistant

Executive Assistant

Trainee Accountant

Clerk

Bruce Finney

Ian Taylor

Graeme Tolson

Warwick Waters

Ruth Redfern

Tracey Leven

Allan Williams

Jane Trindall

Susan Maas

Emily Luff

Amy Withington

Dianne Purcell

Elizabeth Eather

Tamara Johnston

## About CRDC

CRDC was established in 1990 and operates under the *Primary Industries Research and Development (PIRD) Act 1989*. This Act outlines the accountability of CRDC to the Australian Government and to the cotton industry, through Cotton Australia. CRDC is regionally based in Narrabri, NSW, and the centre of one of Australia's major cotton growing regions.

CRDC's purpose is to enhance the performance of the Australian cotton industry and community through investing in research and development, and its application. Cotton is the major agricultural crop grown in many rural and remote regions of QLD and NSW. It is a major employer and contributor to the local, state and national economy with annual exports currently worth in excess of \$2.0 billion.

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. 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](http://www.crdc.com.au).

CRDC is actively involved in the dissemination of research results, working through a range of mechanisms but principally the CottonInfo joint venture which was established between CRDC, Cotton Seed Distributors in 2012.

## VISION

A globally competitive and responsible cotton industry

## MISSION

To invest in RD&E for the world leading Australian cotton industry

## PLANNED OUTCOME

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

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## Introduction

In 2014–15 the CRDC plans to invest \$24.2 million in research, development and extension (RD&E) in alignment with the priorities established under its five-year Strategic Research and Development (R&D) Plan 2013–2018. This will be the second year of operation under the strategy and follows a fourth consecutive year of above average cotton production and revenue. These circumstances have facilitated a growth in R&D expenditure and the rebuilding of research capacity and financial reserves for the purpose of sustaining cotton industry RD&E during drought.

The CRDC's five-year strategy responds to ongoing challenges to industry profitability, competitiveness and sustainability. The strategy is based on connecting insights about changes in society with the evolving cotton sector issues and identifies the critical importance of responding with better knowledge sharing and even stronger relationships between farmers, industry and customers.

Australian cotton farmers achieve exceptionally high yields, nearly three times the world average, but are increasingly concerned with the impact of rising input costs on profitability. Farmers have relied upon annual productivity gains from improved varieties and management but the potential for ongoing gains is at risk as yields approach current genetic yield limits for cotton. In response the CRDC is investing in research focused on protecting the crop from pests as well as enhancing crop management for quality and yield outcomes. The CRDC's strategy places greater emphasis on driving optimal resource efficiency and includes a new commitment to seeking innovations to transform the future profitability of cotton production.

Nationally, the Australian cotton industry generates significant wealth, with exports in excess of \$2 billion annually. It also provides an economic foundation to many regional and remote economies with employment of up to 14,000 people. Despite this, the industry faces ongoing challenges from competition for land, water and labour, climate variability, reliance on key technologies and, like all industries, is subject to a growing social and environmental awareness and scrutiny.

These challenges are equally opportunities for the Australian cotton industry given its acceptance of responsibilities for improved environmental performance and demonstrated capacity to act collectively. In response, the CRDC is investing in industry's biosecurity preparedness, stewardship of key production technologies and the responsible management of natural resources.

The CRDC's strategy places greater emphasis on landscape-scale management approaches and recognition of the inter-relationships with other industries. The strategy includes a new commitment to proactively developing an understanding of emerging social and environmental issues, including changes in technology, so that the Australian cotton industry can be a global leader in sustainable agriculture into the future.

As a result of the CRDC's past investments in supply chain research, the industry has a greater understanding of the needs of customers beyond spinning mills to the markets for Australian cotton and the value of its products.

This knowledge has informed a new industry-led marketing initiative that seeks to secure access to preferred markets and increase demand along the supply chain for Australian cotton. This comes at a time where, globally, cotton's ongoing competitiveness as a fibre is subject to challenges from man-made fibres and the Australian cotton industry is critically exposed as one of the top five cotton exporters in the world.

In response, the CRDC is investing in research to better inform customers of the qualities of Australian cotton and differentiate the value of its products. The CRDC's strategy places greater emphasis on ensuring customers can be assured of the fibre quality, sustainable practices and impact of Australian cotton production. The strategy includes a new commitment to instigating R&D that can prepare industry for market changes, transform consumer demand and enable the Australian cotton industry to capture the full value of its products into the future.

The capacity of the Australian cotton industry to innovate, adapt and adopt the results of its R&D remains key to the ultimate impact of the CRDC's investments. In response the CRDC is investing in the capability of people and the adoption of research through unique joint venture industry collaboration in extension. The CRDC's strategy places a greater emphasis on providing knowledge to underpin development of an industry workforce strategy and includes a new commitment to measuring the performance of the industry and its RD&E to inform continuous improvement.

The CRDC recognises the importance of responding to stakeholder and corporate requirements for improvement to the efficiency and effectiveness of operations. In doing so the CRDC is actively engaged with the national rural R&D effort to ensure its investments and activities are aligned and synergistic.

## Industry Outlook

Growth of Australian cotton industry's production has been sustained with harvesting of its fourth consecutive above average cotton crop. Cotton production in 2013-14 is forecast to reach 4.0 million bales (227kg); stimulating economic activity and employment in many regional communities and contributing more than \$2.0 billion in export value.

However, with an outlook for less favourable seasonal conditions, below average availability of irrigation water from public water storages and competitive commodity prices the forward estimates by industry and ABARES are for reduced levels of cotton production in 2014-15 and 2015-16.



## Financial Outlook 2014-15

CRDC has adopted forecasts for lower levels of cotton production as a key parameter in forming its future financial budgets. Resultantly CRDC is budgeting for lower levels of revenue and the use of financial reserves to sustain the commitment to increased investment in research activities under the five-year Strategic R&D Plan 2013–2018.

CRDC has budgeted for revenue of \$20.44 million in 2014-15 and expenditure of \$24.18 million, providing for a net loss of \$3.73 million funded from reserves. With this loss the reserves will decrease to \$39.13 million at 30th June 2015. CRDC plans to use the reserves to maintain research expenditure at a consistent level in future years when crop levels are below historical averages. The balance of expenditure and reserves will be closely monitored to ensure that reserves remain at an appropriate level.

### Revenue Sources

CRDC's revenue is drawn from two main sources:

1. 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 separates the cotton lint from the seed. This occurs from March to September of each calendar year, so cotton levy revenue in any financial year is drawn from two consecutive cotton crops.
2. 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 *Primary Industries Levies and Charges Collection Act 1991* and the *Primary Industries (Excise) Levies Act 1999*.

The Australian Government general matching of industry contributions is expected to be limited by either the value of levies collected or 0.5 per cent of the cotton industry's three year average Gross Value of Production (GVP). Which trigger will apply depends on the price of cotton, timing of the harvest and ginning, and the variability of the crop size. 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.

### Governance

CRDC is managed by a Board consisting of up to nine Directors. The Chair and five to seven non-executive directors are appointed by the Minister for Agriculture. The Executive Director is appointed by the Board. The CRDC Board sets the Corporation's strategic direction and delegates responsibility of day-to-day management to the Executive Director.

The Board is committed to high standards of corporate governance that ensure the Corporation meets its obligations to government and industry stakeholders, and appropriately manages resources to achieve the Corporation's outcome and strategic plan goals.

The Board has established a governance framework and systems that enhance performance and ensures that CRDC is operating according to accountability provisions of the PIRD Act and the Public Governance, Performance and Accountability (PGPA) Act 2013. The Board's functions include:

- Establishing goals and setting strategic direction
- Developing and approving a five year R&D Plan, and Annual Operational Plan, Statements of Intent, and producing an annual report
- Establishing policies and approving procedures for the operation of CRDC
- Ensuring that risk assessment and management frameworks are in place to minimise business and financial risk

### **Remuneration of Directors**

The Chairperson and Non-Executive Directors are remunerated under the PIRD Act 1989 in accordance with such remuneration as is determined by the Remuneration Tribunal established under the Remuneration Tribunal Act 1973. The Remuneration Tribunal reviews and releases a determination each financial year under the "Remuneration and Allowances for Holders of Part-Time Public Office" determination in Schedule C, Table C1A Primary Industry Authorities.

Under the PIRD Act 1989, the Executive Director's remuneration is determined by the Board through the recommendation of the Remuneration Committee. The total budgeted remuneration for all Directors in 2014-15, including superannuation, is \$486,664. CRDC committee members consist of directors only. There are no non-directors remunerated under the PIRD Act 1989.

### **Payment to representative bodies**

The Corporation's industry representative body in 2014-15 is Cotton Australia. The role of the industry representative body involves:

- Participation in the development and review of the five-year Strategic R&D Plan. This ensures CRDC's strategic planning continues to address evolving industry R&D needs.
- A meeting to receive and discuss the CRDC Annual Report for the preceding year. This enables the industry representative body to assess whether CRDC's activities for that year have met its strategic objectives, and to question senior staff on many matters of interest and concern.
- Other R&D related activities which vary from year to year.

