



AUSTRALIAN COTTON INTEGRATED SUSTAINABILITY REPORT 2025

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK
PLANET. PEOPLE. Paddock.

www.australiancottonsustainability.org.au

THE AUSTRALIAN COTTON INDUSTRY...



Up to **1,500 farms**, depending on seasonal conditions.



Direct employment on farms and gins of **7,222 people**.

A collaborative industry structure:



Policy & advocacy



Research & development



Extension of research to growers



Adoption of best practice by growers

PRODUCES COTTON LINT AND SEED...

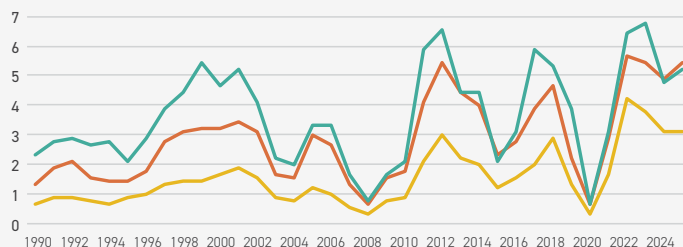


Average **\$3.1 billion** gross value of production.



Over the past 30 years **the area planted to cotton has doubled but production has tripled.**

Australian cotton production (million bales)



— Bales picked (million) — Gross value (\$billion) — Area planted (100,000 ha)

WITHIN A COMPLEX OPERATING ENVIRONMENT.

WITHIN OUR CONTROL

- Policies & strategic direction
- Efficient resource use
- Use of innovation & technology
- Quality of Australian cotton (partially).

OUTSIDE OUR CONTROL

- Seasonal and climatic changes
- Macroeconomic conditions
- Geopolitical and trade disruptions
- Domestic legislation.

COMPETITIVE ADVANTAGES

- **Natural and biodegradable** fibre
- **High quality** cotton fibre
- **Strong industry systems and programs**, including PLANET, PEOPLE, PADDOCK, Sustainability Framework and myBMP best management practices program.

PLANET. PEOPLE. PADDOCK. COORDINATES A WHOLE-OF-INDUSTRY APPROACH TO...

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK PLANET. PEOPLE. PADDOCK.

IDENTIFY NON-FINANCIAL RISKS & OPPORTUNITIES...



Water



Greenhouse gases and climate



Biodiversity



Pesticides



Soil



Workplace



Productivity



Socio-economic contribution

AND APPLY STRATEGIES TO MANAGE THEM. ➔

THIS INTEGRATED REPORT DESCRIBES THE AUSTRALIAN COTTON INDUSTRY'S SUSTAINABILITY IMPACTS & PROGRESS FOR THE YEAR TO JUNE 2025 + LONGER TERM TRENDS.





AUSTRALIAN COTTON 2025 SUSTAINABILITY SNAPSHOT

Annual performance and trends.

In farming systems, seasonal variations can make a single year look much better or worse than average. As a result, this report includes data where available to show change over one year, and change over longer periods to give a truer indication of what is happening. Data sources are referenced in the report body. This snapshot summarises 2024/25 annual change and five-year trends:

- Clear positive annual change; clear positive trend over the previous five years
- No significant change; generally flat trend
- Clear negative annual change; clear negative trend over the previous five years.
- NA Data not available to show annual change or five-year trends.

		SDG Alignment	Targeted Outcomes	Five-year trend	Annual change	KEY 2025 TAKEOUT	
PLANET		Water	 6 CLEAN WATER AND SANITATION	Increase water use efficiency, within sustainable river and ground system limits.			Water use efficiency improved 5 per cent from 2023 to 2024. About 50 per cent less water is used to grow a bale of cotton compared to 1997 in most seasons. In very wet or dry years, water efficiency is lower.
		Soil	 2 ZERO HUNGER	Sustained cotton productivity growth by improving soil health.		NA	93 per cent of growers reported using two or more 'regenerative' soil health practices in 2025. In 2025, 38 per cent of growers used cover crops, and 85 per cent used diverse rotations including legumes.
		Biodiversity	 15 LIFE ON LAND	Native vegetation management on cotton farms contributes to regional priorities.			Around five per cent of the area of an average cotton farm is actively managed for conservation. Cotton growers are reporting a slow increase in their area of biodiversity.
		Greenhouse gases and climate	 13 CLIMATE ACTION	Contribute to the Paris Agreement's aim of a climate neutral world.			Net greenhouse gas (GHG) emissions per kg of lint have remained steady for the past two years at 1.05 kg CO ₂ e per kg of lint. The emissions intensity of irrigated cotton is typically about 20 per cent less than rainfed cotton.
		Pesticides	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Support optimal crop production while having no negative impact on human and environmental health.	 Bees  Algae	 	The hazard to bees (from insecticides) and algae (from herbicides) reduced by 90 per cent and 43 per cent respectively since 2004. However, successive good seasons and harder-to-control weeds have increased herbicide use in recent years.
PEOPLE		Workplace	 3 GOOD HEALTH AND WELL-BEING	Keep farmers and core employees.	NA	NA	Serious injuries on cotton farms increased from 50 in 2023 to 60 in 2024. We are working to source better data for measuring what matters on farms: keeping people, attracting them, and keeping them safe and skilled.
				Attract new people when needed.	NA	NA	
			 8 DECENT WORK AND ECONOMIC GROWTH	Keep everyone safe.			
			Keep everyone skilled.	NA	NA		
PADDOCK		Productivity	 2 ZERO HUNGER	Increase yield within sustainable environmental boundaries.			4.8 million bales picked. The yield gap between irrigated and rainfed cotton shows the importance of sustainable withdrawal of water to deliver sustainable intensification.
		Socio-economic contribution	 8 DECENT WORK AND ECONOMIC GROWTH	Resilient farms able to invest in their business and community.			\$3.1 billion gross value of production in 2025. Irrigated cotton is very important to whole farm profitability and resilience, which in turn gives more stability to regional communities.

ABOUT THIS REPORT

- Time frame:** One year to 30 June 2025.
- Boundary:** Australian cotton farms: inputs and on-farm activities.
- Frequency:** The Australian cotton industry publishes annual sustainability reports. These reports show progress for one year, and trends over five years or longer where possible.
- Transparency:** To support transparency, an online data pack has links to data sources, explanations of methodologies, and assumptions for data in this update. We have implemented a framework designed to support and improve data quality through consistent processes, standards, controls, and accountability. All data and statements are validated internally.
> [MORE DETAIL: AUSTRALIAN COTTON SUSTAINABILITY DATA PACK](#)
- Links to other online documents to give more detail to readers are provided throughout this update, wherever you see > [MORE DETAIL](#).
- New sections or restatement of previously reported data are clearly marked NEW or RESTATED.



Basis of preparation:

This Integrated Report aims to show how the natural, human and economic resources the industry relies on to grow cotton are interlinked, and how a positive or negative impact on one resource can have positive or negative impacts on others.

Disclosures on risk, strategy, governance and metrics for this report are aligned to the requirements of the International Sustainability Standards Board's IFRS S1 and S2 sustainability disclosure standards many of our value chain partners use. While aligned, disclosures in

this report are not in accordance with those standards because they are not designed for industry reporting.

Environmental indicators are arranged in extent (how much), condition (quality), dependency (functions or services) and impact (farm or non-farm drivers of change), to align to Taskforce for Nature-Related Financial Disclosures. Social and economic indicators are arranged in dependency and impact. The Sustainability Data Pack, above, cross-references cotton's PLANET. PEOPLE. PADDOCK. indicators to indicators in 16 sustainability disclosure standards and frameworks.

STATEMENT OF COMMITMENT

Australian cotton growers can point to decades of improvement in many sustainability areas. PLANET. PEOPLE. PADDOCK. is the industry's framework to continue that trend.

The value of sustainability to cotton growers is clear: carefully managing the natural, human and economic resources they depend on makes a farm more efficient, productive, and resilient to seasonal, economic or political shocks.

This report summarises work we are taking to deliver this value to its growers, and the collective progress of the industry. It also distils our strategies to improve, and to give stakeholders inside and outside the

industry confidence a clear and credible path for future coordinated and collaborative action is in place.

The Boards of Cotton Australia and the Cotton Research and Development Corporation (CRDC) fully support the PLANET. PEOPLE. PADDOCK. Sustainability Framework and are committed to remaining accountable for the impacts of the Australian cotton industry.

Liz Stott
Chair, Cotton Australia

Richard Haire
Chair, CRDC

The Australian cotton industry acknowledges the Traditional Custodians of the lands of Australia's cotton communities and recognises their enduring connection to the land and waterways that sustain us. We value the Aboriginal and Torres Strait Islander people who have cared for this country for thousands of years. We pay our respects to their Elders past, present and emerging, and extend that respect to all First Nations peoples today..



COVER IMAGE

Photo courtesy of Tamara Porter, Cotton Australia Click 26 photo competition.

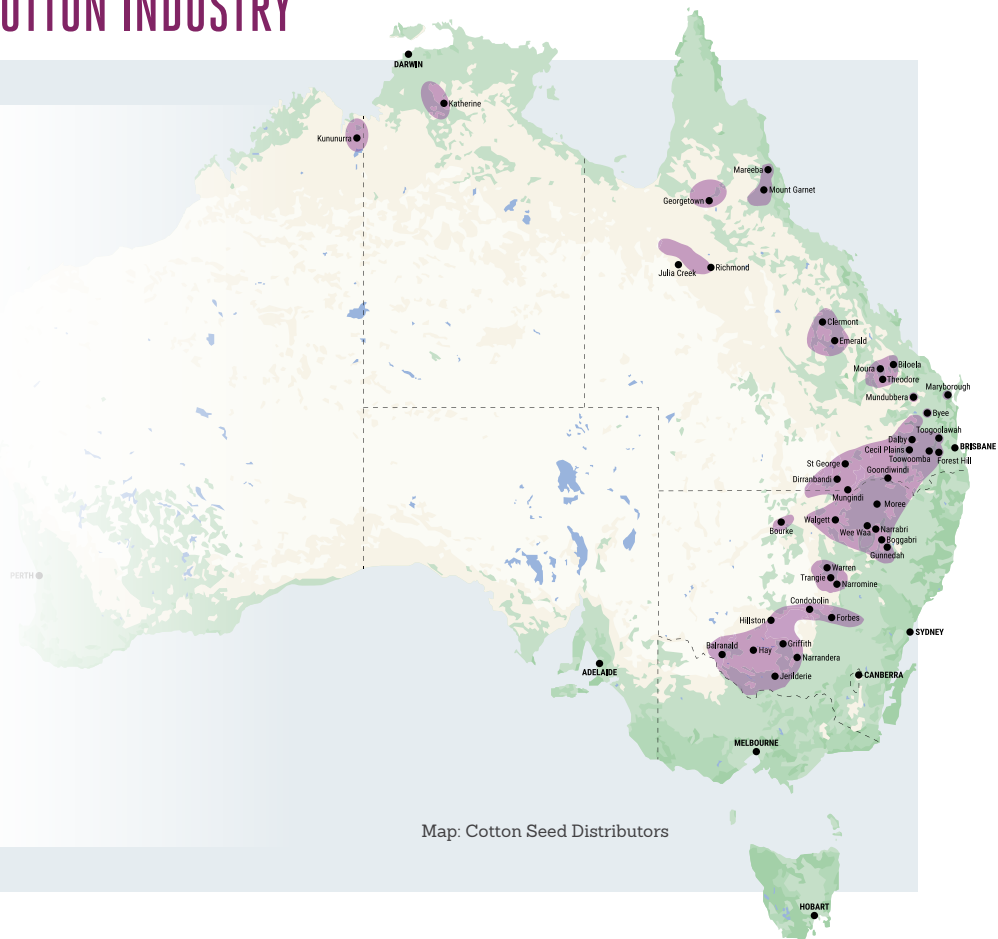
Photos used in this report courtesy of Cotton Australia and CRDC.

ABOUT THE AUSTRALIAN COTTON INDUSTRY

Cotton is a renewable food and fibre that is recyclable and biodegradable. Grown around the world for thousands of years, the cotton plant is a leafy green shrub in the same family as the hibiscus.

Cotton is grown mainly on family farms in inland eastern Australia. From 2017 cotton has also been grown in northern Australia. In 2024/25, about four per cent of the national area was sown in northern Australia, in line with the five-year average.¹

After picking, cotton is sent to a gin where lint (fibre) is separated from seeds (food).



