

INTERNATIONAL COTTON ADVISORY COMMITTEE

77th PLENARY MEETING

"Cotton Challenges: Smart and Sustainable Solutions"

**Abidjan, Ivory Coast
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AUSTRALIAN COUNTRY REPORT

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Introduction

Cotton production is one of the most important economic activities for many regional communities in eastern Australia. Australia has around 1,436 cotton farms, with around two thirds of the crop grown in New South Wales, and one third of the crop grown in Queensland. In 2017-18 small amounts of cotton were grown in Victoria, northern Western Australia and north-western Queensland and these areas show promise for further growth.

Figure 1 Major Australian cotton growing regions



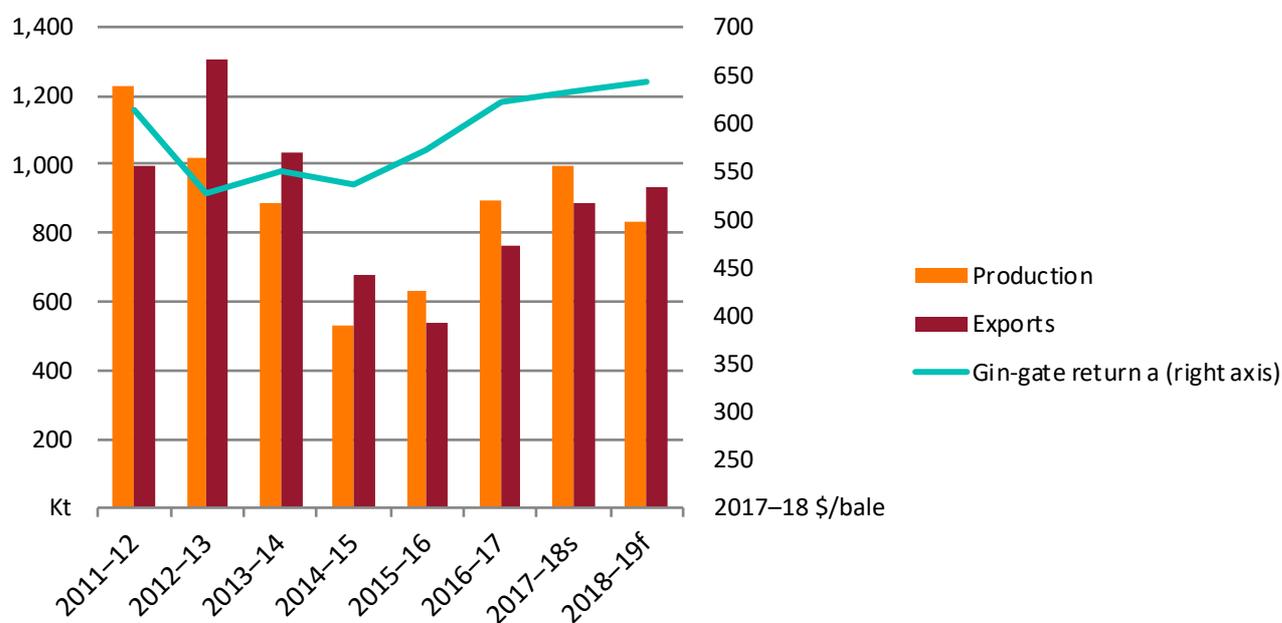
The average area of cotton planted on a farm is 305 hectares (five year average 2013-17). Of this, 92 per cent of Australia's crop was irrigated and 8 per cent was dryland (rain grown). Australian cotton growers achieve the highest yields in the world – around three times the world average. Irrigated cotton yields 10.12 bales per hectare and dryland cotton yields 1.34 bales per hectare.

Relatively, Australia is not a large cotton producer, growing only around three per cent of the global crop. However, Australia is one of the world's largest exporters of raw cotton. Almost all of Australia's cotton crop is exported.

Outlook for cotton supply and demand

Australian cotton exports are forecast to exceed production in 2018-19 (Figure 2). Stocks from high production in 2017-18 are expected to be drawn down to meet demand.

Figure 2 Cotton production, exports and gin-gate returns, Australia, 2011-12 to 2018-19



a Value of lint and cottonseed, less ginning costs. **f** ABARES forecast. **s** ABARES estimate.

(Source: ABARES, *Agricultural Commodities June Quarter 2018*) Note price per bale is AUD\$.