While CRDC does not pay a fee for service to the industry representative body it may fund discrete R&D projects and contribute to the expenses incurred as authorised under the PIRD Act. In 2014-15, CRDC has budgeted to pay Cotton Australia \$16,000 for the direct meeting costs incurred in consultation activities involving its R&D advisory panels which consist of voluntary members (farmers and ginners). The advice received from the Cotton Australia five R&D advisory panels is used by CRDC in considering changes to its research strategy, priorities and in making research investment decisions.

## CRDC Corporate standards

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

- Commit to excellence and productivity
- 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.



## Addressing Industry and Government Research Priorities

### Industry accountability

CRDC is accountable to the cotton industry through its representative organisation, Cotton Australia. As the industry peak body, Cotton Australia is responsible for providing advice on industry research priorities.

CRDC engages with Cotton Australia in a formal process of consultation in the development and implementation of the Strategic R&D Plan including R&D investments. This engagement ensures industry research priorities are regularly reviewed; emerging issues are actively considered and facilitates the uptake of research in the form of best practices and the overall performance of the Australian industry.

## **Cotton industry priorities for R&D**

- Invest in the skills, strengths and occupational health and safety of the human resources in the cotton industry and its communities
- Improve the sustainability of the cotton industry and its catchments
- Improve the profitability of the cotton industry
- Create and support a strong, focused and committed research program

## **Government accountability**

CRDC is accountable to the Australian Government through the Minister for Agriculture. Government communicates its expectations of CRDC through Ministerial direction, enunciation of policy, administration of the PIRD Act, National and Rural Research Priorities. CRDC responds to government expectations through regular communication, compliance with policy and legislated requirements, the development of Strategic R&D Plans and Annual Reports.

## **Government research priorities**

The objects of the PIRD Act make provision for funding and administration of primary industry research and development with a view to:

- increasing the economic, environmental and social benefits to members of primary industries and to the community in general by improving the production, processing, storage, transport or marketing of the products of primary industries; and
- achieving the sustainable use and sustainable management of natural resources; and
- supporting the development of scientific and technical capacity; and
- developing the adoptive capacity of primary producers; and
- improving accountability for expenditure upon research and development activities in relation to primary industries.

The Australian Government describes Strategic Research Priorities and Rural Research and Development Priorities.

The Strategic Research Priorities are:

- Living in a changing environment
- Promoting population health and wellbeing
- Managing our food and water assets
- Securing Australia's place in a changing world
- Lifting productivity and economic growth

The Rural Research and Development Priorities are:

- Productivity and adding value
- Supply chain and markets
- Natural resource management
- Climate variability and climate change
- Biosecurity

The Supporting Priorities are:

- Innovation Skills
- Technology

### **National Primary Industries RD&E Framework**

The Australian, State and Territory Governments, rural R&D corporations, CSIRO, and universities are jointly developing the National Primary Industries Research, Development and Extension Framework to encourage greater collaboration and promote continuous improvement in the investment of RD&E resources nationally.

National research, development and extension strategies have been or are being developed for the following primary industry and cross industry sectors:

- beef, cotton, dairy, fisheries and aquaculture, forests, grains, horticulture, pork, poultry, sheep meat, sugar, wine, wool, and new and emerging industries;
- animal biosecurity, animal welfare, biofuels and bioenergy, climate change and variability, food and nutrition, soils, plant biosecurity and water use in agriculture.

CRDC, research organisations, industry and government are committed to the implementation of the Cotton Sector RD & E Strategy and five research priorities - Better Plant Varieties, Improved Farming Systems, People Business & Community, Product & Market Development and Development & Delivery. CRDC is committed to supporting the implementation of the cross sectoral strategies including climate change, soils, plant biosecurity and water use.

## CRDC Strategic R&D Priorities

Within the scope of stakeholder R&D priorities, CRDC has established five strategic outcomes to be achieved under its 2013-18 R&D Plan and continue to be the focus for R&D investment under this Annual Operating Plan.

|                    |   |
|--------------------|---|
| <b>Farmers</b>     | Cotton is profitable and consistently farmers' crop of choice                                     |
| <b>Industry</b>    | The Australian cotton industry is the global leader in sustainable agriculture                    |
| <b>Customers</b>   | The Australian cotton industry captures the full value of its products                            |
| <b>People</b>      | Capable and connected people driving the cotton industry  |
| <b>Performance</b> | Measured performance of the Australian cotton industry and its RD&E drives continuous improvement |

Through focusing on these five strategic priorities the CRDC will achieve its corporate outcome of *“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.”* The CRDC will monitor, evaluate and report on the achievement of key performance indicators.

| <b>Program Key Performance Indicators</b>                                      | <b>2013-14</b> | <b>2014-15</b> |
|--|----------------|----------------|
| Industry productivity growth increased per hectare per annum                   | 3 percent      | 3 percent      |
| Industry reports to customer needs for sustainability indicators               | Report         | Report         |
| Coverage of best management practice systems across Australian cotton industry | 65 percent     | 70 percent     |
| National RD&E Framework cotton and cross-sectoral RD&E strategies supported    | Report         | Report         |



## RD&E Portfolio Balance and Resource Allocation

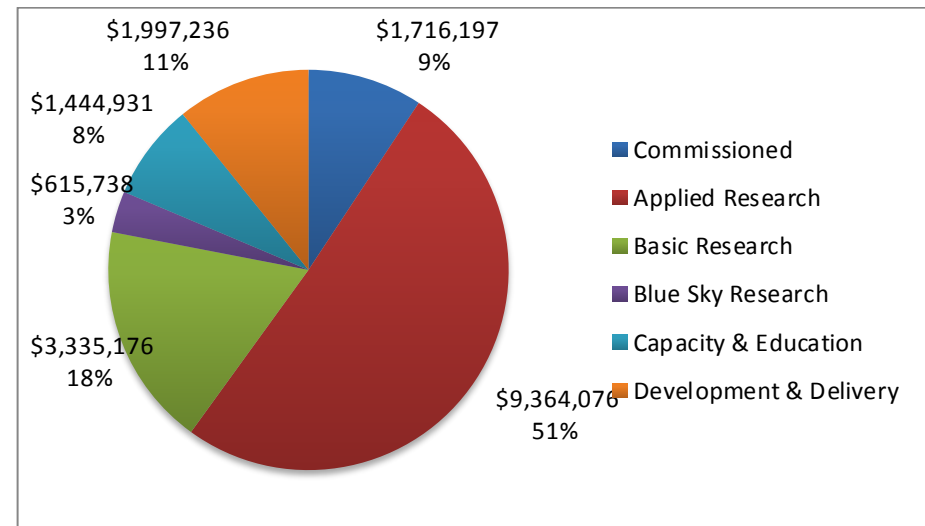
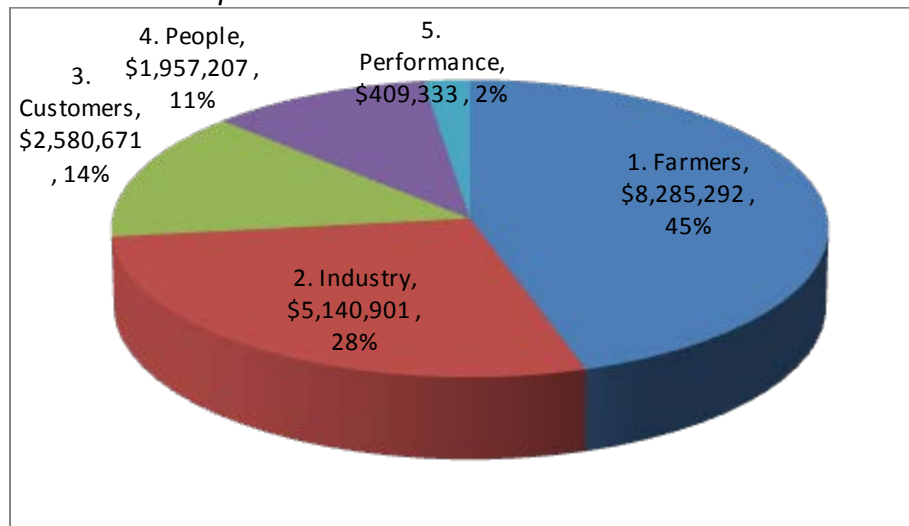
In 2014-15 the CRDC will invest \$6.3 million in new research as part of its total portfolio of RD&E.

This commitment is aligned with CRDC's planned total expenditure of \$100 million over the five years of its 2013-18 R&D Plan and objective to achieve a balanced RD&E portfolio that considers distribution of investment across:

- The RD&E strategies
- The type of research including basic, applied, blue sky, development and delivery
- Within project risks
- Researcher experience and capacity
- Research providers
- Timeframe to outcomes
- The likely return on investment for projects and programs
- R&D management

Each year CRDC reviews the portfolio balance together with the measures of success for each program to inform decisions on any adjustments to research priorities and the allocation of resources.