Map: Cotton Seed Distributors

Each kilogram of picked cotton is about:



8 per cent **leaf**

Leaf and other organic plant matter can be composted and added back into soil, under controlled composting systems.



50 per cent **seed**

Each kilogram of seed yields about 200 grams of cotton seed oil for cooking and food products. The remaining meal and hulls are used for stock feed.



42 per cent **lint**

Lint is spun into yarn to make a wide range of fabrics. There are no spinning mills in Australia; all lint is exported.



The cotton lint value chain:





COTTON PRODUCTION MATCHES ANNUAL WATER AVAILABILITY

As cotton is an annual crop, growers adjust the area of cotton they plant each year to reflect changing seasonal conditions. As a result, the area of cotton planted and amount of cotton picked each year is closely tied to water availability, which varies dramatically.

Governments regulate sustainable water use limits to ensure the needs of the environment and humans are met before any water is allocated for irrigation.

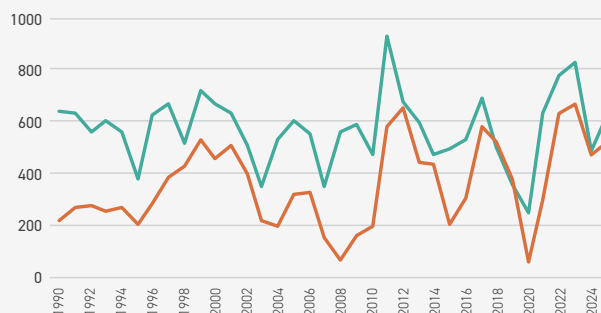
This means the amount of water available for irrigation varies each year with the volume of water in rivers, dams and aquifers.

The area and rainfall graph (top right) shows there is a strong correlation between rainfall one year and the area planted to cotton the next year. This is because the volume of water stored in soil and in dams one year is used to inform how much cotton to grow the following year, or if to grow cotton at all.

Farmers choose what crop is best to grow with the irrigation water made available to them each year.

Within this water system regulated by governments for sustainable withdrawals, the focus of every cotton grower is to use water as efficiently as possible.

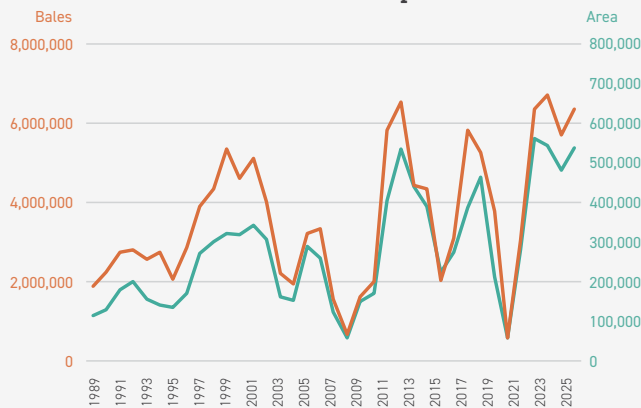
Annual area planted and average rainfall (one-year rainfall lag) in traditional cotton-growing regions



— Average rainfall mm — Total Area '000 ha

Source: [Bureau of Meteorology](#), Cotton Australia and Cotton Yearbook

Australian cotton area and production



— Total production bales — Total area ha

Source: Cotton Australia and Cotton Yearbook

2024/25 INSIGHTS (AREA AND YIELD)

Continuing good seasonal conditions saw another large area planted and 5.4 million bales picked, worth \$3.1 billion. This was the **third-largest crop in the industry's history**.

Australian cotton growers have improved their productivity over time. From 1994 to 2025, the five-year average area planted to cotton increased by 117 per cent while production increased 195 per cent. That means cotton growers are growing about three times as much cotton on about twice as much land, compared to thirty years ago.

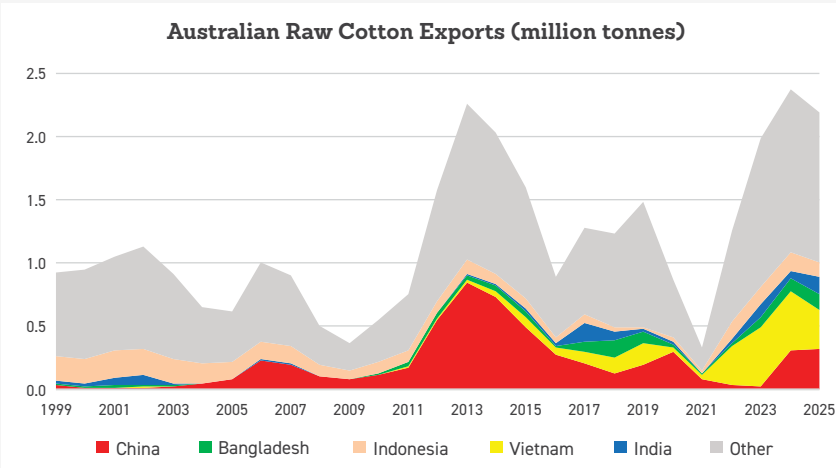


OPERATING ENVIRONMENT

MARKETS

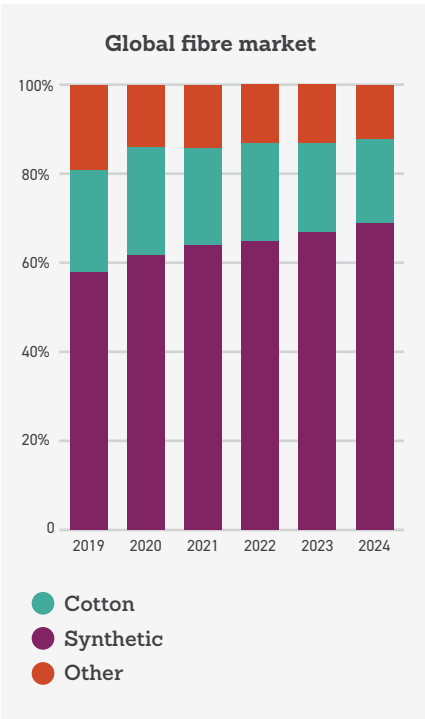
Australia is one of the world's most export-oriented cotton industries. Almost all its cotton production is supplied to international markets, predominately across Asia. Cotton exports were valued at \$3.4 billion in 2025/26 placing it among Australia's top agricultural exports by value.

Australia's export markets have become increasingly diversified in recent years, reducing reliance on any single destination. China, Vietnam, India, Bangladesh and Indonesia are among Australia's largest current export markets, reflecting shifting global textile manufacturing, growing Asian spinning capacity and expanding commercial relationships.



Source: [Australian Cotton Shippers Association](#) via ABARES data

COMPETITORS



Source: [Textile Exchange](#)

Cotton is grown in more than 70 countries around the world, with China, USA, India, Pakistan and Brazil the world's biggest producing nations. Many producing countries retain significant volumes for their own spinning, weaving and manufacturing industries, making USA, Brazil and Australia the dominant suppliers in the global cotton export market. Brazil has recently overtaken the United States as the world's largest cotton exporter following rapid growth in production and exports.

More broadly, Australian cotton competes with other natural and synthetic fibres when a textile or apparel manufacturer is deciding what material to use in a product.

A record 132 million tonnes of fibre was produced globally in 2024 (the most recent full year of data). Cotton accounted for 19 per cent of this production, second to polyester's

59 per cent of global production.^{iv}

Fibre production has more than doubled since 2000 and is expected to grow to 169 million tonnes by 2030. This growth has been dominated by fossil fuel-based polyester, which replaced cotton as the world's most widely used fibre in the late 2000's.

Competitive advantages

Australian cotton is recognised globally for its exceptional spinnability, driven by premium fibre qualities such as length, strength, and micronaire. Strong sustainability credentials, low contamination, shorter shipping times to key Asian markets, efficient supply chains, trusted trading partnerships and a stable political environment further strengthen Australian cotton's position as a highly sought after fibre across international markets.^v

PHYSICAL RISKS AND OPPORTUNITIES

Australian temperatures have warmed by a mean of 1.5°C since national records began in 1910^{vi}. Projections from [Climate Change in Australia](#) and the CSIRO indicate continued warming across all Australian cotton-growing regions, together with higher evaporative demand and an increase in the intensity of extreme rainfall events.

Adaption responses will vary depending on location of production, but are likely to include:

- **Water adaptations:** water-use efficiency, precision irrigation and climate-informed scheduling, improved on-farm water storage, improved drainage, flood resilience, drought preparedness, improved soil moisture retention

- **Temperature adaptations:** heat-tolerant varieties, flexible planting windows, and varieties that will increase productivity with increased atmospheric carbon dioxide levels
- **Other adaptations:** continued investment in integrated pest management and regionally adapted production systems.

TRANSITION RISKS AND OPPORTUNITIES

Technology

Technology is changing all aspects of cotton production, including field machinery, environmental sensors and farm software. Cotton growers have a track record of quickly adopting technologies that have a clear positive impact on their farm business. Key challenges for cotton growers are having sufficient mobile and internet connectivity to make the most of technology, and having earlier access to technologies (especially those developed overseas) as they are proven to be commercially viable.

Human capital

The uptake of digital and autonomous technologies is important to support cotton farm productivity and mitigate a continuing shortage of labour in agricultural industries. Availability of technology on farms can make jobs safer and more interesting. This in turn helps keep people on farms and attract new people to the industry.

Economic

Cotton prices are forecast to fall in 2025/26 and then increase modestly to 2030/31 in a highly uncertain supply and demand environment. Trade shifts, seasonal conditions in major producing countries, exchange rates and consumer demand all impact the price paid to Australian cotton growers.

Geopolitical

Recent global geopolitical unpredictability has impacted fuel and fertiliser prices and availability, as well as disrupting markets. Diversification of markets and supply chains, as well as increasing domestic capacity to produce critical inputs, are likely to become increasingly important strategies to mitigate these impacts.

Regulatory

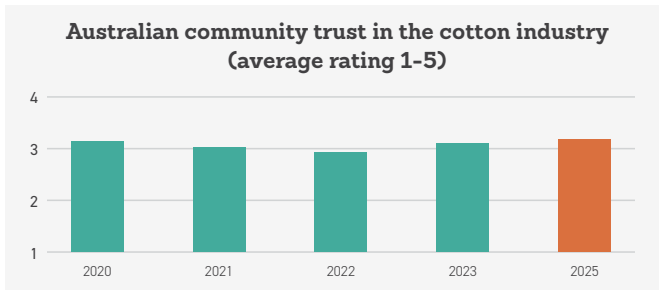
Australian cotton growers operate in a heavily regulated environment. myBMP supports growers to meet regulatory requirements, with detailed checklists of applicable State and Federal legislation covering human rights, pesticide and water use and many other farm practices. The PLANET. PEOPLE. PADDOCK. Sustainability Framework responds to these changes, for example by aligning this sustainability report to climate financial disclosure legislation and potential future nature positive disclosures.

A key current regulatory development is *Environmental and Biodiversity Conservation Act* reform, which commenced 1 December 2025 and introduced graduated management obligations. A critical implementation gap remains in the form of clear guidance for landholders, because public consultation on the reforms is still underway at time of writing and bilateral discussions with State and Territory jurisdictions are yet to commence.

SOCIAL AND REPUTATION

Community trust in agriculture research, conducted annually by most agriculture industries, shows trust and acceptance of the cotton industry has been slowly increasing in recent years. The trust score for the Australian cotton industry in 2025 is comparable with other agriculture industries and higher than typical scores seen for mining companies.^{viii}

Research shows Australian cotton industry trust and acceptance are driven primarily by the perception the community holds of cotton's environmental performance, responsiveness to community concerns, distributional fairness (eg, fair use of water), and the importance of the industry.



Source: Voconiq [Community Trust in the Australian Cotton Industry](#)

Trust in agriculture research shows four key themes the community want more of from the cotton industry. Examples of how the Australian cotton industry has been addressing these trust drivers are summarised in this table.

