



THE AUSTRALIAN COTTON INDUSTRY NATURALLY WORLD'S BEST

The story of a modern, sustainable agricultural industry that's helping to clothe the world. Cotton Australia's Cotton Education Kit provides current, authoritative information for all teachers and students, and includes:

- Targeted Australian Curriculum outcomes for Years 7-12, and outcomes for Years 11-12 from NSW, QLD, SA, WA, NT & ACT syllabi in each of its 10 chapters.
- Case studies and multimedia that are embedded in the Kit. Additional school resources, lessons and worksheets are found online in the Cotton Classroom.



Cotton Classroom

AN INTRODUCTION TO THE AUSTRALIAN COTTON INDUSTRY

Cotton is a natural fibre grown on a plant. It's produced so that the fibre can be made into products that consumers use every day including jeans, t-shirts, sheets and towels. Fibre from the cotton plant is made into yarn and fabric, the seed is fed to cattle and crushed for oil, and the rest of the plant can be made into mulch.

Cotton makes up just over a third of all the fibre sold globally and is the world's favourite natural fibre, grown in more than 70 countries across the globe.

Produced commercially in Australia since the 1960s, cotton has developed into one of our leading agricultural industries.

There are up to 1,500 cotton farms in Australia depending on the season, with the main production areas being central and southern Queensland, northern, central and southern NSW, northern Victoria and small areas of northern Queensland, northern Western Australia and the Northern Territory. The number of Australian farms growing cotton fluctuates depending on water availability. The average Australian cotton farm is family-owned and operated, grows 576 hectares of cotton, directly creates jobs for nine people and usually also grazes sheep and cattle and produces other crops as well.

AUSTRALIAN COTTON HAS THE REPUTATION AS BEING THE MOST WATER EFFICIENT COTTON INDUSTRY IN THE WORLD, THANKS TO BIOTECHNOLOGY AND ADVANCES IN PRECISION IRRIGATION AND TIMING.

They have learned to make more from less - producing the highest yielding, highest quality, most environmentally friendly cotton in the world. Producing a bale of Australian cotton now requires 48% less water, 34% less land, and 97% less insecticides than in 1992.

Cotton grower Billy Browning from Narromine is one of the 1,500 family farmers that make up the Australian cotton industry.



IN AN AVERAGE YEAR, AUSTRALIA'S COTTON GROWERS PRODUCE ENOUGH COTTON TO CLOTHE 375 MILLION PEOPLE ANNUALLY.

Australia is a small global cotton producer, but the world's third-largest cotton exporter in a good season, producing sustainable, high-quality, low contaminant cottons that attract a premium on the world market. Continuous improvements in Australian cotton quality, particularly staple length and strength, means our raw product is increasingly being used for the production of premium quality fabric. The major buyers of Australian cotton are currently China, Bangladesh, Vietnam, India, Indonesia, Turkey and Thailand.

Cotton is grown in 40 rural local government areas. In a good year, the Australian cotton industry provides employment for more than 10,000 people industry-wide and generates between \$1 to \$3 billion per year in export earnings, depending on the year. Australian cotton farmers have often lived and worked in their communities for generations. Our growers provide jobs, their kids go to school and play sport in rural towns, and they shop locally for agricultural supplies and services to support their communities.

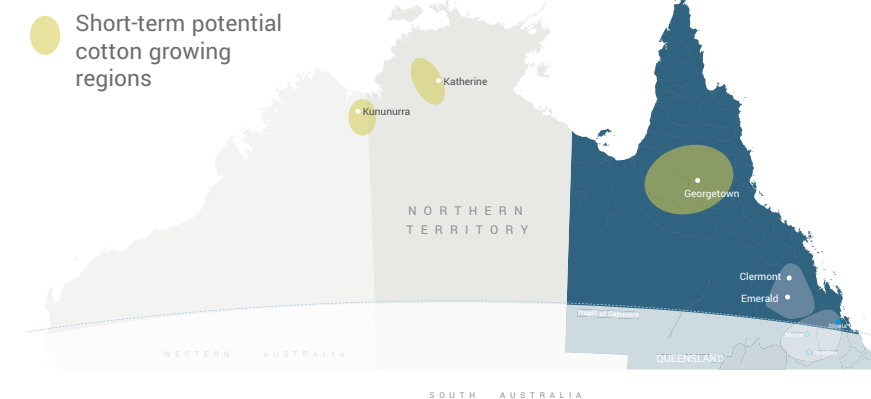
More than 80% of Australian cotton farmers participate in a voluntary environmental stewardship program called *myBMP* (Best Management Practices), which ensures cotton is produced and manufactured with the highest environmental standards from the farm and beyond. The program covers 10 key areas of farm operations and provides the industry with a range of benefits, including safer farms operating at the highest social and environmental levels.