CRDC 2014-15 portfolio investment balance



## CRDC investments by program of RD&E

### Farmers

**Program outcome:** Cotton is profitable and consistently farmers' crop of choice

**Measure of Success:** Farmers increase productivity by 3 percent per hectare per year

| Outcome  | Key Tactics  | R&D Investments 14-15   |
|--|--|---|
| <b>Successful Crop Protection</b>                                  |  |   |
| <b>Cotton crops protected from pest, weed and disease threats.</b> | 1.1.1 Monitoring and investigating the ecological behaviours and responses of cotton pest, weeds and diseases. | <ul style="list-style-type: none"> <li>Continuing and new research projects to describe pathogen populations and undertake surveillance of pest, weed and disease threats.</li> <li>A continuing project to profile beneficial microorganisms and their manipulation in cotton growing soils to suppress cotton diseases and improve plant growth.</li> <li>A continuing project to investigate the role of host-endosymbiont relationships in the regulation of silverleaf whitefly populations.</li> <li>A continuing project investigating the predator-prey interactions for two key cotton pests, silverleaf whitefly and green vegetable bug.</li> <li>New projects researching key attributes of weed ecology to inform the evaluation of tactics for their management in cotton farming systems.</li> </ul> |
|  | 1.1.2 Testing practices that deliver improved management of insect pests, weeds and diseases.                  | <ul style="list-style-type: none"> <li>Continuing and new research projects to improve management strategies for diseases of cotton.</li> <li>Continuing and new research projects to improve integrated management strategies for established insect pests and build management strategies for emerging insect pests in cotton including mealybug, mirids and apple dimpling bug.</li> <li>Continuing project to develop weed management practices that lower the risks of crop damage, occurrence of weed resistance to key herbicides and the weediness of volunteer cotton on cotton farms.</li> </ul>  |
|  | 1.1.3 Improving capacity, knowledge and adoption of techniques   | <ul style="list-style-type: none"> <li>Continuing projects to package information about the management of pests, weeds and diseases in a range of hard copy and electronic formats for use by consultants</li> </ul>  |

|   |   |   |
|---|---|---|
|   | to successfully protect the cotton crop.  | <p>working with cotton farmers to make in-crop decisions.</p> <ul style="list-style-type: none"> <li>• New projects to establish integrated pest management support in southern farming systems and technical capacity in crop protection for extension.</li> </ul>   |
| <b>Productive Resource Efficiencies</b>           |   |   |
| <b>Inputs for cotton production are optimised</b> | 1.2.1 Delivering benchmarks of on-farm resource use efficiencies.   | <ul style="list-style-type: none"> <li>• New and continuing projects to assess greenhouse gas emissions from broadacre irrigated cropping systems.</li> <li>• New and continuing projects to benchmark cotton water use efficiencies, irrigation pump and energy efficiencies for a range of irrigation systems.</li> </ul>   |
|   | 1.2.2 Developing and proving decision systems and practices that deliver optimal resource efficiencies on cotton farms. | <ul style="list-style-type: none"> <li>• Continued study of agronomic management to optimise fibre quality.</li> <li>• New and continuing research to advance the availability of and ability to interpret real-time data sources for improving irrigation scheduling.</li> <li>• New and continuing projects to fully describe the carbon cycle in irrigated cotton and investigate the impacts of management practices on soil carbon in these farming systems.</li> <li>• A new project to increase capacity in soil biology research in cotton systems.</li> <li>• Continuing research of critical soil nutrient concentrations and interactions in soils supporting irrigated cotton and development of best practice recommendations for phosphorus, potassium and sulphur fertiliser use.</li> <li>• A continuing PhD project to explore improvements to cotton plant root growth.</li> <li>• Continuing research to improve knowledge of nutrition management for high-yielding cotton varieties and improving nutrition via soil health.</li> <li>• A continuing project to develop and test strategies to improve cotton's yield reliability in the Central Queensland growing region.</li> </ul> |
|   | 1.2.3 Developing new systems and tools to support farm decision-making processes.                                       | <ul style="list-style-type: none"> <li>• A continuing project to develop an impact assessment framework for evaluating the impact of new harvesting technologies on the cotton farming system.</li> <li>• A new PhD project evaluating autonomous drones for tracking irrigation</li> </ul>   |
|   | 1.2.4 Improving capacity, knowledge and adoption of techniques to optimise resource uses.                               | <ul style="list-style-type: none"> <li>• New and continuing projects to evaluate and demonstrate techniques and technologies cotton farmers can use to improve water use efficiencies and optimise the energy requirements for irrigation.</li> <li>• Continuing projects that package information about the optimisation of input efficiencies into a range of hard copy and electronic formats for use by cotton farmers in planning and decision making.</li> </ul>  |
| <b>Profitable Futures</b>                         |   |   |

|   |   |  |
|---|---|--|
| <b>Innovations in cotton production</b> | 1.3.1 Investigating the application of new technologies and different scientific approaches which have the potential to deliver significant improvements and economic returns to the cotton farming system. | <ul style="list-style-type: none"> <li>• A continuing project to investigate cotton diversification in Northern Queensland and other tropical areas of Australia.</li> <li>• Continuing projects to develop technologies that increase the efficiency with which irrigation can be applied to cotton and minimise on-farm water losses.</li> <li>• A continuing project to trial a monolayer and application system to reduce evaporation from large on-farm water storages</li> <li>• Continuing projects to evaluate the application of sensor technology in insect and weed detection.</li> <li>• Continuing collaborative projects to discover and develop biopesticide and semiochemical compounds for controlling key insect pests of cotton.</li> <li>• New investment in blue sky research to drive future profitability.</li> </ul> |
|---|---|--|

## Industry

**Program Outcome:** The Australian cotton industry is the global leader in sustainable agriculture

**Measure of success:** Industry can report against recognised sustainability indicators

| Outcome   | Key Tactics   | R&D Investments 14-15  |
|---|---|--|
| <b><i>Respected Stewardship</i></b>                                       |   |  |
| <b>Industry protects its production technologies and its biosecurity.</b> | 2.1.1 Monitoring for and investigating changes in pest and weed susceptibility to biotechnologies and crop protection products used by the cotton industry. | <ul style="list-style-type: none"> <li>• New and continuing projects to provide <i>Helicoverpa spp.</i>, whitefly, mirid, aphid and two spotted mite insecticide resistance monitoring.</li> <li>• Continuing and a new project to provide resistance monitoring of <i>Helicoverpa spp.</i> to Bt cotton.</li> <li>• Continuing projects investigating molecular genetic methods to detect neonicotinoid resistance in cotton aphid and to predict the emergence of herbicide resistance in weed populations.</li> <li>• Continuing projects investigating an epigenetic mechanism of tolerance to Bt proteins in <i>Helicoverpa spp.</i></li> </ul> |
|   | 2.1.2 Exploring tactics and strategies that lower the risks of pesticides to the environment and  | <ul style="list-style-type: none"> <li>• Continuing research and development of weed management practices that lower the risks of resistance developing to key herbicides used in the farming system.</li> <li>• A continuing project undertaking commercial scale evaluation of ‘moth busting’ as a new tactic for delaying the development of Bt resistance in <i>Helicoverpa spp.</i></li> </ul>  |

|       |   |   |
|-------|---|---|
|       | resistance evolution in populations of key insect pests and weeds.                                      | <ul style="list-style-type: none"> <li>Continuing research to model the evolution of Bt resistance in Australian <i>Helicoverpa spp</i> populations.</li> <li>Continuing research to evaluate the efficacy of Bt resistance management tactics and optimise the deployment of refuge crops.</li> </ul>  |
| 2.1.3 | Developing and supporting the industry's capacity to effectively steward key technologies and products. | <ul style="list-style-type: none"> <li>Continuing projects to building cross sectoral capacity for on-farm adoption of pesticide application best practice and spray drift prevention.</li> <li>Continuing participation in the National Working Party for Pesticide Application.</li> <li>Continuing projects that package information about the prevention of pesticide resistance and spray drift into a range of hard copy and electronic formats for use by the industry in planning and decision making.</li> <li>A continuing project to develop industry recommendations for reducing the risk of aflatoxin contamination in Australian cotton seed.</li> </ul> |
| 2.1.4 | Supporting the industry's preparedness and ability to deal with biosecurity threats.                    | <ul style="list-style-type: none"> <li>A new project to review the cotton industry Biosecurity Plan.</li> <li>New and continuing projects provide industry wide surveillance for exotic disease threats.</li> <li>Continuing projects scope and develop contingency plans for responding to key exotic disease threats</li> <li>A continuing project builds awareness of biosecurity threats and the handling of biosecurity incursions amongst cotton farmers, consultants and regionally-based industry personnel.</li> </ul>   |