Transparency	Accountability	Environmental management	Awareness
Sustainability reports have included detailed data packs since 2021. Industry welcomes scrutiny through initiatives such as the Australian Cotton Sustainability Reference Group and the annual Camp Cotton which takes brands, retailers and other stakeholders into cotton fields.	The cotton industry expects every grower to follow all relevant laws and regulations. myBMP contains a checklist of 147 legal requirements to support cotton farmers meet this obligation. Since 2021 the industry has reported in this annual sustainability report serious water breaches.	The <u>fourth decadal independent environmental assessment</u> , published in 2024, found the Australian cotton industry has made great strides in its environmental management and reporting systems, with clear signs of collaboration across the industry and a high level of observed on-farm environmental performance.	Communication efforts are focused on proactive evidence-based information about the industry, its growers and the work underway via PLANET. PEOPLE. PADDOCK.

HOW THE AUSTRALIAN COTTON INDUSTRY MANAGES SUSTAINABILITY

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK
PLANET. PEOPLE. Paddock.

PLANET. PEOPLE. Paddock. is the Australian cotton industry's framework to manage non-financial risks and opportunities. It delivers value to Australia and to cotton farmers by supporting the Australian cotton industry's productivity, resilience and market access. It does this by:

- Monitoring stakeholder expectations and the industry's operating environment
- Prioritising the most important risks and opportunities and coordinating a whole-of-industry response
- Measuring progress and quantifying impacts, and transparently communicating these to stakeholders.

PLANET. PEOPLE. Paddock. complements myBMP and other industry programs.

[> MORE DETAIL: FRAMEWORK OVERVIEW](#)

GOVERNANCE

The Australian cotton industry's Sustainability Working Group (SWG) coordinates PLANET. PEOPLE. Paddock. The SWG is comprised of representatives from:

- **Cotton Australia:** the industry's peak body, funded by voluntary grower levies, responsible for advocacy and policy development on behalf of Australia's cotton growers
- **Cotton Research and Development Corporation (CRDC):** responsible for the industry's research, development and extension¹ (RD&E), co-funded by compulsory grower levies and the Federal government
- **CottonInfo:** the industry's extension body, a partnership between Cotton Australia, CRDC and Cotton Seed Distributors
- **myBMP:** the industry's on-farm best management practices (BMP) assurance program, co-funded by Cotton Australia and CRDC
- **Australian Cotton Shippers Association:** the peak body of merchants who buy cotton from Australian growers and sell it to spinning mills around the world.

The SWG reports to the Boards of Cotton Australia and CRDC.

¹"Extension" is an agricultural term for extending research and innovation to farmers in a form they can understand, assess and adopt.

RISK AND OPPORTUNITY IDENTIFICATION AND MONITORING

Quarterly scan

Each quarterly SWG meeting includes a scan of potential risks and opportunities. These are identified through sources including stakeholder feedback, peer-based norms, and physical and transition types of risk and opportunity. The SWG assesses emerging issues for materiality using defined criteria to rate:

- Stakeholder importance
- Financial impact to the industry
- Impact on the industry's environmental, social and economic dependencies
- Likelihood.

Annual review

Typically, industry-scale data is aggregated annually, or more frequently if data is available. The SWG reviews data to consider the progress of existing actions to achieve targeted outcomes. If new or corrective actions are needed, these are discussed with key personnel in the industry's established programs for RD&E, adoption, and policy.

Decadal independent assessment

The Australian cotton industry has commissioned an independent assessment of its environmental impacts every 10 years since 1991, the first major Australian agricultural industry to do so. These assessments are used to provide a third-party expert assessment of what the industry is doing well, and importantly, identify what can be improved.

[> MORE DETAIL: 2024 FOURTH INDEPENDENT ENVIRONMENTAL ASSESSMENT](#)

AUSTRALIAN COTTON AND THE SDGs

The UN Sustainable Development Goals (SDGs) provide a blueprint for humanity to achieve a just and sustainable world. To reach that future, everyone needs to play their part. Each Australian cotton targeted outcome is aligned to a relevant SDG and SDG target. In this way, the Australian cotton industry aims to play its part.

[> MORE DETAIL: AUSTRALIAN COTTON AND THE SUSTAINABLE DEVELOPMENT GOALS](#)



STRATEGY FOR MANAGING SUSTAINABILITY RISKS AND OPPORTUNITIES

PLANET. PEOPLE. Paddock. has three strategic pillars.

Embed sustainability into industry plans and culture.

The CRDC 2023-28 Strategic RD&E Plan, Clever Cotton, is closely integrated with the industry's sustainability framework and uses the same three pillars: Paddock, People, Planet.

[> MORE DETAIL: CLEVER COTTON STRATEGIC PLAN](#)

Sustainability is one of five pillars in the Cotton Australia 2023-28 Strategic Plan. The other four pillars – advocacy, trust, leadership and governance – all impact and support the delivery of the industry's sustainability agenda.

[> MORE DETAIL: COTTON AUSTRALIA STRATEGIC PLAN](#)

Cotton Australia, the Australian Cotton Shippers Association and CRDC are collaborating to develop a Strategic Roadmap for the Australian Cotton Industry to stay ahead of competitors by integrating sustainability, data collection, myBMP & traceability.

Engage frequently and transparently with internal and external stakeholders.

In addition to ongoing engagement through existing mechanisms including meetings, conferences and surveys, the Australian Cotton Sustainability Reference Group (ACSRG) was formed in 2021.

The ACSRG involves representatives from major cotton stakeholder groups, including brands, government and environmental organisations.

It provides a formal two-way process to help us better understand stakeholder expectations, discuss sustainability performance, and be questioned or guided by a diverse group of experts and thought leaders.

Agendas and summaries of discussion from each ACSRG meeting are posted online.

[> MORE DETAIL: STAKEHOLDER ENGAGEMENT](#)

Evidence to demonstrate credible progress, and to make informed decisions.

The global sustainability reporting environment has multiple competing standards and methods. To bring more clarity to industry reporting, our sustainability indicators were revamped in 2024 to align with the standards we think customers of Australian food and fibre are most likely to use in future.

Indicators from 16 standards and reporting guides have been cross-referenced to selected cotton industry indicators to help us measure the right things once and make that data work hard for us in multiple other use cases.

We don't try to measure everything in every standard, and we don't yet have industry-scale data for every indicator. However, we do have most of the data needed by customers and investors for the entire industry, in a single database.

[> MORE DETAIL: COTTON'S REVEMAPED SUSTAINABILITY INDICATORS](#)

AUSTRALIAN COTTON STRATEGIC ROADMAP

To maintain market access, protect existing value, and meet emerging regulatory and buyer expectations, the industry needs to transition to a globally recognised sustainability certification and traceability system, backed by data. This will ensure Australian cotton remains competitive, compliant, and preferred in an evolving global market.

The Australian Cotton Strategic Roadmap aims to protect Australian cotton's integrity, premiums and market access and strengthen its future position – without wasting money or over-building systems before they're needed.





Click to view the
GHG
Fact Sheet



GREENHOUSE GAS EMISSIONS

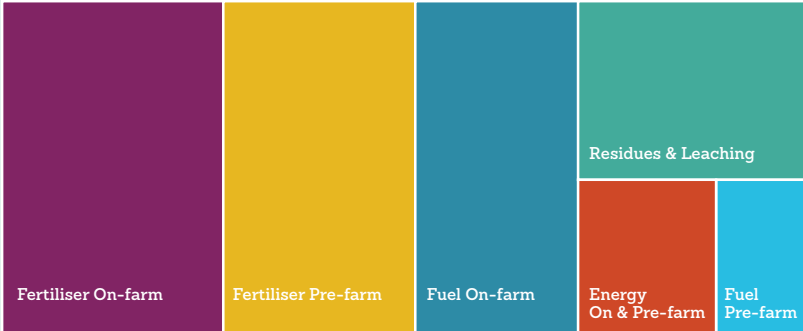
CONTEXT

Emissions

Growing, ginning and transporting cotton to port is estimated to account for about 0.24 per cent of Australia’s greenhouse gas emissions (GHGs)^{ix}.

About half of Australian cotton production GHG emissions come from the pre-farm manufacture and on-farm use of nitrogen (N) fertiliser. On-farm diesel use accounts for about 20 per cent of cotton’s emissions.

Five-year average of Australian cotton GHG emissions sources, 2021-2025



Source: Ekonomou A., Eckard R.J. (2024), University of Melbourne C-GAF based on the Australian National Greenhouse Gas Inventory methodology

CLIMATE-RELATED RISKS & OPPORTUNITIES

The Australian cotton industry has high exposure to climate variability, primarily through water availability. At the same time, research has shown cotton is naturally well adapted to warm conditions, responding positively to high temperatures and elevated CO₂ by maintaining strong growth, efficient photosynthesis, and relatively good water-use efficiency compared to many other crops. However, these benefits are reduced or reversed when cotton experiences water-limited conditions.

The priority strategic responses the industry is planning for to manage climate-related risks and opportunities are:

- In the short-term (2030s), continue to invest in adaptation strategies such as water use efficiency and agronomic practices
- In the medium-term (2050s) and longer-term (2070s), having climate-resilient crops and technologies to manage cotton in a way that tolerates heat and is regionally-adapted for various future climate scenarios.

Complementary Government policies that support farming in a changing climate will be needed to optimise this work by cotton and other agriculture industries.



SUMMARY STRATEGY

Where we are now

Credible action is needed to mitigate climate impacts and meet demand for low emissions production.

Better industry-scale data is needed to maintain stakeholder trust and to support industry and grower decisions.

Clarity on carbon is a major barrier to action. Growers are frustrated by the complexity and inconsistency of messaging from different sources.

> [MORE DETAIL: EMISSIONS REDUCTION R&D STRATEGY](#)

Where we want to be

The Australian cotton industry collaborates for impact, to enhance market access and stakeholder trust.

High quality activity data is collected from every field to more accurately calculate emissions, as part of a broader industry data platform plan.

Australian agriculture has a common approach to carbon calculators and reporting.

Actions industry is taking to reach our goals

- Implementing an emissions reduction research strategy
- Supporting a common approach across agriculture to GHG emissions estimation, messaging, and farmer extension
- Mitigating short- and medium-term impacts through investment in water and N use efficiency, soil health, and plant breeding
- Facilitating adoption of low emission technologies when they are commercially viable, especially green N and diesel fuel alternatives.

Actions growers are taking now

- Optimising N use efficiency
- Using a range of soil health and agronomy practices to reduce inputs and increase resilience
- Considering options to reduce diesel use
- Using online tools to calculate GHG emissions.

PROGRESS

IMPACT DRIVERS

GHG emissions

N is essential for plant growth, but N fertiliser also accounts for most cotton GHG emissions. Diesel fuel for machinery and irrigation pumps contributes about 20 per cent of cotton production GHGs.^{xi}

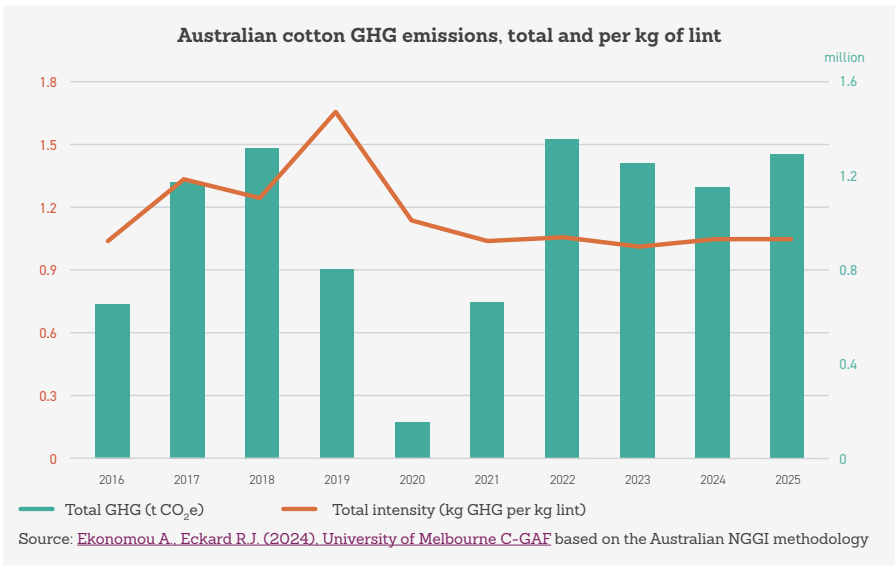
GHG removals

We encourage farmers to increase and/or maintain woody vegetation to sequester atmospheric carbon. Soil carbon receives a lot of attention, but in Australian cropping systems, permanently storing carbon in soil is difficult and uncertain.