Industry Overview



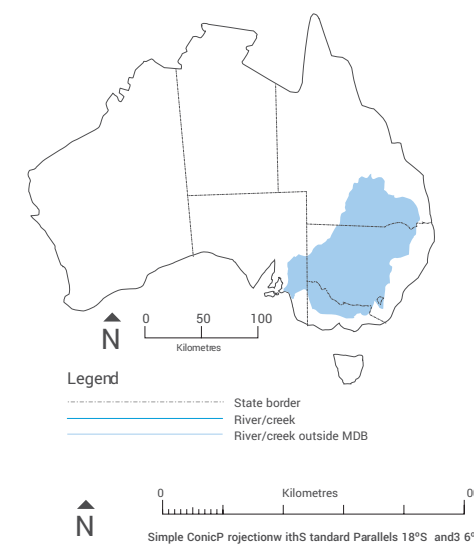
EMERGING COTTON AREAS



WHERE IS COTTON GROWN?

Cotton is grown in more than 75 countries around the world, many of which are newly industrialising countries. It is estimated that there are 100 million cotton producers globally.

The world's biggest producers include China, USA, India, Pakistan and Brazil. Australia is a relatively minor producer on the world scale, but is the third to fifth exporter growing between two and five million bales (227 kg per bale) each year, depending on the season.



IN AUSTRALIA, COTTON IS MAINLY GROWN IN SOUTHERN, CENTRAL AND NORTH-WESTERN NEW SOUTH WALES AND CENTRAL AND SOUTHERN QUEENSLAND.

The major production area in New South Wales stretches south from the Macintyre River on the Queensland border and covers the Gwydir, Namoi and Macquarie valleys. In New South Wales, cotton is also grown along the Barwon and Darling rivers in the west and the Lachlan and Murrumbidgee rivers in the south. In Queensland, cotton is grown mostly in the south on the Darling Downs, St George, Dirranbandi and Macintyre Valley regions. The remainder is grown near Emerald, Theodore and Biloela in Central Queensland. There are also small plantings across northern Queensland, northern Victoria, the Ord River area and parts of the Kimberley region in Western Australia, and around Katherine in the Northern Territory.

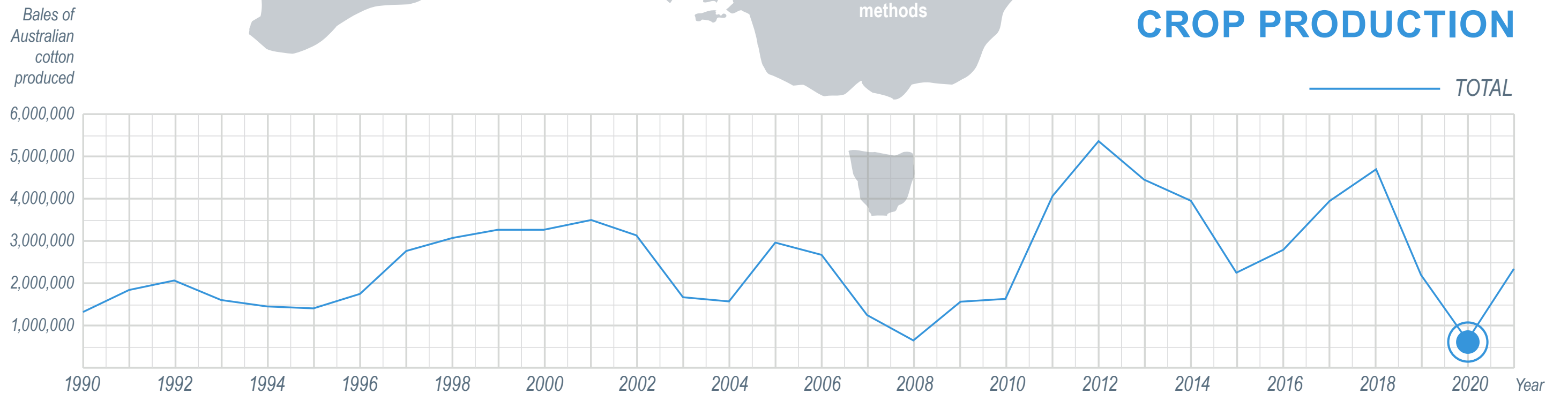
- Capital city
- Major cotton region town
- Gin
- Dam
- Murray-Darling Basin
- ⚓ Major shipping port