### ***Responsible Landscape Management***

|   |       |   |  |
|---|-------|---|--|
| <b>Industry leads in natural assets</b> | 2.2.1 | Defining the values and drivers relating to the management of natural landscapes and systems in cotton growing regions. | <ul style="list-style-type: none"> <li>A continuing project quantifying the uncertainty associated predicting CSG production impacts.</li> </ul>   |
|   | 2.2.2 | Recording and demonstrating improved environmental performance of the cotton industry.                                  | <ul style="list-style-type: none"> <li>Implementation of the recommendations of the Third Environmental Assessment of the cotton industry.</li> <li>Two continuing projects to investigate management strategies to sustain riparian areas, floodplain and wetland ecosystems on cotton farms.</li> <li>A new project on waterbirds in cotton landscapes.</li> <li>A new project to develop a groundwater health index as an industry-wide monitoring tool.</li> </ul> |
|   | 2.2.3 | Identifying and proving   | <ul style="list-style-type: none"> <li>New and continuing projects to measure deep drainage and investigate</li> </ul>   |

|  |   |  |
|--|---|--|
|  | integrated management strategies which deliver environmental and productivity gains.  | salinization beneath irrigation fields at paddock and catchment scales.  |
|  | 2.2.4 Researching the connectivity between cotton farms and natural systems in the landscape.   | <ul style="list-style-type: none"> <li>• A continuing project on how cotton farmers can take advantage of potential future ecosystems markets.</li> </ul>  |
|  | 2.2.5 Supporting initiatives and partnerships to improve the knowledge and capacity to manage natural landscapes and systems in cotton regions.         | <ul style="list-style-type: none"> <li>• Enhanced capability to focus on extension of carbon farming and ecosystem services.</li> <li>• A new project to support NRM technical capacity in industry extension.</li> </ul>  |
| <b><i>Sustainable Futures</i></b>        |   |  |
| <b>An industry achieving its vision.</b> | 2.3.1. Scoping and investigating critical threats and opportunities which may influence the long term sustainability of the Australian cotton industry. | <ul style="list-style-type: none"> <li>• A continuing investigation to improve prediction of cotton growth and production in a changing climate.</li> <li>• A continuing project to assess the impact of potential future climates on cotton production and to identify potential management strategies.</li> <li>• A continuing PhD project to investigate the next generation of rural landscape governance in Australia.</li> </ul> |
|  | 2.3.2. Supporting innovative approaches to solve traditional industry issues and drive future sustainability.   | <ul style="list-style-type: none"> <li>• A new project to assess the resilience of the Australian cotton industry at multiple scales.</li> </ul>   |

## Customers

**Program outcome:** The Australian cotton industry captures the full value of its products.

**Measure of success:** Double the premium for Australian cotton

| Outcome  | Key Tactics   | R&D Investments 14-15  |
|--|---|--|
| <b>Assured Cotton</b>  |   |  |
| <b>The integrity and qualities of Australian cotton set global benchmarks for customers.</b> | 3.1.1 Improving Australian fibre quality testing standards and procedures and the capacity to measure and manage contamination. | <ul style="list-style-type: none"> <li>Continuing and new projects to develop technology on ginning efficiency improvement developed by assessment of the gin stand and monitoring of cotton grade and contamination.</li> <li>A continuing project to investigate “Innovations in Spinning Yarn and fabric Development”.</li> </ul> |
|  | 3.1.2 Supporting the development and implementation of post farm gate BMPs.   | <ul style="list-style-type: none"> <li>A new project aimed at improving the quality of Australian cotton through post harvest initiatives</li> <li>A new project to assess the impact on cotton quality of using round modules</li> </ul>  |
|  | 3.1.3 Developing and implementing a standardised reporting system for Australian cotton product quality and traceability.       | <ul style="list-style-type: none"> <li>Ongoing support for the adoption of BMPs for the Classification of Cotton.</li> </ul>   |
|  | 3.1.4 Benchmarking Australian cotton against key international programs for product stewardship and sustainability.             | <ul style="list-style-type: none"> <li>A continuing project to research value chain sustainability and competitive advantage for Australian cotton</li> <li>A continuing project to develop a carbon calculator for cotton</li> </ul>  |
| <b>Differentiated Products</b>   |   |  |

|   |       |   |  |
|---|-------|---|--|
| <b>Customers recognise the differentiated value of Australian cotton products</b> | 3.2.1 | Identifying opportunities for improvements in fibre quality and cotton products.  | <ul style="list-style-type: none"> <li>• A continuing PhD study to investigate improving length, strength and fineness of cotton</li> <li>• A PhD study investigating the effects of cotton cellulose structure and interaction on dye uptake</li> </ul>   |
|   | 3.2.2 | Demonstrating the value of different fibre classes and defining fibre quality parameters that secure a premium market.                | <ul style="list-style-type: none"> <li>• Further trial market developments with Mills and Brand owners to evaluate the competitive advantages of Australian cotton</li> </ul>  |
|   | 3.2.3 | Developing customer-based partnerships for the development of higher value and novel products, which differentiate Australian cotton. | <ul style="list-style-type: none"> <li>• A continuing project to investigate cotton and cotton/wool blend fabrics.</li> <li>• A continuing project to investigate the development of ever-dry, self-cooling cotton fabrics.</li> <li>• Further trial market developments with Mills and Brand owners to evaluate the competitive advantages of Australian cotton.</li> <li>• Integrated promotion of technologies that help differentiated Australian cotton.</li> </ul> |
| <b>Competitive Futures</b>  |       |   |  |
| <b>The demand for Australian cotton products is positively transformed.</b>       | 3.3.1 | Investigating existing and future markets for Australian cotton and communicate these findings to the Australian Cotton Industry.     | <ul style="list-style-type: none"> <li>• Continuing and new projects to develop technology on ginning efficiency improvement developed by assessment of the gin stand and monitoring of cotton grade and contamination.</li> <li>• A continuing project to develop options for improving dyeing efficiency developed.</li> <li>• New market research that supports industry preparedness for disruptive changes to the use of cotton.</li> </ul>                         |
|   | 3.3.2 | Facilitating the development of new technologies and systems to improve the competitiveness of Australia cotton.                      | <ul style="list-style-type: none"> <li>• A continuing project to develop automated gin seed fingers.</li> <li>• New and continuing projects to identify opportunities for novel products and processes that could transform the demand for Australian cotton.</li> </ul>   |

## People

**Program outcome:** Capable and connected people driving the cotton industry

| Outcome   | Key Tactics  | R&D Investments 14-15  |
|---|--|--|
| <b>Workforce Capacity</b>                                     |  |  |
| <b>A skilled, educated and progressive industry workforce</b> | 4.1.1 Investigating effective strategies for attracting, developing and retaining people in the cotton industry.   | <ul style="list-style-type: none"> <li>• A continuing project to establish a workforce development plan for the cotton industry for sustained competitive advantage.</li> <li>• A continuing PhD project to investigate the human capacity needs and management on cotton farms</li> <li>• A new PhD study investigating retention strategies for growers and managers in the cotton industry</li> <li>• A continuing project to develop more comprehensive opportunities for leadership development within the industry</li> <li>• A continuing partnership with grower groups to develop an effective grower network in the Upper Namoi</li> </ul> |
|   | 4.1.2 Supporting initiatives which lead to the continuous improvement of human resource management including on-farm Workplace Health and Safety                           | <ul style="list-style-type: none"> <li>• A continuing project to review and update cotton farm safety resources and potential links to the myBMP system.</li> <li>• A continuing project to develop a cotton injury and safety profile.</li> <li>• A new project investigating the use of smart technologies for best practice Work Health and Safety by cotton growers.</li> </ul>  |
|   | 4.1.3 Understanding opportunities for greater Aboriginal participation in cotton and partnering with organisations to support the development of a culturally aware cotton | <ul style="list-style-type: none"> <li>• Investigate opportunities to build on previous research that enables the development of a longer term strategy for improved aboriginal participation in the workforce.</li> </ul>   |

|       |  |  |
|-------|--|--|
|       | workforce.   |  |
| 4.1.4 | Supporting educational opportunities which increase the skills and knowledge of current workforces and will meet the needs of future workforces. | <ul style="list-style-type: none"> <li>Continuing initiatives to encourage and develop young professionals for the cotton industry including the establishment of a PICSE centre for cotton.</li> <li>A continuing post-graduate project to investigate the development and value of recognition of prior learning for cotton growers and managers</li> <li>A continuing project to build capacity in cotton farm employer driven staff development</li> <li>Continued training projects for ginning and managing cotton for highest quality as well as ongoing tertiary professional development course delivery.</li> <li>Continuing support for the activities of the Cotton Education Officer</li> <li>A continuation of the Cotton Field to Fabric Training Program and associated Scholarships for growers</li> <li>A continuing project to support the delivery of the Cotton Production Course</li> <li>Ongoing support for scholarships including summer scholars, undergraduate and PhDs</li> <li>A continuing project with Cotton Australia to maintain cotton industry membership of the Primary Industries Education Foundation</li> <li>Ongoing support for the Department of Agriculture Science &amp; Innovation Awards</li> </ul> |
| 4.1.5 | Creating opportunities for, and supporting the development of leadership skills.   | <ul style="list-style-type: none"> <li>New and continuing projects which support specific industry and agricultural leadership development programs.</li> </ul>  |