Due to difficulties of estimating removals accurately at the industry scale, removals are currently assumed to be zero. This means we currently report emissions only, not net emissions, for the Australian cotton industry.

2024/25 INSIGHTS

Total annual GHG emissions increased by 12.3 per cent from 2024 to 2025, mirroring a 12.1 per cent increase in the number of bales picked in 2025. The emissions intensity of Australian cotton was 1.05 kg CO₂e per kg of lint, which has been the average for the past five seasons. The five-year average to 2025 is 18 per cent lower than the five-year average to 2020.



Rainfed cotton emissions intensity is typically higher than irrigated cotton and more variable. This is because rainfed yields are highly variable, depending largely on rainfall. If key rainfed inputs like N fertiliser per hectare remain largely the same each year but the amount of cotton produced per hectare changes a lot, the amount of GHG emissions per kg of cotton produced will also change a lot.

kg CO ₂ e per kg lint	2021	2022	2023	2024	2025
Irrigated	1.04	1.08	0.93	1.01	1.01
Rainfed	1.05	0.96	1.49	1.28	1.30



PLANET GREENHOUSE GAS EMISSIONS & CLIMATE

NEW GHG INVENTORY BASIS OF PREPARATION AND DATA QUALITY

Australian cotton GHG production accounts are prepared in line with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004).

System boundary: Cradle to farm gate.

Operational boundary: Scope 1, 2 and upstream scope 3 emissions.

Calculation tool: Primary Industries Climate Challenges Centre cotton Greenhouse Accounting Frameworks (C-GAF), version 1.36.

Activity data: Activity data used to calculate rainfed and irrigated cotton production are derived from sources including industry surveys, research papers, and sales data. Sources for each activity data is provided in the online Excel data pack.

Inventory quality: GHG emissions and removals estimation is always subject to a degree of uncertainty because input data varies in quality, and the emission factors used to calculate emissions from impact data are regularly being updated. This is especially the case when estimating emissions for an entire industry. A qualitative assessment of the quality of activity data has been undertaken and is included in the online Excel data pack. This assessment uses the data quality scoring framework in the Australian Government's draft Voluntary Emissions Estimation and Reporting Guidelines for Agriculture, Fisheries and Forestry - the [Common Requirements Framework](#). Activity data quality for the 2024/25 carbon account has been self-assessed as 2.9 out of 5 using this scoring framework.

The purpose of undertaking this assessment is to increase transparency on data quality and limitations, which will improve comparisons with other GHG inventories.

The Australian cotton industry has a process to improve data quality and is investing in research to improve the accuracy of relevant emission factors, in coordination with other agriculture stakeholders.

AUSTRALIAN COTTON CARBON ACCOUNT

TOTAL COTTON EMISSIONS	TOTAL (tCO ₂ e)		CO ₂ (t)		CH ₄ (tCO ₂ e)		N ₂ O (tCO ₂ e)	
	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-25
Scope 1 – mechanical	261,040	236,236	259,537	234,875	204	185	1,300	1,176
Scope 1 – agricultural	551,068	494,551	131,373	117,991	0	0	419,696	376,560
Scope 1 - LULUCF	0	0	0	0	0	0	0	0
Scope 2	9,352	8,336	9,352	8,336	0	0	0	0
Scope 3 (pre-farmgate)	439,364	402,980	469,364	402,980	0	0	0	0
TOTAL EMISSIONS (t)	1,290,825	1,142,103	869,625	764,183	204	185	420,995	377,736
TOTAL EMISSIONS INTENSITY kg CO₂e / kg lint	1.05	1.05						

IRRIGATED COTTON EMISSIONS	TOTAL IRRIGATED (tCO ₂ e)		CO ₂ (t)		CH ₄ (tCO ₂ e)		N ₂ O (tCO ₂ e)	
	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-21
Scope 1 – mechanical	201,581	187,785	200,420	186,703	158	147	1,004	935
Scope 1 – agricultural	461,097	417,287	109,878	99,553	0	0	351,219	317,773
Scope 1 - LULUCF	0	0	0	0	0	0	0	0
Scope 2	5,728	5,369	5,728	5,369	0	0	0	0
Scope 3 (pre-farmgate)	365,295	322,563	365,295	322,563	0	0	0	0
TOTAL	1,033,701	933,003	681,321	614,188	158	147	352,223	318,668
IRRIGATED EMISSIONS INTENSITY kg CO₂e / kg lint	1.01	1.01						

RAINFED COTTON EMISSIONS	TOTAL RAINFED (tCO ₂ e)		CO ₂ (t)		CH ₄ (tCO ₂ e)		N ₂ O (tCO ₂ e)	
	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-25	2025	5-year av 2021-25
Scope 1 – mechanical	59,459	48,452	59,117	48,173	47	38	296	241
Scope 1 – agricultural	89,971	77,265	21,495	18,438	0	0	68,476	58,827
Scope 1 - LULUCF	0	0	0	0	0	0	0	0
Scope 2	3,624	2,966	3,624	2,966	0	0	0	0
Scope 3 (pre-farmgate)	104,069	80,417	104,069	80,417	0	0	0	0
TOTAL EMISSIONS (t)	257,123	209,100	188,305	149,994	47	38	68,772	59,068
RAINFED EMISSIONS INTENSITY kg CO₂e / kg lint	1.30	1.22						



Click to view the
Water
Fact Sheet

WATER

CONTEXT The cotton industry's approach to irrigated water use directly aligns to the Sustainable Development Goal (SDG) target of ensuring sustainable freshwater withdrawals and substantially increasing water use efficiency:

- **Sustainable withdrawals:** In Australia, water is regulated to achieve sustainable withdrawals of freshwater. Governments set sustainable water use limits, where basic environment and human needs must be met before any water is allocated for irrigation. Each year, farmers choose what crop is best to grow with the water made available to them.
- **Substantially increase water use efficiency:** From 1997 to 2024, the volume of water used to grow a bale of cotton reduced by up to 50 per cent.^{xii} Water use efficiency improved significantly in the decade since 1997, but the rate of reduction has lowered since 2007: efficiency gains become harder to achieve over time.

NATURE-RELATED RISKS & OPPORTUNITIES

Physical: short-term outlook neutral, variability increasing over time.

- In the short term, lower rainfall is expected to reduce the 2025/26 crop by about 17 per cent from the previous year. The 2026/27 forecast of a shift towards El Nino conditions will likely see a further reduction in crop area, if the warmer and drier conditions typically associated with El Nino eventuate.
- In the long term, climate change will create risks and opportunities from more variable climate and more frequent extreme weather conditions. See the Operating Environment section at the front of this report for a summary of impacts and adaptations needed.

Transition - Reputation: risk increases in drought years when water is scarce.

- Annual research shows water use is a key driver of community trust in and acceptance of the cotton industry, and decreases when water is scarcer. With an El Nino – which generally is associated with below average rainfall in eastern Australia – forecast for later in 2026, the cotton industry will need to clearly communicate improvements in water use efficiency, and demonstrate strong accountability and compliance with regulated water systems that match water withdrawals to seasonal conditions.
- Cotton is sometimes perceived to have a negative impact on water

quality, which negatively impacts. However, because irrigated cotton farms are closed systems – water that flows off fields is returned to an on-farm storage for future use – cotton farms are unlikely to have the negative impact attributed to them.

Transition - Resource efficiency: opportunity increasing over time up to a point.

- Using rain and irrigation water as efficiently as possible is a priority for every cotton grower: water use normally has the biggest impact on yield. There may still be water use efficiency gains to be made, but eventually plant physiology means it is impossible to significantly improve water use efficiency

SUMMARY STRATEGY

Where we are now

Slowing rate of water use efficiency gains as growers have become more efficient.

Accurate, reliable field data is missing. Individual farmers are increasingly using field water monitoring technology, but this data isn't currently collated at a whole-of-industry scale to give an accurate picture of water use.

Perceived negative cotton industry impact on water system quantity and quality.

Where we want to be

Every grower is achieving maximum water use efficiency. Multiple factors impact a growers' choice of the most efficient water application system for their specific farm. These include capital and operating costs, reliability, soil type, labour availability and lifestyle considerations.

Real time, transparent, accurate data informs grower decisions and community trust.

Community trust in the cotton industry has measurably increased. This has been achieved by proactively seeking real time transparency on water use and quality, demonstrating regulatory compliance, and emphasising water use efficiency practices.

Industry priorities to reach our goals

- Clear indicators and better data for water use and for the impact drivers of water use efficiency
- Assess the impact of variables on different farm systems
- Extend knowledge to growers and support decision-making
- Advocate for consistent and coordinated real-time catchment-scale monitoring of water availability, use and quality.

Actions growers are taking now

- Implementing practices to reduce losses and improve efficiency
- Implementing soil health practices that enhance water infiltration and water holding capacity
- Avoiding excessive fertiliser and pesticide use to prevent water quality impacts.



PROGRESS

EXTENT

Extent is measured by the **volume** of water available to farms for irrigation.

An accurate and cost-effective way to measure the volume of water resources in rivers and streams, in aquifers, and stored on farm across hundreds of farms is currently not available. The industry is investigating if earth observation technology can fill this data gap. If effective, this will allow a combination of satellite data and field observations to accurately quantify water resources and use at scale.

While this is a gap, it's important to remember all water made available to farmers for irrigation is regulated by state governments. myBMP also requires a water budget to be prepared and groundwater levels (in aquifers) to be monitored to detect potential trends over time.

CONDITION

Water quality in farming systems is typically measured by salinity, sodicity and acidity.

Poor water quality can impact plant and soil health.

myBMP requires growers to measure and manage ground water quality, and to efficiently apply and reticulate irrigation water to prevent nutrients or pesticides leaching into ground water.

This reticulation of water on most irrigated farms means the farm is a closed system, with water stored in an on-farm dam continually returned to the dam after irrigating and not flowing into waterways. This system dramatically reduces the likelihood of sediment, nutrients or pesticides moving from cotton fields into natural water bodies.

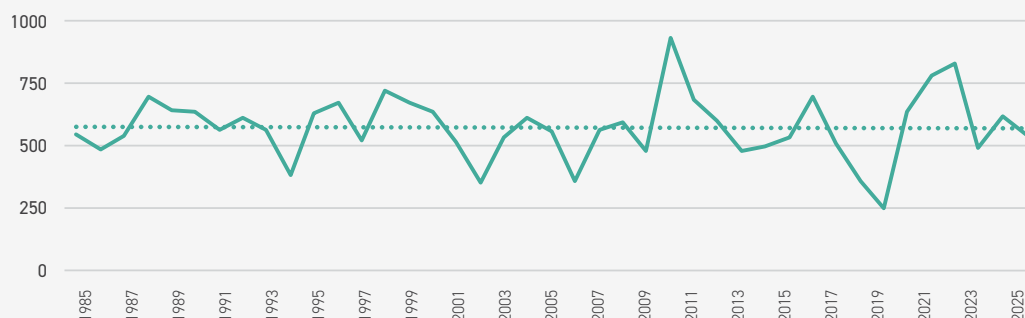
DEPENDENCIES

Rain water availability.

Rainfall is measured as mm per year.

2024/25 INSIGHTS

Average total annual rainfall (mm) in traditional cotton-growing regions² 1985 - 2025



Source: Bureau of Meteorology [Australian Water Outlook](#)

Rainfall is used by cotton growers to produce rainfed cotton, and to supplement water applied in irrigated cotton. Annual rainfall on average across cotton-growing regions has been about average for the past three years.

Irrigation water availability, measured as ML per year.

Governments sell licences for farms to extract up to a certain volume of water and allocate a percentage of the licence to farmers each year based on seasonal conditions. In wet years, farmers may be allocated 100 per cent of their licence; in drier years it will be much less (or even zero).

Quantifying the difference between licences and allocations will give important insights into the availability of irrigation water over time, but is difficult to do at scale. We are looking for ways to fill this data gap.

²Traditional cotton growing regions are those as far north as Central Queensland. Northern Australia is an emerging cotton growing region.



