

## Introduction

Cotton production forms an important economic activity for many agricultural communities in eastern Australia. The number of cotton farms ranges seasonally, from approximately 1200 to 1500, based on prevailing weather conditions. Around two thirds of Australia’s cotton crops are grown in the Australian state of New South Wales, and one third in the state of Queensland (Figure 2). Australia’s cotton industry has benefitted greatly from innovations in plant varieties and genetic modification, opening up opportunities to expand cotton production into new locations such as northern Victoria, the Northern Territory and Western Australia, with commercial scale trials proving the agronomic viability of cotton in these areas. In 2020-21, there will be several commercial crops planted in these regions, with further growth expected once cotton ginning facilities are developed across the Northern Territory.

Although a relatively minor producer on a global scale, Australia is one of the world’s largest exporters of raw cotton, with more than 99% exported annually.

## Outlook for cotton supply and demand

Australian cotton production is forecast to rise in 2020-21. Production is forecast to rise after two years of drought-led declines in 2018-19 and 2019-20. Despite significant recovery in production from the drought period, it will still be well below pre-drought levels (Figure 1) as it will take time to restore dam storage levels across all cotton-growing regions.

**Figure 1** Cotton production, exports and gin-gate returns, Australia, 2011-12 to 2020-21

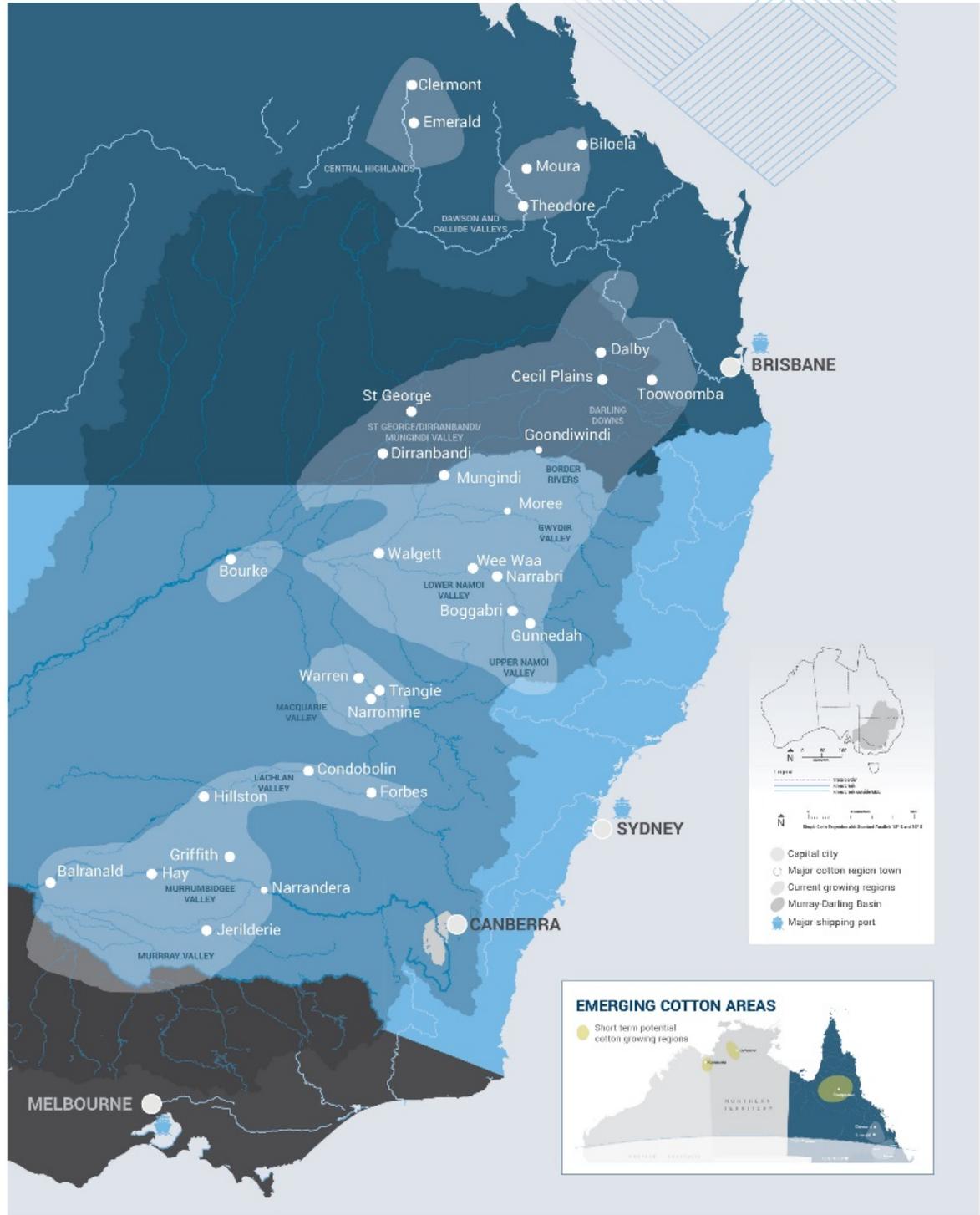


**a** Value of lint and cottonseed, less ginning costs. **f** ABARES forecast. **s** ABARES estimate.

(Source: ABARES, Agricultural Commodities September Quarter 2020) Note price per bale is US\$