COTTON PRODUCTION IN AUSTRALIA – THE HIGHS AND LOWS



The amount of cotton planted each year varies depending on the weather, price and the availability of water. In other words, if dam storage levels are low at the beginning of the season or prices are low, growers will usually plant less cotton.

20-YEAR HISTORY OF CROP PRODUCTION



(infographic data: 1992/93 – 2012/13 with bales (million) and Hectares ('000) graphed)

Harvesting cotton on one-metre spacings on 'Jedburgh', Warren NSW.

photo by Andrea Murdoch



COTTON YIELDS

Yield refers to the amount of cotton that is produced in a given area of land, and in Australia is reported as bales per hectare. Each bale of ginned cotton weighs 227kg.

SEE IF YOU CAN GUESS WHICH IS THE DRYLAND CROP AND WHICH IS THE IRRIGATED CROP?



High yielding crop at "Cardale", near Narrabri, NSW.

While China and India may lead the world in total production of cotton, Australia produces more than double the cotton per hectare of both these countries. In fact, Australia has produced the world's highest cotton yields every year for more than 20 years. Efficiency gains means Australian cotton growers can now produce the same amount of cotton on fewer hectares than ever before.

So, why do some countries produce higher yields per hectare than others? There are a combination of factors including:

- variety selection
- water availability
- crop management, including nutrition and pest control

Plant breeding has been responsible for at least 50% of the yield increases seen in Australia, with 50% attributed to better water management.

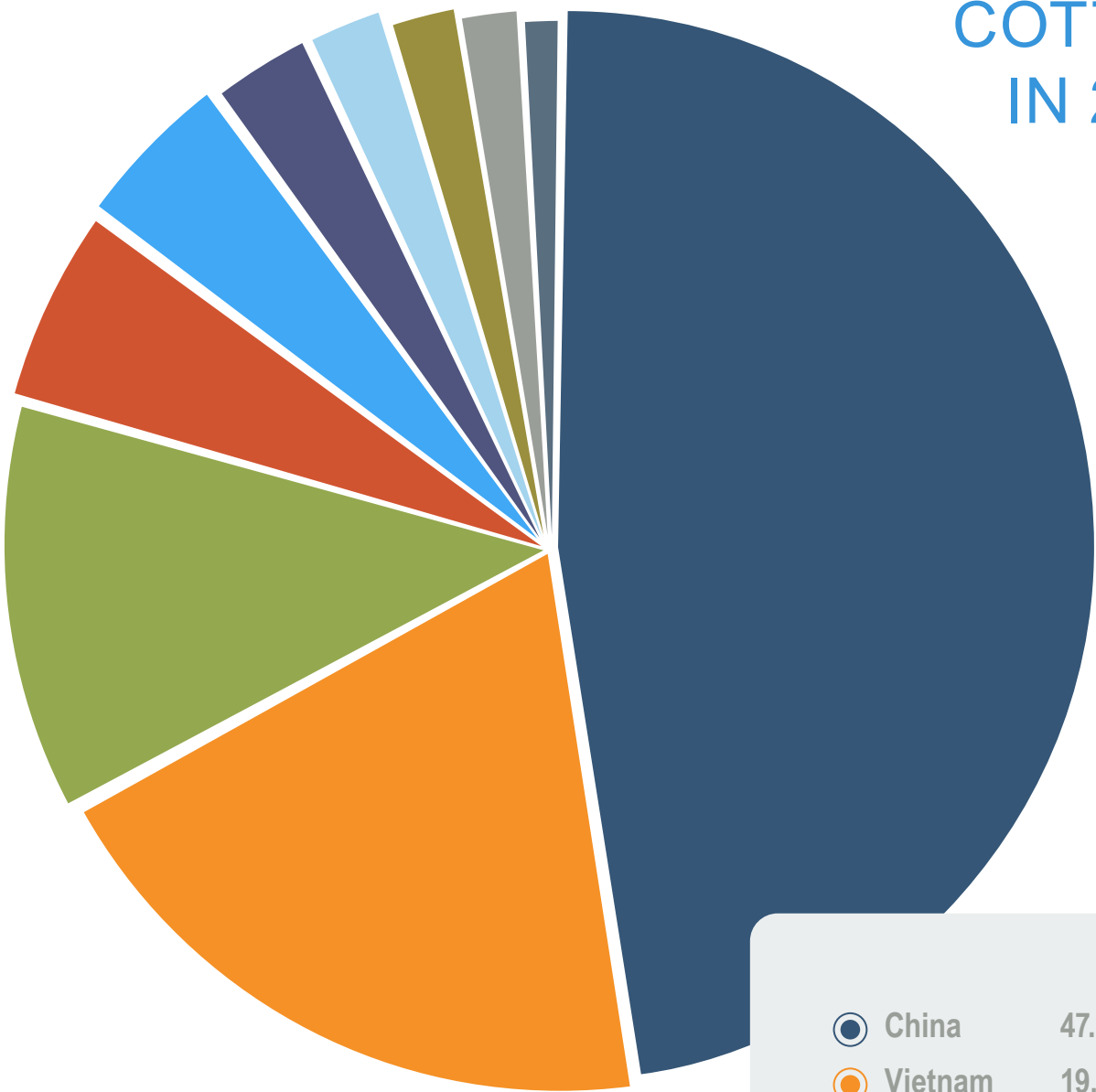
In Australia, irrigated cotton produces much higher average yields than dryland cotton. For example, average yield in 2018/19 under irrigated conditions was 10.32 bales/ha, under partial irrigation it was 8.08 bales/ha, compared to 1.74 bales/ha under rain-fed conditions.