## Networks

|   |       |  |  |
|---|-------|--|--|
| <b>An industry connected by dynamic networks.</b> | 4.2.1 | Establishing and empowering creative forums and initiatives which build relationships. | <ul style="list-style-type: none"> <li>A continuation of the Grassroots Grants program to encourage capacity building projects with local Cotton Grower Associations (CGAs).</li> <li>A new project seeking to develop strategies for future research in the Australian cotton industry.</li> </ul>  |
|   | 4.2.2 | Supporting and participating in collaborative cross sectoral RD&E initiatives.         | <ul style="list-style-type: none"> <li>Continued support for work under the Climate Change Research Strategy for Primary Industries (CCRSPI), the Water Use in Agriculture, Soils and Plant Biosecurity Cross Sector R, D &amp; E Plans.</li> <li>Ongoing support for the cooperative partnership for farming and fishing occupational health and safety.</li> </ul> |
|   | 4.2.3 | Creating and facilitating opportunities for national and international RD&E            | <ul style="list-style-type: none"> <li>Continued support for travel scholarships for research, capacity building and innovation focused purposes.</li> <li>The development of a scientific exchange program to build knowledge and networks.</li> </ul>  |

|   |   |  |
|---|---|--|
|   | exchange.   |  |
|   | 4.2.4 Facilitating engagement with stakeholders for prioritising and capturing advice on RD&E issues. | <ul style="list-style-type: none"> <li>Support for the skill and knowledge development of RD&amp;E advisory panels.</li> </ul>   |
|   | 4.2.5 Honing research expertise and the application of science from core research disciplines         | <ul style="list-style-type: none"> <li>Continuing support for the Managing Climate Variability IV program and a cotton grower participant in the Cotton Climate Champion Program.</li> <li>Continuing projects which support research and industry advisory panels.</li> </ul> |
| <b>Communication</b>                          |   |  |
| <b>Stakeholder information needs are met.</b> | 4.3.1 Providing information for demand driven communication strategies and performance reporting.     | <ul style="list-style-type: none"> <li>A continuing project to identify and promote adoptable R&amp;D at the Australian Cotton Conference 2014</li> <li>CottonInfo joint venture partnership with commercial and industry partners.</li> </ul>                                 |
|   | 4.3.2 Applying innovative communication methods.  | <ul style="list-style-type: none"> <li>A continuing project to build the Cotton Industry Knowledge Hub</li> <li>A continuing project to investigate use of spatial technologies in Australian Cotton</li> </ul>  |

## Performance

**Program outcome:** Measured performance of the Australian cotton industry and its RD&E drives continuous improvement.

| Outcome                                    | Key Tactics  | R&D Investments 14-15  |
|--|--|--|
| <b>Best Practice</b>                       |  |  |
| <b>World's best practice underpins the</b> | 5.1.1 Supporting a best practice framework as the primary integrated | <ul style="list-style-type: none"> <li>Development and packaging of information derived from R&amp;D. Ongoing development, support and enabling of the links with research, extension and myBMP facilitation.</li> </ul> |

|  |       |   |   |
|--|-------|---|---|
| <b>performance of the cotton industry.</b> |       | planning, risk management, benchmarking, knowledge development and delivery system. | <ul style="list-style-type: none"> <li>• A continuing project to facilitate linkages between research, extension and the industry's myBMP system.</li> <li>• A continuing project to ensure the cotton industry has a consistent, robust and credible audit certification system for myBMP.</li> <li>• Facilitation of linkages between research, extension and the industry's myBMP system.</li> </ul>   |
|  | 5.1.2 | Promoting best practices through the CottonInfo Joint Venture.                      | <ul style="list-style-type: none"> <li>• Continuing extension focussed projects to manage and deliver knowledge to encourage best management practice.</li> <li>• Implementation of campaign based initiatives within the CottonInfo Team to deliver on key target areas for R&amp;D adoption.</li> <li>• A continuing project to comprehensively document and communicate best practice cotton production techniques using video and audio formats.</li> <li>• New and existing projects to provide resources for development and delivery of research results.</li> <li>• A continuing project to continue the development of a post-harvest BMP (including classing/ginning and harvesting)</li> </ul> |

### **Monitoring and Evaluation**

|  |       |   |  |
|--|-------|---|--|
| <b>Industry and RD&amp;E performance is captured</b> | 5.2.1 | Developing and implementing an internal M&E framework for evaluating portfolio balance and R&D performance. | <ul style="list-style-type: none"> <li>• A continuing project developing a framework and benchmark for monitoring achievement of the CRDC's 2013-2018 Strategic Plan.</li> <li>• Facilitation of linkages between cotton and regional NRM bodies to incorporate prior learnings for M&amp;E .</li> </ul>   |
|  | 5.2.2 | Conducting annual industry surveys to capture practice change.  | <ul style="list-style-type: none"> <li>• Continuation of the Crop Consultants Association Post Season Survey Series together with a new project that establishes more interactive grower surveys and workshops</li> <li>• A continuing project to develop an on-farm environmental resources survey.</li> <li>• A project to continue the delivery of the Boyce Cotton Comparative Analysis Reports</li> </ul> |
|  | 5.2.3 | Establishing a framework through which industry performance can be nationally and internationally reported. | <ul style="list-style-type: none"> <li>• A continuing project to agree and report on economic, environmental and social KPIs for the cotton industry.</li> <li>• <i>myBMP</i> as a system to record grower adoption of best management practices identified through R&amp;D.</li> </ul>  |

| <b>Reviews</b>   |       |  |   |
|--|-------|--|---|
| <b>Continuous improvements in industry and RD&amp;E performance.</b> | 5.3.1 | Undertaking scientific discipline reviews of the industry's RD&E.  | <ul style="list-style-type: none"> <li>• New projects to review specific disciplines of the industry RD&amp;E.</li> </ul>       |
|  | 5.3.2 | Commissioning and participating in independent reviews of CRDC's RD&E and organisational performance.    | <ul style="list-style-type: none"> <li>• A new project to evaluate CRDC's People strategy.</li> </ul>                           |
|  | 5.3.3 | Commissioning independent reviews of the social, environmental and economic performance of the industry. | <ul style="list-style-type: none"> <li>• New projects to review the social and economic performance of the industry.</li> </ul> |
|  | 5.3.4 | Participating in cross-sectoral RD&E impact evaluations and reviews.                                     | <ul style="list-style-type: none"> <li>• Participating in CRRDC project evaluations of RD&amp;E.</li> </ul>                     |

## Financial tables 2014-15

**Table 1.1: Resource Statement**

| Source   | Estimate<br>of prior<br>year amounts<br>available in<br>2014–15<br>\$'000 | Proposed<br>at Budget<br>2014–15<br>\$'000 | Total<br>estimate<br>2014–15<br>\$'000 | Actual<br>available<br>appropriation<br>2013–14<br>\$'000 |
|--|---|--|--|---|
| <b>Opening balance/Reserves at bank</b>  | <b>39,748</b>   | <b>-</b>                                   | <b>39,748</b>                          | <b>39,261</b>   |
| <b>REVENUE FROM GOVERNMENT</b>   |   |  |  |   |
| <b>Special appropriations<sup>1</sup></b>  |   |  |  |   |
| <i>Primary Industries Research and Development Act 1989 s.30(3) – Cotton R&amp;D Corporation</i> | -   | 17,131                                     | 17,131                                 | 20,604  |
| <b>Total special appropriations</b>  | <b>-</b>  | <b>17,131</b>                              | <b>17,131</b>                          | <b>20,604</b>   |
| <b>Total funds from government</b>   | <b>-</b>  | <b>17,131</b>                              | <b>17,131</b>                          | <b>20,604</b>   |
| <b>FUNDS FROM INDUSTRY SOURCES</b>   |   |  |  |   |
| Levies <sup>2</sup>  | -   | 8,618                                      | 8,618                                  | 10,302  |
| <i>less amounts paid to the CRF</i>  | -   | (8,618)                                    | (8,618)                                | (10,302)  |
| <b>Total</b>   | <b>-</b>  | <b>-</b>                                   | <b>-</b>                               | <b>-</b>  |
| <b>FUNDS FROM OTHER SOURCES</b>  |   |  |  |   |
| Interest   | -   | 850  | 850                                    | 2,069   |
| Royalties  | -   | 1,182                                      | 1,182                                  | 3,502   |
| Other  | -   | 1,527                                      | 1,527                                  | 1,366   |
| <b>Total</b>   | <b>-</b>  | <b>3,559</b>                               | <b>3,559</b>                           | <b>6,937</b>  |
| <b>Total net resourcing for agency</b>   | <b>39,748</b>   | <b>20,690</b>                              | <b>60,438</b>                          | <b>66,802</b>   |

1. CRDC is not directly appropriated. Appropriations are made to the Department of Agriculture which are then paid to CRDC and are considered 'departmental' for all purposes.