**Figure 2** Australia's major cotton growing regions

# COTTON GROWING REGIONS



COTTON AUSTRALIA LIMITED  
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### ***Forecast production in 2020-21***

Cotton Australia, the national industry representative body, forecasts the production of Australian cotton lint to reach 517,000 tonnes in 2020-21, a significant improvement from 2019-20 production levels. This improvement can be attributed to greatly improved dam storage levels and seasonal conditions. Total cotton plantings are expected to cover 225,950 hectares in 2020-21, up from an estimated 60,000 hectares in the previous drought affected season.<sup>1</sup> With the onset of La Niña, a weather event that is associated with wetter conditions across eastern and northern Australia during winter, spring and early summer, forecasters expect above-median in-crop rainfall which is expected to boost yield prospects and continue to lift support dam levels over the Australian summer.

### ***Forecast exports in 2020-21***

In 2020-21, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) forecasts Australian cotton exports to reach approximately 221,000 tonnes. Impacts of COVID-19 on textile demand and high global stock levels in 2020-21 are expected to keep world cotton prices low, contributing to a decline in the value of Australian cotton exports to around A\$596 million (US\$429 million<sup>2</sup>).

### ***Forecast return to growers in 2020-21***

In 2020-21, ABARES forecasts the return to Australian cotton growers to decrease to an average A\$597(US\$430<sup>2</sup>) per bale (227 kilograms), representing a 2.8% decline in returns from 2019-20.

### **Issues facing the Australian cotton industry**

Australian cotton production is dominated by irrigated cotton since it results in significantly higher yields than dryland production. According to the Australian Bureau of Statistics (ABS), irrigated cotton production in 2018-19 accounted for a significant proportion of the water used on Australian farms, with increases in both area irrigated (183,000 hectares) and volume of water applied (1.3 million megalitres).

The most significant issues for the Australian cotton industry are recovery from the last drought and issues of water security.

### ***Drought recovery***

Since March 2018, much of south-eastern, and large areas of western and northern Australia recorded rainfall totals in the lowest 5-10% of the historical record. According to ABARES, dam storage in 2019 was down on average by 21% in New South Wales cotton growing regions and by 25% in Queensland cotton-growing regions. However, throughout 2020, significant rain events have provided signs of positive trend towards improved conditions and above average seasonal rainfall in New South Wales and southern Queensland.

According to ABARES, dam storage is now up on average by 25% in New South Wales cotton-growing regions and by 23% in Queensland cotton-growing regions. The shift into La Niña during the Australian spring season is expected to bring above average summer rainfall to cotton-growing regions, encouraging dryland plantings and supporting crop development.

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<sup>1</sup> Figures in this paragraph are provided by Cotton Australia. Variance between Australian Government forecasting and Cotton Australia can be attributed to differing forecasting methodologies.

<sup>2</sup> Based on currency conversion of A\$1 being equivalent to US\$0.72.

### ***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% of the nation’s irrigating agricultural businesses and accounts for roughly 91% of Australia’s total cotton farms and cotton area.

The Australian Government’s water resource management focuses on national leadership and cooperation with state and territory governments. State and territory governments have the primary responsibility to regulate and manage Australian water resources. Local government also plays a crucial role in water management, particularly managing storm water, and in some instances water supply and wastewater treatment.

The Basin Plan 2012 (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 return the Basin to a healthier and more sustainable level, while continuing to support strong regional communities and sustainable food and fibre production.

In 2018-19, 1.3 million megalitres of water was applied to 183,000 hectares of cotton plantings within the Murray Darling Basin region. For irrigation purposes, most cotton growers in the Basin have what are classified “general, or low security” water licences, meaning that they only gain access to their share of water once the needs of communities, stock and domestic use, and the environment are met. Since 2017-18 cotton production has been constrained by low dam storage and soil moisture levels.

The Australian Government has committed A\$13 billion (US\$9.4 billion<sup>3</sup>) to water reform in the Murray–Darling Basin, of which A\$8.5 billion (US\$6.1 billion<sup>3</sup>) is committed to water infrastructure programs. More than 10,000 individual irrigators have benefitted from improvements to off-farm water delivery systems, and around 2,000 projects across the Basin have delivered improved returns from more efficient on-farm irrigation systems.