Australia is the fourth-largest exporter of cotton in the world (behind USA, India and Uzbekistan) and is an important export industry for Australia's economy.

The average production of cotton between 2014-2019 in the Australian cotton industry generated \$1.8 billion in export revenue, and as one of Australia's largest rural export earners, that helps underpin the viability of more than 100 rural communities in NSW and Queensland.

EXPORT DOLLARS

EXPORT DESTINATIONS FOR AUSTRALIAN COTTON IN 2020



Less than 1% of the cotton grown in Australia is spun by local spinning mills – more than 99% is sold and exported, largely to Asia.

China is currently Australia’s largest cotton customer, consuming 47.6% of the crop. Other significant markets for Australian cotton are Vietnam, Indonesia, Turkey and India. Recent changes in 2020 could see our industry pursue a variety of other destinations for our high quality cotton.

Source: ABS, Cotton Compas. Australian Export Destinations 2020 Crop (Mar-Feb 21)

UNDERPINNED BY LATEST RESEARCH, DEVELOPMENT AND INNOVATION

Targeted research has proven to be the industry’s most valuable investment. Research funds are invested in four main areas:




- farming systems (soils, water, environment, pests)
- value chain (ginning, processing, spinning, retail)
- human capacity (attracting and retaining a strong workforce)
- biosecurity (reducing the threat of introduced pests and diseases)

Australia also has a world-class plant breeding program, led by the CSIRO, to develop new strains of cotton that are most suited to Australian, and even regional, conditions.

The Cotton Research and Development Corporation (CRDC) organisation (R&D) program is co-funded by Australia’s cotton growers who pay a compulsory levy of \$2.25 per bale of cotton they produce. This is matched by the Australian Government. Individual cotton organisations (such as [Cotton Seed Distributors](#) and [Cotton Australia](#)), as well as individual growers, also fund and participate in research projects for the betterment of the whole industry.

There are many organisations involved in cotton R&D, such as CRDC, the CSIRO and federal and state government departments.

This research investment has resulted in the Australian cotton industry being recognised as world leaders in the adoption of technology, innovation, environmental management and the production of premium quality cotton.

-  [Cotton Seed Distributors](#)
-  [Cotton Australia](#)
-  [Cotton Research and Development Corporation](#)
-  [CSIRO](#)
-  [Case study: Growing Cotton in Tropical Northern Australia](#)
-  [Fact sheet: Research, Technology and Innovation](#)

THE COTTON NETWORK

Several organisations work together to advance the Australian cotton industry and support growers.