2. The levy is imposed and collected under the following legislation: Primary Industries Research and Development Act 1989, Primary Industries (Excise) Levies Act 1999, Primary Industries Levies and Charges Collection Act 1991 and associated legislation.

Reader note: All figures are GST exclusive.

CRF – Consolidated Revenue Fund

**Table 2.1: Budgeted Expenses for Outcome 1**

|  | 2013–14<br>Estimated<br>actual<br>expenses<br>\$'000 | 2014–15<br>Estimated<br>expenses<br>\$'000 |
|--|--|--|
| <b>Outcome 1: 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.</b> |  |  |
| <b>Program 1.1: Cotton Research and Development Corporation</b>  |  |  |
| Revenue from government  |  |  |
| Special appropriations   | 8,736  | 8,513                                      |
| Special appropriations – Industry Levies   | 8,736  | 8,618                                      |
| Revenues from other independent sources  | 4,474  | 3,313                                      |
| Reserves   |  | 3,734                                      |
| <b>Total for Program 1.1</b>   | <b>21,946</b>  | <b>24,178</b>                              |
| <b>Outcome 1 Totals by resource type</b>   |  |  |
| Revenue from government  |  |  |
| Special appropriations   | 8,736  | 8,513                                      |
| Special appropriations – Industry Levies   | 8,736  | 8,618                                      |
| Revenues from other independent sources  | 4,474  | 3,313                                      |
| Reserves   | -  | 3,734                                      |
| <b>Total expenses for Outcome 1</b>  | <b>21,946</b>  | <b>24,178</b>                              |
|  | 2013–14  | 2014–15                                    |
| <b>Average Staffing Level (number)</b>   | <b>13.2</b>  | <b>13.9</b>                                |

**Table 2.2: Program Expenses**

|  | 2013–14<br>Revised<br>budget<br>\$'000 | 2014–15<br>Budget<br>\$'000 | 2015–16<br>Forward<br>year 1<br>\$'000 | 2016–17<br>Forward<br>year 2<br>\$'000 | 2017–18<br>Forward<br>year 3<br>\$'000 |
|--|--|-----------------------------|--|--|--|
| Annual departmental expenses:<br>Cotton Research and Development Corporation | 21,946                                 | 24,178                      | 21,843                                 | 14,807                                 | 16,779                                 |
| <b>Total program expenses</b>  | <b>21,946</b>                          | <b>24,178</b>               | <b>21,843</b>                          | <b>14,807</b>                          | <b>16,779</b>                          |

**Table 3.2.1: Comprehensive Income Statement (Showing Net Cost of Services) for the period ended 30 June**

|  | Estimated<br>actual | Budget<br>estimate | Forward<br>estimate | Forward<br>estimate | Forward<br>estimate |
|--|---------------------|--------------------|---------------------|---------------------|---------------------|
|  | 2013–14             | 2014–15            | 2015–16             | 2016–17             | 2017–18             |
|  | \$'000              | \$'000             | \$'000              | \$'000              | \$'000              |
| <b>EXPENSES</b>  |                     |                    |                     |                     |                     |
| Employee benefits  | 2,067               | 2,221              | 2,275               | 1,999               | 1,922               |
| Supplier expenses  | 1,239               | 1,091              | 1,117               | 1,039               | 1,132               |
| Grants   | 18,530              | 20,756             | 18,311              | 11,629              | 13,645              |
| Depreciation and amortisation                                      | 110                 | 110                | 140                 | 140                 | 80                  |
| <b>Total expenses</b>  | <b>21,946</b>       | <b>24,178</b>      | <b>21,843</b>       | <b>14,807</b>       | <b>16,779</b>       |
| <b>LESS:</b>   |                     |                    |                     |                     |                     |
| <b>OWN-SOURCE INCOME</b>   |                     |                    |                     |                     |                     |
| <b>Own-source revenue</b>  |                     |                    |                     |                     |                     |
| Interest   | 1,575               | 850                | 625                 | 690                 | 630                 |
| Rental income  | 5                   | 5                  | 5                   | 5                   | 5                   |
| Royalties  | 2,452               | 1,182              | 754                 | 612                 | 660                 |
| Other  | 1,245               | 1,276              | 779                 | 648                 | 209                 |
| <b>Total own-source revenue</b>                                    | <b>5,277</b>        | <b>3,313</b>       | <b>2,163</b>        | <b>1,955</b>        | <b>1,504</b>        |
| <b>Net cost of (contribution by) services</b>                      | <b>16,669</b>       | <b>20,865</b>      | <b>19,680</b>       | <b>12,852</b>       | <b>15,275</b>       |
| Revenue from government <sup>1</sup>                               |                     |                    |                     |                     |                     |
| Commonwealth contribution  | 10,302              | 8,513              | 6,486               | 6,372               | 7,445               |
| Industry contributions   | 10,302              | 8,618              | 6,592               | 6,480               | 7,830               |
| <b>Total revenue from government</b>                               | <b>20,604</b>       | <b>17,131</b>      | <b>13,078</b>       | <b>12,852</b>       | <b>15,275</b>       |
| <b>Surplus (Deficit)</b>   | <b>3,935</b>        | <b>(3,734)</b>     | <b>(6,602)</b>      | <b>-</b>            | <b>-</b>            |
| <b>Surplus (Deficit) attributable to the Australian Government</b> | <b>3,935</b>        | <b>(3,734)</b>     | <b>(6,602)</b>      | <b>-</b>            | <b>-</b>            |

<sup>1</sup> Revenue from government includes a Commonwealth contribution under the PIRD Act 1989, and levies collected from industry by the Department of Agriculture, Fisheries and Forestry for Research and Development activities.

Prepared on Australian Accounting Standards Basis

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

|                                   | Estimated<br>actual | Budget<br>estimate | Forward<br>estimate | Forward<br>estimate | Forward<br>estimate |
|-----------------------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
|                                   | 2013–14             | 2014–15            | 2015–16             | 2016–17             | 2017–18             |
|                                   | \$'000              | \$'000             | \$'000              | \$'000              | \$'000              |
| <b>ASSETS</b>                     |                     |                    |                     |                     |                     |
| <b>Financial assets</b>           |                     |                    |                     |                     |                     |
| Cash and cash equivalents         | 39,748              | 35,858             | 29,108              | 29,193              | 29,073              |
| Trade and other receivables       | 4,501               | 4,500              | 4,500               | 4,500               | 4,500               |
| <b>Total financial assets</b>     | <b>44,249</b>       | <b>40,358</b>      | <b>33,608</b>       | <b>33,693</b>       | <b>33,573</b>       |
| <b>Non-financial assets</b>       |                     |                    |                     |                     |                     |
| Land and buildings                | 807                 | 842                | 887                 | 902                 | 907                 |
| Property, plant and equipment     | 84                  | 118                | 166                 | 159                 | 187                 |
| Intangibles                       | 99                  | 186                | 241                 | 148                 | 235                 |
| Other                             | 10                  | 10                 | 10                  | 10                  | 10                  |
| <b>Total non-financial assets</b> | <b>1,000</b>        | <b>1,156</b>       | <b>1,304</b>        | <b>1,219</b>        | <b>1,339</b>        |
| <b>Total assets</b>               | <b>45,249</b>       | <b>41,514</b>      | <b>34,912</b>       | <b>34,912</b>       | <b>34,912</b>       |
| <b>LIABILITIES</b>                |                     |                    |                     |                     |                     |
| <b>Payables</b>                   |                     |                    |                     |                     |                     |
| Suppliers                         | 31                  | 30                 | 30                  | 30                  | 30                  |
| Grants                            | 2,000               | 2,000              | 2,000               | 2,000               | 2,000               |
| Other                             | 30                  | 30                 | 30                  | 30                  | 30                  |
| <b>Total payables</b>             | <b>2,061</b>        | <b>2,060</b>       | <b>2,060</b>        | <b>2,060</b>        | <b>2,060</b>        |
| <b>Provisions</b>                 |                     |                    |                     |                     |                     |
| Employee provisions               | 322                 | 322                | 322                 | 322                 | 322                 |
| <b>Total provisions</b>           | <b>322</b>          | <b>322</b>         | <b>322</b>          | <b>322</b>          | <b>322</b>          |
| <b>Total liabilities</b>          | <b>2,383</b>        | <b>2,382</b>       | <b>2,382</b>        | <b>2,382</b>        | <b>2,382</b>        |
| <b>Net assets</b>                 | <b>42,866</b>       | <b>39,132</b>      | <b>32,530</b>       | <b>32,530</b>       | <b>32,530</b>       |
| <b>EQUITY*</b>                    |                     |                    |                     |                     |                     |
| Reserves                          | 346                 | 346                | 346                 | 346                 | 346                 |
| Retained surplus                  | 42,520              | 38,786             | 32,184              | 32,184              | 32,184              |
| <b>Total equity</b>               | <b>42,866</b>       | <b>39,132</b>      | <b>32,530</b>       | <b>32,530</b>       | <b>32,530</b>       |

\* Equity is the residual interest in assets after deduction of liabilities.  
Prepare on Australian Accounting Standards basis.