Even through this difficult year, the agriculture sector grew by \$1 billion (US\$0.7 billion<sup>3</sup>) – with the right investments in water infrastructure, the Australian Government is supporting its continued growth for the future, working toward making agriculture a \$100 billion (US\$72 billion<sup>3</sup>) industry by 2030<sup>4</sup>. The Australian Government is helping to increase water security in areas where extensive irrigated agriculture already exists, while also helping to unlock new agricultural regions, especially in Australia’s north.

### ***Labour and skills shortage***

The Australian agriculture sector is currently experiencing a labour and skills shortage, driven by an ageing workforce and low attraction rates. This is being felt in the cotton industry, which is facing the challenge of attracting and retaining core staff, on-farm labour (unskilled and skilled, especially due to the COVID-19 restrictions reducing availability), and access to professional advisers and service providers. The remoteness of cotton farms in Australia also impedes recruitment.

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<sup>3</sup> Based on a currency conversion rate of A\$1 being US\$0.72.

<sup>4</sup> The Australian agriculture, fisheries and forestry sector aims to achieve A\$100 billion in farm gate output by 2030. Refer: <https://www.agriculture.gov.au/ag-farm-food/ag2030>

### ***Interruptions to trade***

Interruptions to cotton mill operations and reduced consumer demand for apparel during the COVID-19 pandemic are expected to drive up stocks of raw cotton in key exporting and importing nations and keep cotton prices low through 2020-21.

As most cotton produced in Australia is exported, the Australian cotton sector relies on demand in other countries. The potential for further disruption to production and logistics outside Australia may continue to constrain demand on Australian cotton. While cotton production is forecast to increase strongly in 2020-21, this crop will not be exported until 2021-22.

### **Cotton challenges: finding smart and sustainable solutions**

#### ***Role of the Public Sector in the cotton industry***

The Australian Government and cotton producers co-invest in cotton research, development, and extension (RD&E) through the Cotton Research and Development Corporation (CRDC) to deliver outcomes to benefit Australia's dynamic cotton industry and the wider community.

CRDC is funded through a research and development levy, which all growers pay. The levy equates to A\$2.25 (US\$1.62<sup>5</sup>) for each 227 kilogram bale of cotton; or A\$4.06 (US\$2.92<sup>5</sup>) per tonne of exported seed cotton, with the Government matching the funds dollar-for-dollar up to 0.5% of the cotton industry's gross value of production.

CRDC is currently working with its sister commodity Research and Development Corporations (RDCs, e.g. grains, beef, wool, sugar etc.) on a climate initiative, which will be a significant new co-investment program to foster thriving agriculture, fisheries and forestry industries regardless of pressures from a variable and changing climate. The initiative aims to focus investment in science and innovation at a grand scale to deliver research projects that improve the resilience of Australian agriculture to the effects of climate.

The RDC Climate Initiative has a singular focus on identifying the best ideas for transformative change that are the most desirable, the most technically feasible and the most economically viable. It will bring together the collective capacity of RDCs in a way that also is attractive for private and government investment. It will change the way the government, industry organisations and private sector work together to seize the most prospective investment opportunities.

#### ***Improving water efficiencies in the cotton industry***

From 1992 to 2019, there has been a 97% increase in the bales of cotton grown per megalitre of water (effective rain and irrigation). This equates to a 48% decrease in water required per bale of cotton. Improved water efficiencies have been achieved using a range of farming practices and development of new cotton varieties, as well as advances in water infrastructure and monitoring technologies.

Cotton farmers continue to employ techniques and measures to improve their water use efficiency, for example using canopy temperature sensors, soil moisture probes, sophisticated weather forecasting software ahead of planting, and other technologies. They also apply physical measures such as improving irrigation systems, shortening row lengths to reduce evaporation, and applying mulching and stubble to help retain soil moisture.

The Australian cotton industry's environmental management program – *myBMP* – includes a water management module covering water quality, efficiency of storage and distribution for both dryland and irrigated farming practices to improve farming practices and carefully manage natural resources.

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<sup>5</sup> Based on a currency conversion rate of A\$1 being US\$0.72.

### ***Transfer of Technology***

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.

### ***Cotton to Market Strategy***

The world's leading brands and retailers are increasingly demanding fibres produced using more responsible and sustainable methods.

Cotton Australia is involved in several cotton programs that promote and encourage responsible and sustainable cotton production and give Australian cotton a strong position in the world fibre market. These include the Better Cotton Initiative (BCI), the Cotton LEADS™ program, and the Australian Cotton Story.

*myBMP* is the Australian industry's voluntary farm and environmental management system, and certification program that 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. In 2020, there were a total of 82 businesses and 250 farms that were *myBMP* accredited.

Cotton Australia manages the industry's relationship with BCI, a global sustainability program focused on 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. In the 2019-20 cotton season, 67 licensed BCI farmers in Australia produced 33,000 metric tonnes of Better Cotton lint on 14,000 hectares which represents 24% of Australia's cotton production in a very dry season.

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 2020, the number of Cotton LEADS™ partners rose to 659, of which five are Australian, with representation across brands, retailers, and manufacturers from 35 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.