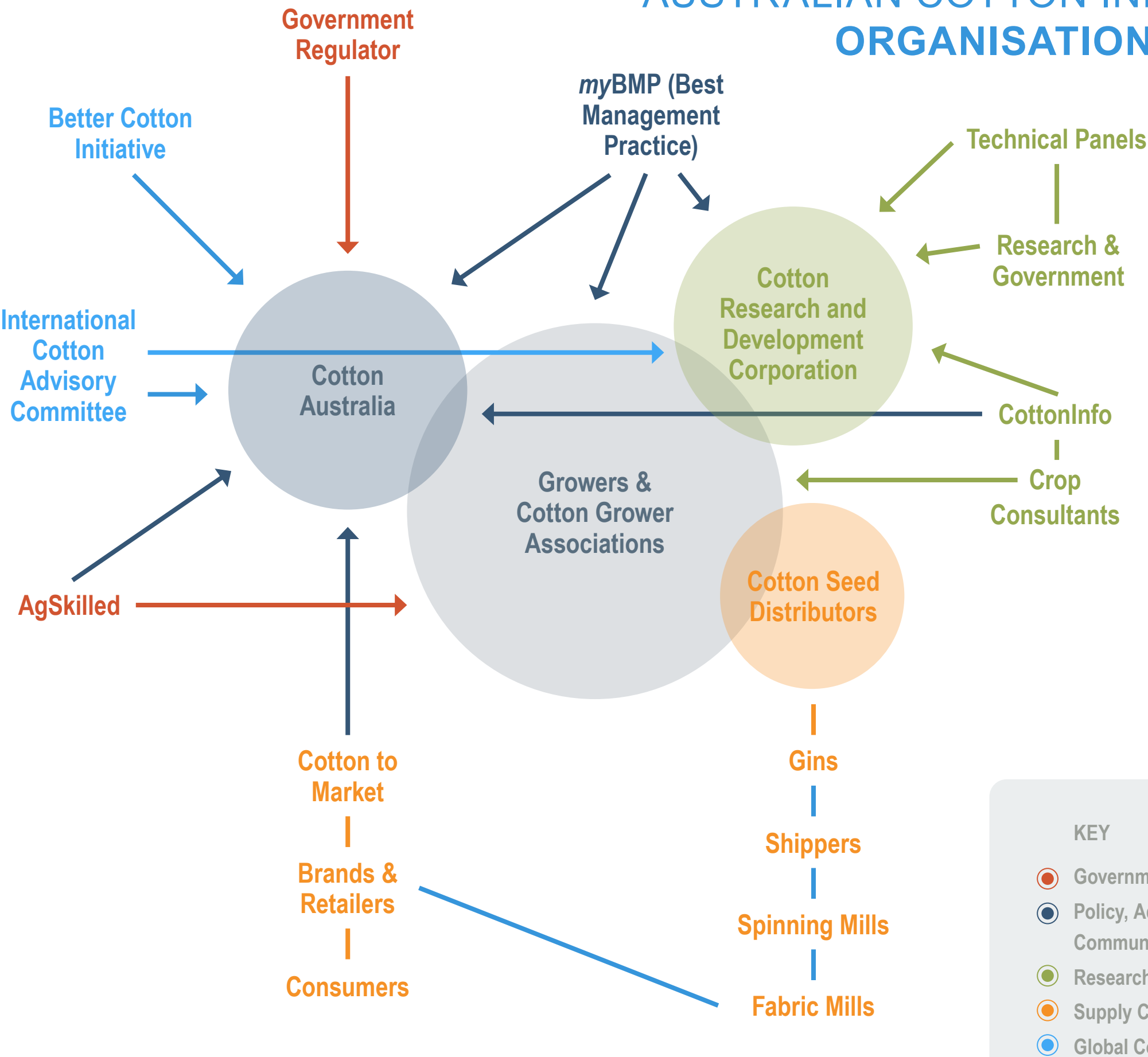
Cotton growers are at the heart of their industry – an industry that invests strongly in R&D and innovation behind and beyond the farm gate. It’s an industry that leads the way in sustainable, ethical cotton production and its people proudly help others in cotton communities, both locally and around the world.