**Table 3.2.3: Departmental changes in equity**

|  | Retained<br>earnings | Asset<br>revaluation<br>reserve | Total<br>equity |
|--|----------------------|---------------------------------|-----------------|
|  | \$'000               | \$'000                          | \$'000          |
| <b>Opening balance as at 1 July 2014</b>                             |                      |                                 |                 |
| Balance carried forward from<br>previous period                      | 42,520               | 346                             | 42,866          |
| <b>Adjusted opening balance</b>                                      | <b>42,520</b>        | <b>346</b>                      | <b>42,866</b>   |
| <b>Comprehensive income</b>  |                      |                                 |                 |
| Surplus (deficit) for the period                                     | (3,734)              | -                               | (3,734)         |
| <b>Total comprehensive income</b>                                    | <b>(3,734)</b>       | <b>-</b>                        | <b>(3,734)</b>  |
| of which:  |                      |                                 |                 |
| Attributable to the Australian Government                            | (3,734)              | -                               | (3,734)         |
| <b>Estimated closing balance<br/>as at 30 June 2015</b>              | <b>38,786</b>        | <b>346</b>                      | <b>39,132</b>   |
| <b>Closing balance attributable to the<br/>Australian Government</b> | <b>38,786</b>        | <b>346</b>                      | <b>39,132</b>   |

Prepared on Australian Accounting Standards basis.

**Table 3.2.4: Budgeted departmental statement of cash flows (for the period ended 30 June)**

|   | Estimated<br>actual | Budget<br>estimate | Forward<br>estimate | Forward<br>estimate | Forward<br>estimate |
|---|---------------------|--------------------|---------------------|---------------------|---------------------|
|   | 2013–14             | 2014–15            | 2015–16             | 2016–17             | 2017–18             |
|   | \$'000              | \$'000             | \$'000              | \$'000              | \$'000              |
| <b>OPERATING ACTIVITIES</b>   |                     |                    |                     |                     |                     |
| <b>Cash received</b>  |                     |                    |                     |                     |                     |
| Industry contributions  | 10,302              | 8,513              | 6,486               | 6,372               | 7,445               |
| Revenue from government   | 10,302              | 8,618              | 6,592               | 6,480               | 7,830               |
| Interest  | 2,069               | 850                | 625                 | 690                 | 630                 |
| Net GST received  | 2,040               | 1,966              | 1,818               | 1,146               | 1,410               |
| Other   | 4,868               | 2,709              | 1,692               | 1,392               | 961                 |
| <b>Total cash received</b>  | <b>29,581</b>       | <b>22,656</b>      | <b>17,213</b>       | <b>16,080</b>       | <b>18,276</b>       |
| <b>Cash used</b>  |                     |                    |                     |                     |                     |
| Employees   | 2,087               | 2,220              | 2,275               | 1,999               | 1,923               |
| Suppliers   | 1,574               | 1,198              | 1,228               | 1,119               | 1,235               |
| Grants  | 25,080              | 22,832             | 20,142              | 12,792              | 15,009              |
| Other   | 30                  | 30                 | 30                  | 30                  | 30                  |
| <b>Total cash used</b>  | <b>28,771</b>       | <b>26,280</b>      | <b>23,675</b>       | <b>15,940</b>       | <b>18,197</b>       |
| <b>Net cash from (used by)<br/>operating activities</b>                 | <b>810</b>          | <b>(3,624)</b>     | <b>(6,462)</b>      | <b>140</b>          | <b>79</b>           |
| <b>INVESTING ACTIVITIES</b>   |                     |                    |                     |                     |                     |
| <b>Cash used</b>  |                     |                    |                     |                     |                     |
| Purchase of property, plant<br>and equipment                            | 323                 | 266                | 288                 | 55                  | 200                 |
| <b>Total cash used</b>  | <b>323</b>          | <b>266</b>         | <b>288</b>          | <b>55</b>           | <b>200</b>          |
| <b>Net cash from (used by)<br/>investing activities</b>                 | <b>(323)</b>        | <b>(266)</b>       | <b>(288)</b>        | <b>(55)</b>         | <b>(200)</b>        |
| <b>Net increase (decrease)<br/>in cash held</b>                         |                     |                    |                     |                     |                     |
|   | <b>487</b>          | <b>(3,890)</b>     | <b>(6,750)</b>      | <b>85</b>           | <b>(121)</b>        |
| Cash and cash equivalents at the<br>beginning of the reporting period   | 39,261              | 39,748             | 35,858              | 29,108              | 29,193              |
| <b>Cash and cash equivalents at the<br/>end of the reporting period</b> | <b>39,748</b>       | <b>35,858</b>      | <b>29,108</b>       | <b>29,193</b>       | <b>29,072</b>       |

Prepared on Australian Accounting Standards basis.

**Table 3.2.5: Departmental Capital Budget Statement**

|  | Estimated<br>actual | Budget<br>estimate    | Forward<br>estimate   | Forward<br>estimate   | Forward<br>estimate   |
|--|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | 2013–14<br>\$'000   | 2014–<br>15<br>\$'000 | 2015–<br>16<br>\$'000 | 2016–<br>17<br>\$'000 | 2017–<br>18<br>\$'000 |
| <b>PURCHASE OF NON-FINANCIAL ASSETS</b>                                      |                     |                       |                       |                       |                       |
| Funded internally from departmental resources <sup>1</sup>                   | 323                 | 266                   | 288                   | 55                    | 200                   |
| <b>TOTAL</b>   | <b>323</b>          | <b>266</b>            | <b>288</b>            | <b>55</b>             | <b>200</b>            |
| <b>RECONCILIATION OF CASH USED TO ACQUIRE ASSETS TO ASSET MOVEMENT TABLE</b> |                     |                       |                       |                       |                       |
| Total purchases  | 323                 | 266                   | 288                   | 55                    | 200                   |
| <b>Total cash used to acquire assets</b>                                     | <b>323</b>          | <b>266</b>            | <b>288</b>            | <b>55</b>             | <b>200</b>            |

<sup>1</sup> Includes the following sources of funding:

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

Prepared on Australian Accounting Standards basis.

**Table 3.2.6: Statement of Asset Movements**

|   | Asset Category (as appropriate) |             |                                     |                                   | Total        |
|---|---------------------------------|-------------|-------------------------------------|-----------------------------------|--------------|
|   | Land                            | Buildings   | Other property, plant and equipment | Computer software and intangibles |              |
|   | \$'000                          | \$'000      | \$'000                              | \$'000                            | \$'000       |
| <b>As at 1 July 2014</b>                                  |                                 |             |                                     |                                   |              |
| Gross book value  | 180                             | 656         | 196                                 | 293                               | 1,325        |
| Accumulated depreciation/amortisation and impairment      | -                               | (29)        | (112)                               | (194)                             | (335)        |
| <b>Opening net book balance</b>                           | <b>180</b>                      | <b>627</b>  | <b>84</b>                           | <b>99</b>                         | <b>990</b>   |
| <b>CAPITAL ASSET ADDITIONS</b>                            |                                 |             |                                     |                                   |              |
| <b>Estimated expenditure on new or replacement assets</b> |                                 |             |                                     |                                   |              |
| By purchase – other                                       | -                               | 50          | 61                                  | 155                               | 266          |
| <b>Total additions</b>                                    | <b>-</b>                        | <b>50</b>   | <b>61</b>                           | <b>155</b>                        | <b>266</b>   |
| <b>Other movements</b>                                    |                                 |             |                                     |                                   |              |
| Depreciation/amortisation expense                         | -                               | (15)        | (27)                                | (68)                              | (110)        |
| <b>Total other movements</b>                              | <b>-</b>                        | <b>(15)</b> | <b>(27)</b>                         | <b>(68)</b>                       | <b>(110)</b> |
| <b>As at 30 June 2015</b>                                 |                                 |             |                                     |                                   |              |
| Gross book value  | 180                             | 706         | 257                                 | 448                               | 1,591        |
| Accumulated depreciation/amortisation and impairment      | -                               | (44)        | (139)                               | (262)                             | (445)        |
| <b>Closing net book balance</b>                           | <b>180</b>                      | <b>662</b>  | <b>118</b>                          | <b>186</b>                        | <b>1,146</b> |