PROGRESS

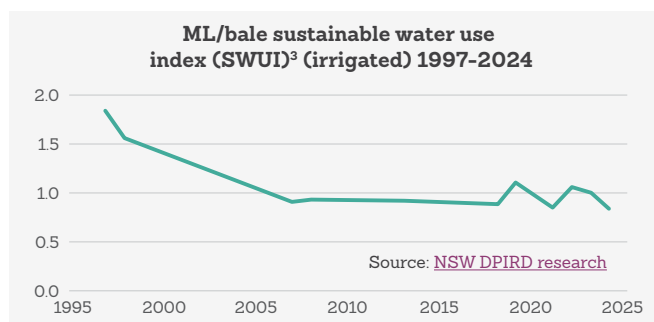
IMPACT DRIVERS

Freshwater use efficiency (impacts extent). Irrigated water use is regulated by governments. The amount of water made available to grow crops is based on seasonal conditions. The focus of Australian cotton growers is to use available water as efficiently as possible.

2024/25 INSIGHTS

The Sustainable Water Use Index (SWUI) measures all water used by the crop to produce a bale of cotton. This includes soil moisture, water from rivers and bores, rain directly falling on the crop and runoff rainfall harvested, and all water lost through evaporation and seepage during storage.

In 2024 the volume of total water used to grow one bale of cotton reduced to 0.93 megalitre (ML) from 1.0 ML/bale the previous year. Extrapolating NSW DPIRD survey data to the whole industry, this equates to 4,097 litres (L) of total water per kg of cotton lint, down from 4,399 L in 2023.^{xv} NSW DPIRD^{xvi} notes: “this represents a remarkable achievement compared to the global average of 2.07 ML/bale equivalents. Such sustained efficiency gains reflect the combined impact of technological innovation, improved irrigation infrastructure, and adaptive crop management practices within the Australian cotton industry. The benchmarking results demonstrate that Australian cotton has achieved world-leading performance on both measures, combining high productivity with low water requirements.”



Climate change (impacts extent). Climate change appears to be creating more extreme and unpredictable seasons.

NSW DPIRD benchmarking has shown it typically takes about 50 per cent less water to grow a bale of cotton compared to 1997. In very dry (like 2019) and very wet (like 2022) seasons that figure is closer to 40 per cent.

Drought years reduce yields due to increased plant stress, and have higher temperatures with more evaporation. Wet years impact water productivity in different ways: there may be more rainfall than the crop can use, floods can destroy a crop or result in the need to replant, and heavy rainfall at the wrong time can negatively impact yield.

NSW DPIRD benchmarking reinforces the need for climate adaptation strategies that buffer against extreme events, such as investment in drought-resilient varieties, precision irrigation technologies, and climate forecasting tools. The impact of short-term climate variability on water use efficiency also suggests future research should focus on understanding the mechanisms of recovery, so that adaptive capacity can be strengthened further in the face of increasing climate variability.

Pollutants (impacts condition). Ground and surface water can be impacted by farm sediment or chemicals.

As with water quantity, there is no nationally consistent approach to monitoring water quality in surface and ground water. As a result, we are discussing with government and other stakeholders if a real-time accurate way to measure water quality could be initiated. While attributing water quality impacts to any one industry can be difficult, this system would both give an early warning to river system users if quality is significantly declining so that preventative action can be taken.

Compliance

We expect every cotton grower to comply with all environmental legislation. For added transparency, we report the number of farmers in the NSW Natural Resources Access Regulator public register of water use non-compliance who we know grow cotton (although water may have been extracted by these individuals for crops other than cotton). For context, there are about 900 cotton growers in NSW. No similar data is readily available for other states and territories.

Source: [NSW Natural Resources Access Regulator public register](#) (date of regulatory action).

Water use non-compliance (NSW): number of prosecutions or enforceable undertakings

	All NSW	Cotton
2019/20	30	0
2020/21	33	11
2021/22	10	6
2022/23	38	0
2023/24	3	0
2024/25	1	0

RESTATED

From this year we are reporting the number of convictions, instead of the number of cases previously reported. Some cases have multiple convictions, so this is a more accurate representation of seriousness of breaches.

³The time needed to collect the data and undertake the detailed calculations behind water use efficiency means there is a one-year lag in reporting. Data here refers to the 2023/24 season.

[Click to view the
Soil
Fact Sheet](#)

SOIL

CONTEXT Healthy soil is a living, dynamic environment, full of microbial and macroinvertebrate life that help to recycle essential plant nutrients, improve soil structure, and control plant disease and pests. Because healthy soil is alive, the Australian cotton industry encourages cotton growers to follow principles essential for a living system: provide food and shelter to the organisms within soil.

- Food is provided through practices including crop rotations, cover cropping, and applying fertilisers and nutrients.
- Practices that support soil shelter include minimum tillage, conserving crop stubble, and use of integrated pest, weed and disease management to minimise chemical impacts.

These best management practices have started to be called 'regenerative' in recent years, and many cotton growers have been using them for many years to protect ancient Australian soils.

NATURE-RELATED RISKS & OPPORTUNITIES

Physical: risk increasing over time without appropriate practices.

- Soil degradation, erosion and loss of fertility have impacts on input costs and yield, and will increase over time without appropriate soil health practices. Impacts are likely to be exacerbated by climate extremes.

Transition - Resource efficiency and resilience: opportunity increasing over time.

- The healthier soil is, the better it will perform the functions growers depend on to grow cotton like water infiltration and storage, and cycling nutrients. Soils that function as well as they can on a farm will reduce input costs and optimise yield which, combined, will boost gross margins. At the same time, high functioning soils are more resilient to climate extremes⁴.

Transition - Market: opportunity potentially increasing over time.

- Access to markets may increase with evidence of 'regenerative' or other soil health practices deemed by customers to be positive for the environment. There may also be small premiums, but for most farmers the financial benefit of improved productivity and resilience will far outweigh market-based premiums. The cotton industry assumes cropping soils are unable to permanently sequester carbon, and therefore does not consider soil carbon credits to be an opportunity.

SUMMARY STRATEGY

Where we are now

No nationally consistent and cost-effective way to measure soil health. Varying levels of understanding of different practices' impact on soil health.

Where we want to be

Cotton growers are consistently measuring soil to inform choice of practices. Cotton soils are better adapted to respond to seasonal and climate impacts, or input constraints caused by political or trade shocks.

Industry priorities to reach our goals

- Investing in a cross-sector project to develop a nationally consistent approach to measuring soil health
- Research to measure the impact of different practices in different farm systems.

Actions growers are taking now

- Multiple practices that give soil more food and shelter.

⁴ Long-term Australian Cotton Research Institute trials have clearly proven soils under minimum tillage, crop rotation and standing stubble perform better in drought, and reduced tillage has improved soil structure to handle floods.



PROGRESS

EXTENT

Extent is measured by the area of soil used to grow cotton.

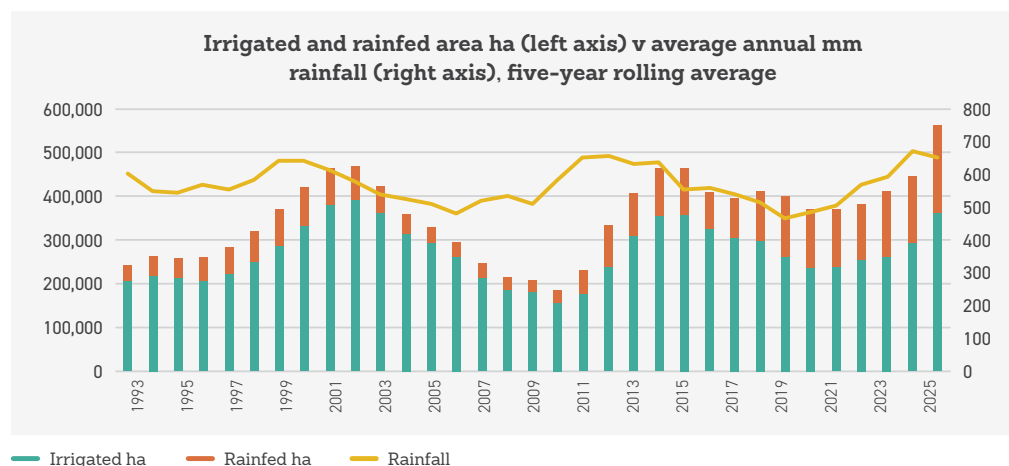
The area of cotton grown is closely correlated to rainfall. A series of drier years reduces water stored for irrigation, which reduces the area planted to irrigated crops. The forecast of a dry year reduces the area planted to rainfed cotton, which relies completely on rainfall. Conversely, wet periods or years increases the area planted to cotton.

2024/25 INSIGHTS

About 11 per cent more area of cotton was planted in 2024/25 than the previous season. The 636,400ha planted was well above the 15-year average of 467,000ha.^{xvii}

Area planted to cotton	2021	2021	2023	2024	2025
Ha	304,482	635,288	673,131	571,029	636,400

Source: Cotton Australia production estimates. *



Source: Bureau of Meteorology [Australian Water Outlook](#); Cotton Australia production estimates

*Brown hectares method (the area of land planted) used for rainfed area. Last year's report used green hectares (the proportion of the land planted – rainfed production often skips a row or even two rows, meaning often a half or a third of the field is actually planted).



PROGRESS

CONDITION

Condition measures the quality of soil **properties** that support the production of cotton. These include soil organic carbon, salinity, acidity, sodicity, and effective root depth.

DEPENDENCIES

Soil **functions** that support the production of cotton. Water infiltration, water holding capacity, nutrient cycling capacity, resilience to weather extremes, and pest and disease suppression are some of the functions farmers rely on to grow crops.

IMPACT DRIVERS

Practices chosen by farmers to manage their land impact soil functions and properties. Healthy soil practices should aim to give soil food and shelter.

2024/25 INSIGHTS

Soil's complexity and regional differences make it difficult to measure properties and functions at the industry scale. A National Soil Strategy was launched in 2021, and will deliver nationally consistent key performance indicators and methods to measure soil health. We support this strategy.

Additionally, in 2025 several research and development corporations commenced cross-sector work on defining a soil health framework for cropping and natural areas on farms. CRDC is an investor in this work and will adopt this framework when it is finalised, to support consistency across cropping industries.

Until those agreed measures are in place, we have developed a simple soil health framework to encourage farmers to adopt practices that give food and shelter to soil.

> [MORE DETAIL: AUSTRALIAN COTTON SOIL HEALTH FRAMEWORK](#)

2024/25 INSIGHTS

Using multiple regenerative practices is a common requirement of regenerative agriculture standards. In 2025, 93 per cent of cotton growers reported using two or more regenerative practices⁵. In other words, more than 9 out of 10 Australian cotton growers are already meeting regenerative agriculture standards – simply because it is good business and good stewardship. The proportion of growers conserving crop residues and using minimum tillage reduced in 2025 from previous years. Industry is monitoring if this is a one-off resulting from a slight change of survey question, or an actual change in practices due to environmental circumstances. For example, a series of good seasons and wetter soils may be increasing compaction which some growers are addressing by using more tillage, and some growers may be using destructive stubble management practices to control disease which can spread in larger volumes of crop residue biomass.

Use of soil health practices	2020	2022	2023	2025
% of growers who conserve crop residues	98	98	-	72
% of growers using minimum tillage	92	86	-	81
% of growers using cover cropping ⁶	56	46	54	38
% of growers using rotation systems	-	81	-	85

Source: CRDC Grower Survey

⁵ "Regenerative" practices surveyed were: use of minimum tillage practices; conserve crop residues; cover cropping; intercropping; crop rotations; use of compost, or manure, or biological amendments.

⁶ "A cover crop was defined in the 2022 Grower Survey as "a crop planted and sprayed out or not harvested." No definition was provided in other surveys to 2025, but this will be used in future surveys for clarity and consistency.



Click to view the
Native Vegetation
Fact Sheet



BIODIVERSITY (NATIVE VEGETATION)

CONTEXT

Our biodiversity priority is remnant native vegetation on cotton farms. Our approach is to collaborate with other industries and trusted environmental advisers on regionally appropriate actions for each farm.

We take this coordinated regional approach because:

- actions of individual farmers will have much more impact if they are coordinated to contribute to identified regional priorities

- biodiversity is complex and varies dramatically across the landscape. Taking a one-size-fits-all approach to biodiversity does not work because of the geographical, topographical and historical land use diversity of our vast country.

NATURE-RELATED RISKS & OPPORTUNITIES

Transition - Market: a need to demonstrate lack of deforestation or degradation is increasing over time.

- Most sustainability frameworks used by customers need evidence of value chains being free of deforestation since 2020. Not all customers will adopt this requirement, but it's likely premium customers will increasingly seek deforestation-free value chains.