Forecast production in 2018-19

In 2018-19 Australian cotton lint production is forecast by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) to reach 580,000 tonnes. This represents a decrease of 464,000 tonnes on 2017-18 production, largely due to a decline in cotton plantings. Cotton area is expected to be 250,000 hectares, down from 500,000 hectares the previous season. This is due to significantly reduced water levels in the irrigation dams serving cotton-growing regions, and low levels of stored soil moisture following dry seasonal conditions. As at 16 May 2018, public irrigation dams serving Australia's cotton-growing regions averaged 44 per cent of capacity, 18 percentage points lower than at the same date in 2017.

Forecast exports in 2018-19

In 2018-19 Australian cotton exports are forecast by ABARES to reach 963,000 tonnes despite an expected decline in production. Higher world prices are expected to contribute to a rise in the value of Australian cotton exports to around AUD\$2.6 billion (USD\$1.9 billion) in 2018-19.

Forecast return to growers in 2018–19

In 2018–19 returns to Australian cotton growers are forecast by ABARES to increase to an average AUD\$656 (USD\$479) per bale (227 kilograms).

Workforce

The Australian Bureau of Statistics (ABS) Census of Population and Housing reported there were 1185 persons working in cotton growing and 423 in cotton ginning in 2016. Persons working in cotton growing represent around 0.5 per cent of the total Australian agricultural production labour force. The majority of the cotton growing labour force is male (78 per cent), as is the cotton ginning labour force (71 per cent). The median age for the cotton growing labour force is around 44 years old compared to 49 years for all agricultural production workers.

In a non-drought year, the Australian cotton industry employs up to 10,000 people.

The Australian agriculture sector is currently experiencing a labour and skills shortage. Over the past year, Cotton Australia has devoted resources to expanding the workforce and training for the industry. This includes investing in state-specific training programs in New South Wales and Queensland.

Issues Facing the Australian Cotton Industry

A key issue for the Australian cotton industry is ongoing water reform and the current drought.

Water Security – Murray-Darling Basin Plan

The Murray-Darling Basin (the Basin) is one of the most important food and fibre regions in Australia, producing one-third of the national food supply and exporting produce to many other countries. In total, the Basin contains about 40 per cent of nation's irrigating agricultural businesses. In 2016-17, irrigated agricultural production in the Basin accounted for 46 per cent of Australia's irrigated produce, including 94 per cent of Australia's cotton.

The *Basin Plan 2012* (the Basin Plan) was agreed with bipartisan support in the Australian Parliament, and the support of Basin State and Territory Governments. The establishment of the Basin Plan followed several years of scientific, technical and socio-economic analysis, and extensive consultation with the public and Basin Governments.

The Basin Plan aims to ensure that water in the Basin is shared between all users, including the environment, in a sustainable way. It also aims to ensure that the Basin's rivers can continue to support communities and industries in the long term as they adapt to changes.

The Australian Government's approach to water recovery is to prioritise investment in productivity-enhancing water infrastructure, capping water purchase at 1,500 gigalitres (GL). Over AUD\$13 billion (USD\$9.5 billion) in Australian Government funding is being provided to implement the Basin Plan and associated activities, with the vast majority for water infrastructure refurbishment and other improvements to water use efficiency. This represents a major investment in the long-term productivity of irrigated agriculture and the sustainability of regional communities.

The Basin Plan also sets provisions to support continuous improvement in water resource management through an adaptive management framework and approach to Basin Plan implementation. Adaptive management allows governments and communities to adjust their approach in response to current climatic conditions, new information and local knowledge when planning for the future. This approach includes planning, management, monitoring and evaluation.

Cotton Challenges: Smart and Sustainable Solutions

Role of Public Sector in the cotton industry

Australia's Cotton Research and Development Corporation (CRDC) is the main way the Australian Government and cotton producers co-invest in cotton research, development and extension for industry and community benefits. CRDC is funded through a research and development levy, which all growers pay. The levy equates to AUD\$2.25 (approximately USD\$1.64¹) for each 227 kilogram bale of cotton; or AUD\$4.06 (approximately USD\$2.96) per tonne of exported seed cotton. The Australian Government matches the funds dollar-for-dollar up to 0.5 per cent of the cotton industry's gross value of production.

Australian cotton growers and the Australian Government will co-invest \$24.3 million through CRDC into cotton research development and extension during 2018-19, across approximately 300 projects and in collaboration with around 100 research partners.