Strategic Plan

The Cotton Australia Strategic Plan 2018 – 2023 is focused on achieving outcomes for growers while balancing responsibilities to our people, communities, stakeholders and the natural environment.

AUSTRALIAN COTTON INDUSTRY ORGANISATION CHART



KEY



Government



Policy, Advocacy, Communications, Education



Research and Development



Supply Chain



Global Connection



Pat and Sue Kennedy, on their farm near Condobolin, NSW.

COTTON AND THE COMMUNITY

ABOVE ALL, COTTON FARMERS ARE PEOPLE WHO LIVE AND WORK IN MORE THAN 100 LOCAL, RURAL COMMUNITIES ACROSS AUSTRALIA.

They provide jobs, their kids go to school and play sport in rural towns and they shop locally for agricultural supplies and services. Cotton growers are mostly family farmers who have lived and worked in their communities for generations.

- The average Australian cotton farm:
- Is family-owned and operated
 - Directly creates jobs for nine people
 - Grows 576 hectares of cotton, comprising 10% of the total farm area
 - Supplements cotton with other crops including wheat, chickpeas and sorghum; many Australian cotton farmers also graze sheep and cattle
 - Includes natural areas – such as native

vegetation and riparian zones – ranging from between 10 – 40% of property area.

- Is run by experienced farmers with an average age of 47 years

An extensive system of production, harvesting and ginning provides countless jobs for mechanics, distributors of farm machinery, consultants, crop processors and other support services. Industries such as banking, transportation, warehousing and merchandising also benefit from a viable Australian cotton industry.



Cotton towels donated to WIRES for injured wildlife after the 2019/20 bush fires.



Cotton Australia supported Vanuatu with a container full of tarps for temporary shelter after a cyclone.

THEMES AND AUSTRALIAN CURRICULUM
OUTCOMES FOR SECONDARY SCHOOL

The Cotton Education Kit has been linked to the Australian Curriculum for Years 7-10, and targeted outcomes for Years 11 -12 from all state & territory curriculums across Australia. A list of themes is provided for teachers as a quick guide to assist linking the content to their unit of work or syllabi in their state or territory.

A full list of the individual syllabuses that have been mapped against the Cotton Education Kit can be found in the Cotton Classroom.



CHAPTER ONE THEMES

- An Introduction to the Australian Cotton Industry
- Where is Cotton grown?
- Cotton Production in Australia: Recent Statistics
- Cotton Yields
- Export Dollars
- Destinations for Australian cotton
- Underpinned by Latest Research, Development and Innovation
- Cotton and the Community

CHAPTER ONE
CURRICULUM OUTCOMES

Australian Curriculum	Course	Chapter 1: The Australian Cotton Industry
Australian Curriculum	Year 7 Economics and Business	Economics and Business: ACHEK019 (Successful businesses)
Australian Curriculum	Year 9 Science	Science: ACSSU176 (Ecosystems)
Australian Curriculum	Year 9 Geography	Geography: ACHGK061 (Alteration of biomes to produce fibres) Geography: ACHGK062 (Crop yields)
State / Territory	Senior Secondary Course	
New South Wales (HSC)	Agriculture Life Skills (2018)	P1.1 P1.2 P2.1 P2.2 H1.1
	Agriculture Life Skills (2018)	ALS2
	Geography (2009)	H5 H6
	Textiles and design (2013)	P3.2 P5.1 P6.1 H3.2 H5.2 H6.1
Victoria (VCE)	Agriculture and Horticulture Studies (2020)	Unit 1: AoS 1 Food and fibre industries
Queensland (QCE)	Agricultural Practises (Applied) (2019)	C2.1
Tasmania (TCE)	Agricultural Systems (2019)	Unit 6: Agribusiness Case Study
	Economics (2016)	Unit 1: An introduction to Economics
ACT (ACT SSC)	Agriculture A/M (2017)	Agricultural Economics & Local Area

KEY LINKS



Cotton Australia.



360-degree digital film of a cotton farm, the latest addition to Cotton Australia's suite of educational resources informing city and country residents about the Australian cotton industry.



Google Arts & Culture



Australian Cotton



Cotton Research and Development Corporation



Cotton Seed Distributors



CottonInfo



Primezone: Primezone provides teachers and students with access to the latest quality primary industries education resources