Transition - Reputation: risks will remain high.

- Any land clearing has the potential to attract negative scrutiny, even in regions where governments support limited clearing of land for sustainable development as per the recent *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 (Cth)* reforms. Illegal land clearing will negatively

impact our reputation and increase regulatory and market access risk.

Transition - Financial incentives: scale of opportunity is uncertain – direct payments to farmers for biodiversity are currently scarce.

- New markets may emerge to reward farmers for maintaining or enhancing biodiversity, on top of carbon credit payments for new tree plantings.

SUMMARY STRATEGY

Where we are now

Multiple barriers to enhance biodiversity management on farms. These include variable seasonal conditions, time and cost of managing biodiversity, and confusion from so much conflicting 'noise' about what to do.

Credible action is needed to meet increasing demand for deforestation- and conversion-free supply chains, and for disclosing nature-related financial impacts.

Where we want to be

Cotton growers are benefiting from being acknowledged for the public good ecosystem services that come from maintaining and enhancing biodiversity.

Stakeholders have trusted and transparent evidence of action.

Industry priorities to reach our goals

- Innovation in tools and technologies to support cost-effective management
- Better information, data and tools to support growers value biodiversity and track impacts of action
- Clear and coordinated support and advice
- Acknowledgement and support from stakeholders that biodiversity is complex and challenging.

Actions growers are taking now

- Considering the impact of deforestation or land conversion on access to markets and premiums
- Fencing riparian zones to exclude livestock
- Considering improving the area and/or condition of existing biodiversity.



PROGRESS



In 2024/25 we extended our partnership with South Queensland Landscapes (SQL) to apply their novel measurement method for biodiversity in northern Australia. The SQL method uses a Terrestrial Ecological Research Network satellite dataset to measure total area of regulated woody vegetation (extent) and the area of significant riparian patches of woody vegetation (connectivity, an indicator of condition) on farms that grow cotton.

> [MORE DETAIL: MAPPING WOODY VEGETATION FACTSHEET](#)

EXTENT

Extent is measured by the **area** of native vegetation on farms that grow cotton.

CONDITION

Condition of biodiversity is measured by the **quality** of the vegetation and its connectivity. However, there is no agreed way globally or nationally how to measure condition, and it is hard to measure at scale.

2024/25 INSIGHTS

Previous research found on average, about 21 per cent of the total area of a cotton farm in traditional cotton growing regions (Central Queensland and south) has remnant native vegetation, including grasslands^{xviii}. SQ Landscapes’ research shows **in 2020, 13 per cent of the total area of cotton farms in traditional cotton growing regions and 24 per cent of cotton farms in northern Australia has regulated woody vegetation (woody vegetation that can’t be cleared without government permits)^{xix}.**

Most native vegetation area on cotton farms is used for grazing livestock.

On average, **0.9 per cent of the total area of a cotton farm in traditional cotton growing regions and 5.1 per cent of a cotton farm in Northern Australia⁷ has regionally significant patches of riparian zone (the area beside waterways) woody vegetation^{xx}.** These patches of high-quality vegetation are one way to measure connectivity of vegetation. Connectivity is, in turn, one way to measure condition of native vegetation. Vegetation that is connected allows fauna to move across the landscape; fragmented or disconnected vegetation makes this harder. Maintaining the quality and area of riparian connectivity is a priority for the cotton industry.

	Traditional cotton regions	Northern Australia cotton regions
Woody vegetation on Australian cotton farms, 2020		
Aggregate area of farms that grow cotton (ha)**	5,447,849	4,518,036
Extent ha: Aggregate regulated woody vegetation on farms that grow cotton in NSW and Queensland	704,264	1,062,301
Extent %: Aggregate regulated woody vegetation on farms that grow cotton	12.9%	24%
Connectivity ha: Aggregate connectivity of significant riparian patches of regulated vegetation to regional high priority ecosystems on farms that grow cotton in NSW and Queensland	49,299	231,462
Connectivity %: Aggregate connectivity of significant riparian patches of vegetation to regional high priority ecosystems on farms that grow cotton**	0.9%	5.1%

**Source: [SQ Landscapes "Mapping Woody Vegetation" method](#).

DEPENDENCIES

Farmers understand the value of native plants and animals to the farm landscape including wind breaks, buffers in riparian areas and habitat for beneficial birds, bats and insects that prey on cotton pests.

This is all part of cotton growers’ investment in Integrated Pest Management (IPM). While these ecosystem services provide a direct private good to cotton growers, natural ecosystems on farms also provide a significant public good that benefits society. Public good ecosystem services delivered from native vegetation on Australian farms include:

- Carbon storage. Woody vegetation on cotton farms, particularly riparian species such as river red gums sequester and store large amounts of carbon. Land holders are not rewarded for keeping this vegetation; they can only receive carbon payments for new plantings on previously cleared land. A 2024 natural capital assessment estimated the trees cotton growers have kept on their farms were storing over 100 million tonnes of carbon with a value to society of \$4.2 billion
- Habitat provision. Native vegetation provides habitat to native and threatened species of fauna. The 2024 natural capital assessment valued this habitat provision at \$81.3 million.

> [AUSTRALIAN COTTON INDUSTRY EXPERIMENTAL, PARTIAL NATURAL AND SOCIAL CAPITAL ASSESSMENT](#)

⁷The methodology used to calculate connectivity in traditional cotton growing regions was amended slightly by SWL to account for northern Australia, where large property sizes with highly vegetated hinterlands and sparse lowlands with thin riparian corridors are common.

Australian Cotton Sustainability Report 2025 21



PROGRESS

IMPACT DRIVERS

Land use. Establishing fields for the first time for plant-based agriculture requires the removal of existing vegetation. Impact can be reduced by retaining or restoring buffer zones to waterways, corridors for wildlife, and high value ecosystems.

Invasive alien species. Native vegetation requires ongoing maintenance to reduce the impact of weed and animal (such as feral pig) pests.

Climatic extremes that create wetter or drier than normal seasons. Floods can destroy new planting, and drought can kill or reduce the condition of native vegetation.

2024/25 INSIGHTS

No data is currently available on the increase or decrease in the extent or condition of native vegetation on cotton farms on an annual basis.

Revegetation

A Native Revegetation Guide for Australian Cotton Growers was published in 2025. It gives a six-step ‘pathway to success’ designed to help growers plan, plant, manage and monitor revegetation sites, with a focus on what works best in the heavy clay soils common to cotton catchments.

The Guide was trialled by and includes key information from three cotton farm revegetation projects undertaken through the Biodiversity Project, a partnership between Country Road and Landcare Australia, supported by CRDC and Cotton Australia.

> [NATIVE REVEGETATION GUIDE FOR AUSTRALIAN COTTON GROWERS](#)

Land clearing

Governments in northern Australia have policies and programs to support sustainable development within areas they have strategically identified, to encourage more plant-based agriculture.

For instance, the Queensland state government negotiated with individual farmers many years ago to map areas of high value vegetation to be protected under clearing legislation, and what the government has termed lower value unregulated vegetation which could be cleared without permits. The Northern Territory government imposes strict requirements for maintaining buffers much larger than those in other states. Many farms have business plans – based on the certainty provided by this existing legislative process – to clear permissible areas of lower value vegetation to support agricultural production.

We have communicated to growers that even if land clearing is legal, customers seeking zero deforestation supply chains are not likely to buy food or fibre produced on land that has been cleared since 2020.

At the same time, the industry’s peak body is communicating to governments and customers that if they are serious about zero deforestation, they should be prepared to pay the world’s farmers for maintaining the natural ecosystems they have kept intact. Current carbon and biodiversity markets only reward revegetation of land that has been previously cleared; many farmers regard this system as one that encourages perverse outcomes and is inequitable for land managers who have maintained native vegetation.

Cotton farms managing weeds and pests in natural areas	2019	2022	2025
Weed control in natural areas in the past 12 months	70%	65%	58%
Pest control in natural areas in the past 12 months	na	63%	59%

Source: CRDC Grower Survey

Invasive weeds and feral pests in native vegetation reduce food sources and habitat for native animals. There is no quantitative data on the impact of weeds and pests on the extent or condition of native vegetation on cotton farms, but previous grower surveys show most farmers are actively managing this problem. Cotton growers invest time and money to control environmental weeds and feral pests to reduce impacts on their crops. Broadleaf weeds are also typically better habitat for pests than native vegetation and can host viruses.

In recent years Australia has endured the effects of floods, fires and drought making it challenging to report what may have been revegetated in the valleys where cotton is grown. As with weeds and pests, there is currently no data available on the industry scale impact of climatic extremes on native vegetation.



Click to view the
**Pesticides
Fact Sheet**

PESTICIDES

CONTEXT Pesticides (including insecticides and herbicides) are part of a cotton grower's pest control toolbox called Integrated Pest Management (IPM). The cotton industry invests heavily in IPM to ensure pesticides are just one tool used to control pest weeds and insects. IPM is a management approach enabling growers to choose the tool that best controls pests with the least risk to human and environmental health.

All pesticides in Australia are approved by the government regulator: if a grower chooses a pesticide to control a specific pest, it has been assessed as safe to use as directed by the label.

NATURE-RELATED RISKS & OPPORTUNITIES

Physical: risk increasing over time.

- New diseases and changes to the pest and disease spectrum are expected to increase with a changing climate and natural pest movement. Managing resistance levels in pests to certain pesticides will remain an ongoing challenge with fewer options.

Transition - Market and reputation: risk increasing over time.

- Scrutiny on the use of pesticides, and in particular 'highly hazardous' pesticides, is likely to continue to increase. This may require more evidence of safe use of pesticides to access markets, negative perceptions on the impact of pesticides, and potentially access to fewer options.

Transition - Technology: opportunity increasing over time.

- Technology will play an increasingly important role to:
 - » Optimise pesticide application, such as via robots and optical sprayers
 - » Further reduce the off-farm impact of pesticides, such the cotton and industry's co-investment in the Weather and Networked Data system (WAND)
 - » Provide alternative controls such as biologicals and biotechnology. Biotechnology in particular has the potential to further reduce use of insecticides and herbicides.

SUMMARY STRATEGY

Where we are now

Increasing use of herbicides in the 2020s.

Decreasing use of insecticides over 30 years.

Decreasing hazard of herbicides and insecticides over 20 years.

Where we want to be

Environmental thresholds are defined by governments, and data monitored in real time to support community trust and enable early actions by pesticide users to prevent thresholds being passed.

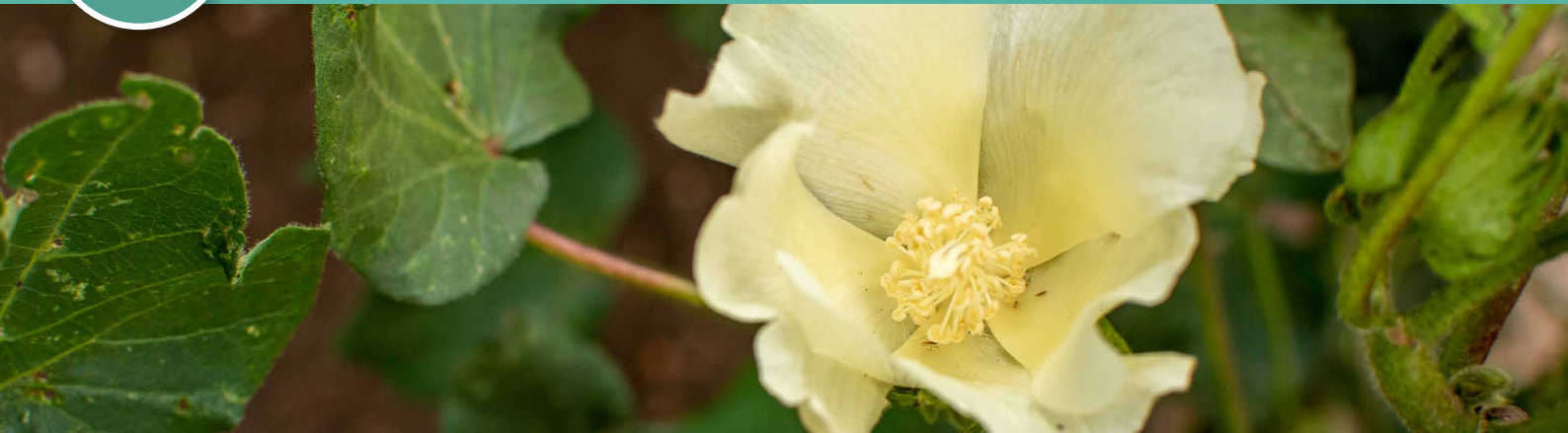
Growers have the tools to support optimal crop production.