Reducing the Water Footprint of Cotton/ Water Usage in Cotton

The Australian cotton industry's water use efficiency improvements have been well documented – the industry has achieved a 40 per cent increase in water productivity since 2003.

The focus on improving this efficiency continued under the 'Smarter Irrigation for Profit' project. This cross-sectoral project was funded by the Australian Government as part of its Rural R&D for Profit program² (round one) and led by CRDC in conjunction with research and development corporations for the dairy, rice and sugar sectors.

The project was designed to achieve a 10–20 per cent improvement in water productivity, efficiency and farmer profitability across these industries, while also improving cross-sector industry research collaborations. It aimed to increase on-farm profitability by integrating new irrigation scheduling and delivery technologies into good irrigation practice.

The project comprised a series of 11 sub-projects, including cotton-specific projects around irrigation automation, grower-led irrigation systems comparisons, and maximising on-farm irrigation profitability. The final project report is expected to be released in late 2018.

¹ Based on currency conversion of AUD\$1 being equivalent to USD\$0.73 on 20 November 2018.

² The Rural R&D for Profit program is a \$180.5 million competitive grants program providing grants to rural R&D corporations for collaborative research that enhances farm-gate profitability and supports the continued innovation of Australia's primary industries. [<http://www.agriculture.gov.au/ag-farm-food/innovation/rural-research-development-for-profit#mid-program-evaluation>]

Developments in the Transfer of Technology

CRDC led a cross-sectoral project funded by the Australian Government as part of its Rural R&D for Profit program (round two) to understand and capitalise on the big data opportunities for Australian agriculture. It hopes to transition a range of industries, including cotton, from precision agriculture to decision agriculture. The project, 'Accelerating precision agriculture to decision agriculture', was a partnership between all 15 of Australia's research and development corporations, covering almost all of Australia's agricultural industries.

Another Rural R&D for Profit program project, 'A profitable future for Australian agriculture: biorefineries for higher-value animal feeds, chemicals and fuels', led by Sugar Research Australia aims to demonstrate a range of innovative technologies to convert agricultural and forestry feedstocks and waste into new value-added animal feeds, chemicals and advanced fuels. Recognising the need to move to alternative biomass sources for ethanol production, this project is trialling the production of ethanol and pharmaceutical chemicals from materials including cotton gin trash and cotton lint.

The cotton industry's joint extension program, CottonInfo, plays an important role in transferring research and development knowledge to the industry. Formed in 2012 by CRDC, Cotton Australia and Cotton Seed Distributors Ltd, the extension program is designed to improve research and development communication, improve industry responsiveness, and improve industry practices (through integration with the industry's *myBMP* program). Now in its fourth year, the program continues to gain traction among industry.

Cotton to Market Strategy

The world is increasingly demanding fibres produced responsibly and sustainably.

Cotton Australia is involved in a number of cotton programs to position Australian cotton in the world fibre market. These include the Better Cotton Initiative (BCI), the Cotton LEADS™ program, and the Australian Cotton Story.

Key focuses of the Cotton to Market strategy in 2017-18 were developing partnerships with Australian and international brands and retailers; influencing the definition of 'sustainable' cotton; engaging with fashion and textile non-government organisations; and investigating traceability solutions.

myBMP is the Australian industry's voluntary farm and environmental management system which allows growers to identify regulatory requirements and compare their practices with best management practices and standards. The system has 10 key modules including Human Resources and Work Health and Safety; Water Management; and Soil Health.

Cotton Australia manages the industry's relationship with BCI, a global sustainability program focused at farm level improvements. BCI directly aligns with *myBMP* certification standards. By opting into BCI, Australian growers have access to premium markets for cotton grown on *myBMP* certified farms. BCI presents an opportunity to leverage the Australian industry's significant investment in sustainability.

The Cotton LEADS™ program, a partnership between the Australian and United States of America cotton industries, promotes the supply and use of responsibly-produced cotton through national and international efforts. In 2017, the number of Cotton LEADS™ partners

rose to 520, with representation across brands, retailers and manufacturers covering 29 countries around the world. Several iconic global brands are now including Cotton LEADS™ cotton as part of their sustainable sourcing strategies. Participation in this program through *myBMP* is giving Australian cotton access to these important markets.

Acknowledgements

Australian Bureau of Agricultural and Resource Economics and Sciences
(www.agriculture.gov.au/abares)

Cotton Australia (www.cottonaustralia.com.au)

Cotton Research and Development Corporation (www.crdc.com.au)