*Prepared on Australian Accounting Standards basis.*

## CRDC 2013-18 Strategic R&D Plan Summary

**VISION** *A globally competitive and responsible cotton industry*

**MISSION** *To invest in RD&E for the world leading Australian cotton industry*

### OUTCOMES

|  |  |   |  |  |
|--|--|---|--|--|
| <p><b>Farmers</b></p> <p>Cotton is profitable and consistently farmers' crop of choice</p> | <p><b>Industry</b></p> <p>The Australian cotton Industry is the global leader in sustainable agriculture</p> | <p><b>Customers</b></p> <p>The Australian cotton industry captures the full value of its products</p> | <p><b>People</b></p> <p>Capable and connected people driving the cotton industry</p> | <p><b>Performance</b></p> <p>Measured performance of the Australian cotton industry and its RD&amp;E drives continuous improvement</p> |
|--|--|---|--|--|

### STRATEGIES

|  |  |  |  |   |
|--|--|--|--|---|
| <p><b>Successful Crop Protection</b></p> <p>Cotton crops protected from pest, weed and disease threats</p> | <p><b>Respected Stewardship</b></p> <p>Industry protects its production technologies and its biosecurity</p> | <p><b>Assured Cotton</b></p> <p>The integrity and qualities of Australian cotton set global benchmarks for customers</p> | <p><b>Workforce Capacity</b></p> <p>A skilled, educated and progressive industry workforce</p> | <p><b>Best Practice</b></p> <p>World's best practice underpins the performance of the cotton industry</p> |
| <p><b>Productive Resource Efficiencies</b></p> <p>Inputs for cotton production are optimised</p>           | <p><b>Responsible Landscape Management</b></p> <p>Industry leads in managing natural assets</p>              | <p><b>Differentiated Products</b></p> <p>Customers recognise the differentiated value of Australian cotton products</p>  | <p><b>Networks</b></p> <p>An industry connected by dynamic networks</p>                        | <p><b>Monitoring &amp; Evaluation</b></p> <p>Industry and RD&amp;E performance is captured</p>            |
| <p><b>Profitable Futures</b></p> <p>Innovation in cotton production</p>                                    | <p><b>Sustainable Futures</b></p> <p>An industry achieving its vision</p>                                    | <p><b>Competitive Futures</b></p> <p>The demand for Australian cotton products is positively transformed</p>             | <p><b>Communication</b></p> <p>Stakeholder information needs are met</p>                       | <p><b>Reviews</b></p> <p>Continuous improvement in industry and RD&amp;E performance</p>                  |

## Glossary of terms used in the Australian cotton industry

|               |  |
|---------------|--|
| AANRO         | Australian Agricultural and Natural Resources Online Database  |
| ABARES        | Australian Bureau of Agricultural and Resource Economics and Sciences                                  |
| ACGRA         | Australian Cotton Growers' Research Association (now merged with Cotton Australia)                     |
| ACIC          | Australian Cotton Industry Council   |
| ACIPA         | Australian Centre for Intellectual Property in Agriculture   |
| ACRI          | Australian Cotton Research Institute   |
| ACSA          | Australian Cotton Shippers Association   |
| AES           | Aboriginal Employment Strategy   |
| ai/ha         | Active ingredient per hectare  |
| ANAO          | Australian National Audit Office   |
| ANCID         | Australian National Committee on Irrigation and Drainage   |
| APVMA         | Australian Pesticides and Veterinary Medicines Authority   |
| ARLP          | Australian Rural Leadership Program  |
| AWAF          | Department of Agriculture and Food, Western Australia  |
| AWM           | Area Wide Management   |
| Bollgard II ® | Cotton varieties contain two genes resistant to <i>Helicoverpa</i> spp.                                |
| BMP           | Best Management Practices program (also myBMP)   |
| Bt            | Bacillus thuringiensis (crystal protein gene expressed in INGARD ® and Bollgard II ® cotton varieties) |
| CA            | Cotton Australia   |
| CCA           | Crop Consultants Australia Inc. (formerly Cotton Consultants Australia Inc.)                           |
| CCRSPI        | National Climate Change Research Strategy for Primary Industries                                       |
| Cotton CRC    | Cotton Catchment Communities Cooperative Research Centre (ceased operations 2012)                      |
| CMA           | Catchment Management Authority   |
| CMSE          | CSIRO Materials Science and Engineering  |
| CPRS          | Carbon Pollution Reduction Scheme  |
| CRDC          | Cotton Research and Development Corporation  |
| CRRDCC        | Council of Rural Research & Development Corporations' Chairs   |
| CSD           | Cotton Seed Distributors Ltd (a grower-owned cooperative)  |
| CSIRO         | Commonwealth Scientific and Industrial Research Organisation   |
| DA            | Department of Agriculture  |
| DECCW         | NSW Department of Environment, Climate Change and Water  |
| DEEDI         | Queensland Department of Employment, Economic Development and Innovation                               |
| DERM          | Queensland Department of Environment and Resource Management   |
| DOFD          | Australian Government Department of Finance and Deregulation   |
| EIQ           | Environmental Impact Quotient  |

|                         |  |
|-------------------------|--|
| e-Learning              | On-line learning, training and education   |
| EM                      | Electromagnetic conductivity   |
| EPOI                    | Environmental Performance Indicator  |
| ESD                     | Ecologically Sustainable Development   |
| EPBC                    | Act Environmental Protection and Biodiversity Conservation Act 1999                            |
| FH&SJV                  | Farm Health & Safety Joint Venture   |
| F Rank                  | Measure of Fusarium wilt resistance  |
| FRDC                    | Fisheries Research and Development Corporation   |
| GM                      | Genetically modified   |
| GMAC                    | Genetic Manipulation Advisory Committee  |
| GOA                     | Groundrig Operators Association  |
| GRDC                    | Grains Research and Development Corporation  |
| HAL                     | Horticulture Australia Ltd   |
| ha.                     | Hectare  |
| <i>Helicoverpa</i> spp. | Cotton's major insect pests ( <i>H. armigera</i> and <i>H. punctigera</i> )                    |
| Heliothis               | Insect pest, more properly known as <i>Helicoverpa</i> spp. (see above)                        |
| NSW DPI                 | NSW Department of Primary Industry   |
| IBP                     | Industry Biosecurity Plan  |
| ICAC                    | International Cotton Advisory Committee  |
| IP                      | Intellectual Property  |
| IDM                     | Integrated Disease Management  |
| Irrigation deficit      | Millimetres of plant-available soil water removed at the time of irrigation                    |
| IPM                     | Integrated Pest Management   |
| IRMS                    | Insecticide Resistance Management Strategy   |
| ISO                     | International Organisation for Standardisation   |
| IWM                     | Integrated Weed Management   |
| IWUI                    | Irrigation Water Use Index   |
| KPI                     | Key Performance Indicator (measure of success)   |
| LCA                     | Life Cycle Assessment  |
| LWA                     | Land and Water Australia ( <i>ceased operations in 2009</i> )                                  |
| MLA                     | Meat and Livestock Australia   |
| MP                      | Member of Parliament   |
| NCEA                    | National Centre for Engineering in Agriculture, University of Southern Queensland              |
| NFF                     | National Farmers' Federation   |
| NHT                     | Natural Heritage Trust (Australian Government)   |
| NIPi                    | National Insect Pest Initiative  |
| NPSi                    | National Program for Sustainable Irrigation  |
| NRM                     | Natural Resource Management  |
| NSW DPI                 | NSW Department of Primary Industries ( <i>formerly part of Industry &amp; Investment NSW</i> ) |
| NUEI                    | Nitrogen Use Efficiency Index  |

|          |  |
|----------|--|
| OGTR     | Office of the Gene Technology Regulator  |
| OHS      | Occupational health and safety   |
| PGPA Act | Public Governance, Performance and Accountability Act 2013   |
| PICSE    | National Primary Industry Centre for Science Education   |
| PIRD Act | Primary Industries Research and Development Act 1989   |
| Pima     | cotton <i>Gossypium barbadense</i> . Related to Egyptian cotton, having extra long and fine staple.  |
| QDEEDI   | Queensland <i>Department of Employment, Economic Development and Innovation</i> )                    |
| QFF      | Queensland Farmers' Federation   |
| QUT      | Queensland University of Technology  |
| RDC      | Rural Research and Development Corporation   |
| RIRDC    | Rural Industries Research and Development Corporation  |
| RMP      | Resistance Management Plan   |
| RRDCC    | Rural Research and Development Chairs' Committee   |
| SJV      | San Joaquin Valley (California): the industry benchmark in the international marketplace             |
| SLW      | Silverleaf whitefly spp. species   |
| SRA      | Sugar Research Australia   |
| TIMS     | Transgenic and Insect Management Strategy Committee  |
| 'Upland' | cotton variety <i>Gossypium hirsutum</i> , comprises the vast majority of the Australian cotton crop |
| Wincott  | Women's Industry Network – Cotton  |
| WUE      | Water use efficiency   |
| WUiAg    | Water Use in Agriculture strategy of Primary Industries Standing Committee (PISC)                    |



**Australian Government**

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Development Corporation**

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