Actions industry is taking to reach our goals

- Advocating for governments to set and monitor consistent science-based environmental pesticide thresholds
- Establishing farming systems better able to cope with future pest control challenges: biosecurity, resistance, and a pesticide-limited future
- Advocating to companies and governments for access to the full range of crop protection technologies and controls.

Actions growers are taking now

- Using pesticides as directed by the label
- Only using pesticides when the pest population reaches an agreed economic threshold
- Following the industry's stewardship programs to maintain effective IPM with less reliance on chemicals.



PROGRESS

DEPENDENCIES

Access to the full range of cultural, mechanical, biological, chemical, genetic and technological crop protection tools needed to support best practice pest, weed and disease control.

IMPACT DRIVERS

Use of IPM strategies. IPM strategies include providing habitat for natural predators, crop rotations, genetically modified (GM) crops, novel pest controls, tillage, and when appropriate, pesticides.

Use of pesticides. Farm pesticides have been assessed by the scientific government regulator as having a safe level of impact on human and environmental health, when used as directed by the label.

2024/25 INSIGHTS

Pesticides are just one tool used to control pests. New pest control tools can take several years before they are commercially available in Australia. As a result, the cotton and other cropping industries advocate for farmers to access these as soon as possible.

The cotton industry also invests in a range of research initiatives to support pest management, and stewardship initiatives such as an insecticide resistance management strategy that is embedded throughout the industry and formally reviewed every year.

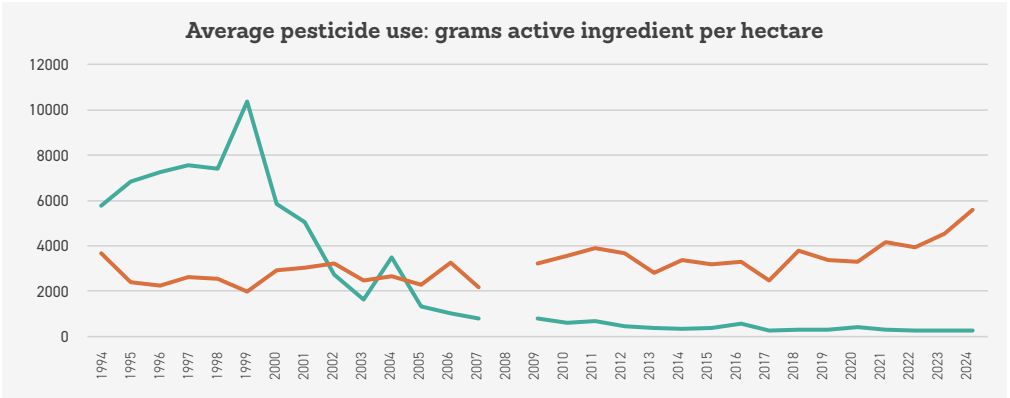
2023/24 INSIGHTS

No new data is available for 2025, but previous grower surveys have shown high levels of IPM adoption.

% growers using selected IPM practices:	2019	2022	2023
Recommended thresholds are used	97%	95%	94%
Beneficial insects are conserved whenever possible	96%	99%	98%
Insecticide Resistance Management Strategy is followed	89%	97%	97%

Source: CRDC Grower Survey

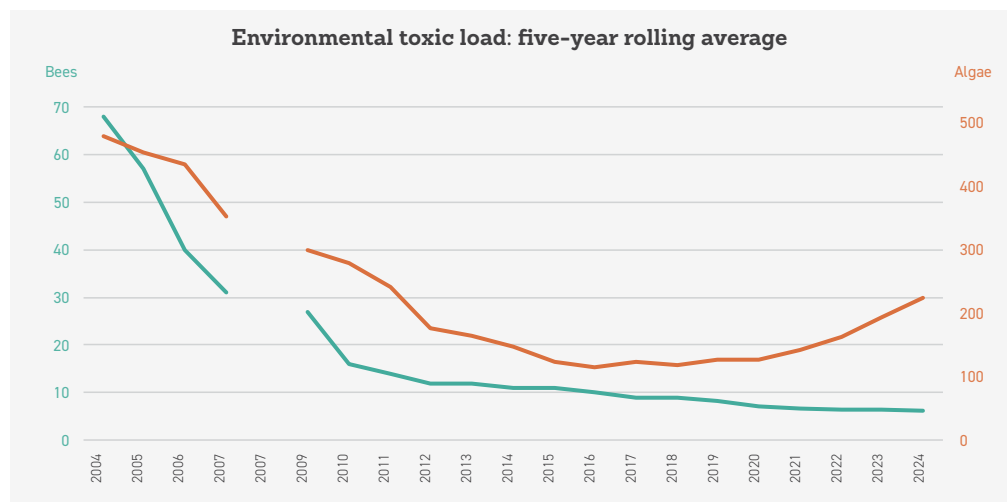
Pesticide use has changed over time: the five-year average insecticide volume reduced by 96 per cent per hectare between 1998 and 2025 as GM cotton and IPM was introduced. In the same period, a move to rely less on tilling the soil to control weeds increased herbicide use by 82 per cent.



Source: Industry sales data

However, volume does not paint a full picture of potential impact as it doesn't account for the differing toxicity of pesticides. Environmental Toxic Load (ETL) is a measure of hazard that does this.

> [MORE DETAIL: ENVIRONMENTAL TOXIC LOAD ANIMATED EXPLAINER](#)



Source: CRDC commissioned research. No data collected in 2008 due to drought

The five-year average ETL for bees⁸ (an insecticide indicator species) and ETL for algae (a herbicide indicator species) has reduced by 90 per cent and 43 per cent respectively from 2004 to 2025^{xii}. This suggests the pesticide hazard has significantly reduced over the past 20 years.

However, the volume and hazards of pesticides used has been very different in recent years. From 2024 to 2025, the five-year average ETL for bees increased marginally, continuing a long-term trend of low use and hazard. The introduction of GM cotton resistant to key insect pests and significant industry investment in IPM are the main reasons behind this. It is now not uncommon for crops not to be sprayed at all for insect pests.

In contrast, the use and hazard of herbicides have continued to trend up in recent years. From 2024 to 2025 the five-year average ETL for algae increased 18 per cent. Several factors are contributing to this trend:

- More weeds have grown in recent years, due to consecutive wet seasons increasing the weed seedbank
- Increased use of residual herbicides – which have a higher toxicity than knockdown herbicides – as part of the industry's coordinated resistance management strategy and to kill difficult-to-control weeds
- Reported data overestimating pesticide application due to the increasing area of fields using optical sprayers to detect weeds: cameras are increasingly used on spray equipment to spray only weeds instead of the entire field, but the data reporting process still shows the entire field being treated.

Several technologies are progressing to reduce herbicide usage, including:

- Robots and conventional spraying equipment equipped with optical technology to spot spray weeds in fallow fields instead of the whole field (referred to as green-on-brown) have high adoption rates. This reduces herbicide use in the non-cotton phase of the farm system
- Optical equipment to spot spray weeds in crops (referred to as green-on-green) is an emerging technology with early commercial machines now available in Australia
- Prototypes of green-on-green technology to till weeds (instead of spraying them) in crops have been tested and look promising.

Importantly, while the use and hazard of herbicides have increased, the actual risk to the environment remains low when pesticides are used as directed by the label.

⁸ Note ETL for bees does not include insecticides applied as a seed dressing to prevent pests eating the seed before it germinates. This data has not been available until recently. This will be added in future reporting, which is expected to increase the ETL for bees (but not the trend).



Click to view the
Workplace
Fact Sheet



WORKPLACE

CONTEXT

People are central to our success: how well we apply our human, social and intellectual resources determines how well our financial and natural capital is converted into cotton.

Our 'workplace' topic has been informed drawing on previous industry research and consultation with experts to define what most impacts Australian farm workplace sustainability:

- Keeping people
- Attracting people when needed
- Keeping everyone safe and appropriately skilled.

By defining what every farm workplace depends on, we were then able to identify what most impacts those objectives being achieved. This work has made Australian farm workplace impacts and dependencies clearer and sharpened our thinking on how to measure what matters.

RISKS & OPPORTUNITIES

Market and reputation: opportunity increasing over time.

- Increasing customer demand for evidence – beyond the presence of regulation – that human rights are met is an opportunity for all Australian agriculture to proactively measure and improve the already-high levels of human rights on Australian farms
- Evidence of safe and inclusive workplaces, and of strong environmental management, may make the industry more appealing for new employees and support community trust in cotton farming.

Resource efficiency: opportunity increasing over time.

- Keeping people on farms safe and welcome, encouraging a diversity of ideas, and retaining them on farms for longer will improve productivity, reduce costs, and support innovation.

Technology: opportunity increasing over time.

- Introduction of new technologies that have the potential to make the workplace safe and more rewarding for employees. Technology can also reduce stress. For example, a 2020 pilot study found making definitive spray timing decisions purely on science from the WAND inversion detection system could reduce grower stress from needing to make a judgement call on weather conditions.^{xxiii}

SUMMARY STRATEGY

Where we are now

Too many serious accidents.

Lack of collaboration across industries.

Growers know "people are our most important asset", but don't know how best to improve workforce capability.

Labour practices and workplace conditions not well known by the community.

Where we want to be

The Australian cotton industry is known for its culture of taking safety seriously.

Governments, industries and other stakeholders coordinate for farm workplace impact.

Every cotton grower knows the drivers of a high-performance cotton workplace.

The Australian cotton industry is regarded as an employer of choice because of its track record of providing transparent, proactive evidence that shows cotton farm workplaces exceed human rights expectations.

Actions industry is taking to reach our goals

- Advocating for harmonised workplace indicators and coordinated data collection across agriculture industries
- Researching the extension needed to drive farm workplace change
- Delivering skills and leadership training to cotton growers
- Providing work health and safety training programs through AgSkilled NSW and SmartAg Queensland.

Actions growers are taking now

- Meeting legal requirements for labour standards in the workplace, with extensive guidance from myBMP
- Investing time and money in farm safety and personal skills development.



PROGRESS

DEPENDENCY

Keeping cotton growers and core employees. This refers to farmers, farm managers and the core skilled employees farmers work hard to keep in the business permanently. A profitable cotton business helps farmers keep core employees year-round.

IMPACT DRIVERS

Availability of water; management style; investment in automation and technology; workplace culture; connection to community. Workplace and wellbeing research suggests these factors are more important for keeping core people on farms than the number of hours worked.

2024/25 INSIGHTS

Rainfall has been about average for the past three several seasons, and much higher than average for two years before that. This water availability supports the whole farm business, and other non-cotton farming businesses in the region.

While there is no new data for other impact drivers of keeping people, previous data shows:

- cotton growers have much higher-than-average connection to community
- adoption of automation technology has increased
- cotton farm businesses have the foundation for positive workplace culture, with 98 per cent agreeing it's important to them that workers feel a valued part of the business.

To support a strong workplace culture and appropriate management styles, CRDC has invested in a practical, on-farm program to grow confident leaders and capable teams and workplaces people want to stay in. Called SHIFT, the program provides evidence-based organisational tools designed to make sense in a farm workplace.

SHIFT was launched in 2025. > [MORE DETAIL: SHIFT RESOURCES](#)

Availability of water	2023	2024	2025
% above/below long-term average in traditional cotton-growing regions	+15%	+7%	-5%

Source: [BoM](#) calculation.

Connection to community	2018	2020	2021
Community involvement (mean 1-7)	4.4	5.3	4.1
Volunteering (mean 1-7)	4.4	5.6	4.4

Source: Regional Wellbeing Survey, University of Canberra.

Investment in technology	2018	2021	2024
Use of automation on farm (%)	35%	28%	46%

Source: CRDC Grower Survey: "Are you currently using any automation (including automation for irrigation) on your farm?"^{xxiv}

Workplace culture	2018	2024
% agree it's important workers feel valued	95%	98%

Source: CRDC Grower Survey: % agree or strongly agree "It is important to me that workers feel like a valued part of my farm business"^{xxv}



PROGRESS

DEPENDENCY

Attracting casual and contract employees.

Growing cotton involves seasonal peaks, especially around harvesting. These peaks are filled by a mixture of contractors (skilled people often with their own equipment and who generally live in regional Australia) and casual labour (often backpackers, students and other people from urban centres or overseas).

IMPACT DRIVERS

Human rights and environmental responsibility. These drivers are especially important for casual (eg backpacker or seasonal) employees. Evidence of having safe, inclusive workplaces will make cotton farms more appealing; environmentally responsible is a key driver of broader community trust.

2024/25 INSIGHTS

Whole of agriculture annual research into community trust shows trust **the cotton industry's perceived environmental responsibility is increasing but is closely tied to availability of water.** An ongoing priority is to communicate that water used for irrigation in Australia is regulated by governments, and show the work being done to maximise efficiency from every drop of water.

Previous data shows an increasing proportion of female and Indigenous employees in the industry, a balance of ages, and most cotton farms having plans to avoid discrimination.

No industry-scale data is currently available for most other aspects of human rights, such as fair pay, non-discrimination, no child labour, and avoiding exploitation of vulnerable workers. While Australia has extensive legislation to protect workers rights, an increasing number of stakeholders want evidence that human rights are upheld on Australian farms. In response, the industry is seeking ways to collect that data, ideally coordinated with governments and other agriculture industries for robust, consistent, and efficient collection.

Perceived environmental responsibility*	2021	2022	2023	2025
The cotton industry uses water responsibly	42%	NA	43%	47%
Cotton is committed to reducing GHGs	NA	NA	41%	42%
I trust cotton to use pesticides responsibly	NA	NA	61%	62%

*By the Australian community. Source: Voconiq community trust research. Per cent agree or strongly agree.

Diversity and inclusion	2011	2016	2021
Gender: % female	22	23	28
Age: % < 29 years	27	21	24
Age: % 30-49 years	42	41	35
Age: % >50 years	29	38	39
% Aboriginal or Torres Strait Islander	5.1	5.6	6.9

Source: ABS Australian Census

Absence of discrimination	2024
Presence of farm workplace bullying plan	63%
Presence of farm workplace harassment plan	63%
Presence of farm workplace discrimination plan	61%
Incidents of discrimination	NA

Source: CRDC Grower Survey: Does your business have a written or unwritten plan for bullying, harassment, discrimination (written or unwritten)^{xxvi}



PROGRESS

DEPENDENCY

Keeping everyone safe and appropriately skilled.

Making farm workplaces safer, largely by eliminating unnecessary risks and risk-taking, remains a priority. Ensuring farms have the skills needed to adapt to a changing climate and take advantage of new technologies will be important to maintain our human capital resources.

IMPACT DRIVERS

Training and culture.

We invest in skills and safety training to further reduce rates of injury and to give our people the future-proof skills they need.

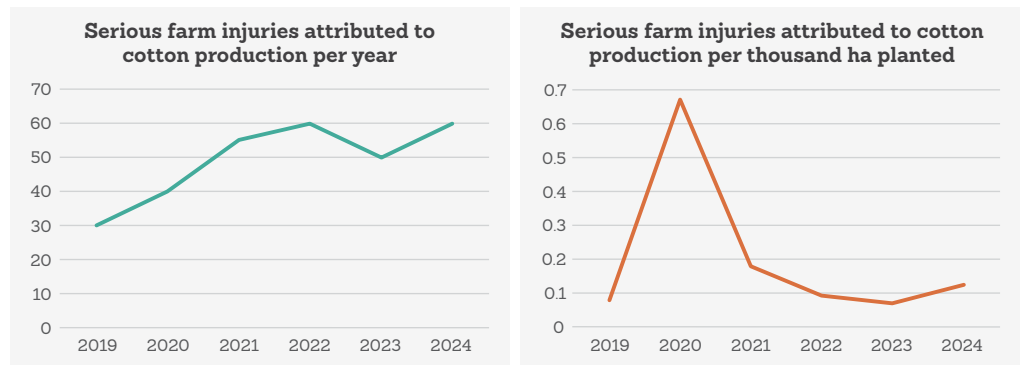
These include:

- the Upskilling Early Career Agriculturalists Project for those setting out on a broadacre agriculture career, supported by CRDC and the Grains Research and Development Corporation
- the [CRDC Cotton Course](#) to build knowledge and skills without traditional university requirements, delivered through the University of Sydney.

2024/25 INSIGHTS

The number of reported serious injuries attributed to cotton production have steadily increased since 2019.

When seen in context of the amount of cotton planted per year the number of injuries is relatively flat apart from a significant peak in the severe drought season of 2020. Higher rates of injury in farming have been linked to drought, potentially because of cumulative impacts of workplace stress, financial health of the farm, and smaller farm workforces seeing people complete unfamiliar tasks.^{xxvii}



Source: Ag Safety Data Net; Cotton Australia production data

However, serious injuries did increase in 2024, and the number of serious injuries per year and average annual fatalities in a workforce of about 7,000 people is too high.

This is not unique to cotton; most agriculture industries show a similar level of serious farm accidents, and serious injury claims numbers and frequency has increased across Australia in recent years.^{xxviii}

Taking new and impactful research and extension to address this trend needs to be a priority for the industry. Research of accidents from 2019 shows the need for work to address vehicle/machinery related fatalities, and serious injuries associated with mobile plant and transport, non-powered hand tools, falls, trips and slips on the same level and muscular stress.^{xxix}

The national agencies collecting statistics on deaths and injuries in agriculture define and collect data in different ways, making fatality and injury reporting difficult, inconsistent and often incomplete. The cotton industry's investment in the cross-sector [Rural Safety and Health Alliance](#) is helping to address this and improve access to data needed to manage farm safety risks. A current priority is [developing lead indicators of farm safety](#).

There is no new data for other aspects of keeping everyone safe and skilled.

Previous data shows:

- average wellbeing for cotton growers is relatively high, but this masks a significant proportion of cotton growers with low wellbeing while others had very high wellbeing.
- cotton growers reported higher psychological distress compared to other farmers
- cotton farm and gin workers are relatively highly educated compared to other farmers.

Wellbeing and mental health	2018	2020	2021
Global Life Satisfaction (mean 0-100)	77	74	64
Mental health (mean 6-30 psychological distress; lower is better)	12	14	12

Source: Regional Wellbeing Survey, University of Canberra

Skills	2011	2016	2021
% post-school qualifications	39%	49%	52%

Source: ABS Australian Census

Workplace support	2024
Presence of career development plan	57%

Source: CRDC Grower Survey: Does your business have a written or unwritten plan for performance and career development reviews (written or unwritten).^{xxx}



Click to view the
**Productivity
Fact Sheet**



PRODUCTIVITY

CONTEXT Farmers have sought to increase crop yields for thousands of years. The cotton industry takes the science of farming to a new level by investing heavily in research to increase yields, and working with innovative cotton growers to adopt research and new technologies. The aim of this investment is to help cotton growers produce more cotton with fewer inputs and less impact on the environment.

Better water, pest and nutrient management, new cotton varieties, appropriate tillage, and crop rotations are some of the factors that contribute to increasing yields over time. The five-year average irrigated yield of Australian cotton increased from 6.8 bales per hectare in 1993/94 to 11.2 bales per hectare in 2024/25^{xxxii}. We recognise it is important yield is not increased at the expense of environmental and social sustainability.

RISKS AND OPPORTUNITIES

Technology: opportunity increasing over time.

- Digital and autonomous technologies can reduce inputs and improve productivity, and make farm work more rewarding and interesting.

Reputation and market: opportunity increasing over time.

- Our aim of improving productivity within environmental and social boundaries is in line with increasing demand for sustainable intensification of agriculture^{9 xxxii}. Demonstrating this with evidence can support both our reputation and meet increasing demand for traceable, sustainable fibres.

Physical: risk and opportunity increasing over time.

- Increased extremes in temperature and rainfall may increase risks and opportunities, as noted in the GHG section.

SUMMARY STRATEGY

Where we are now

Yield is king. This well-used grower cliché acknowledges the importance of maximising output, but to stakeholders outside the industry it implies a focus on yield at all costs, which is not the case.

Where we want to be

Efficiency is king. The conversation has moved to optimising every input:

- profitability is maximised
- yield targets are met or exceeded
- natural and human capital is improved to support greater resilience.

Actions industry is taking to reach our goals

- Establishing an industry-owned data platform to deliver increased productivity through better farm decision-making, supported by innovative research to deliver better solutions
- Undertaking research to build resilience to an increasingly variable climate with limited water and reduced inputs.

Actions growers are taking now

- Optimising inputs
- Protecting their human and natural capital needed to grow cotton efficiently.

⁹ Sustainable intensification is defined as a process or system where agricultural yields are increased without adverse environmental impact and without the conversion of additional non-agricultural land.



PROGRESS

DEPENDENCIES

Favourable seasonal conditions. Water is normally the main limiting factor for cotton production; with limited water, limited cotton is grown. Hot conditions normally associated with dry seasons put further stress on cotton plants which can further impact productivity; unseasonally cold weather impacts cotton seedling growth and can reduce the amount of fruit produced by the plant.

IMPACT DRIVERS

Farm management practices. With seasonal conditions outside the control of growers, the practices chosen by individuals to grow cotton (including water efficiency, soil health, pest control and other agronomic decisions) have a major impact on productivity. This is in part determined by having access to technologies.

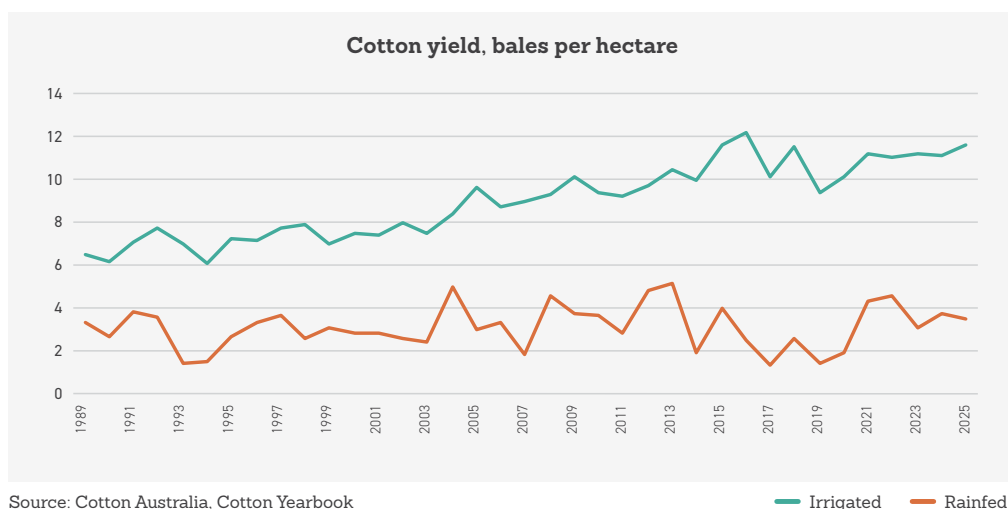
2024/25 INSIGHTS

Average 2025 irrigated cotton yield of 11.6 bales per hectare was slightly above the previous year and the five-year average yield.

Rainfed cotton yield of 3.52 bales per hectare was slightly below the previous year and the five-year average.

This graph shows irrigated cotton has a long-term trend of increasing yield – and less year-to-year volatility of yield – compared to rainfed. The five-year average irrigated yield of Australian cotton increased by 64 per cent from 1994 to 2025 compared to a 47 per cent average rainfed yield increase in the same period.^{xxxiii}

This highlights the important role of irrigation when water is sourced from a regulated system to produce sustainably grown food and fibre, as it is in Australia. Sustainably withdrawn water produces far more food and fibre than relying on rainfall alone, and smooths out the volatility that creates much uncertainty and stress in farming.





Click to view the
Economic
Contribution
Fact Sheet



SOCIO-ECONOMIC CONTRIBUTION

CONTEXT Australian agriculture makes a large contribution to the Australian economy, especially to regional Australia. The Australian cotton industry is no exception.

Australian cotton farms and gins are estimated to employ 7,222 people,¹⁰ not including contractors. Post-farm gate, the industry directly employs people in marketing, export and cotton classing, and supports jobs for researchers, agronomists, rural suppliers and other input providers.

RISKS AND OPPORTUNITIES

Reputation: opportunity increasing over time.

- Quantifying the economic contribution the cotton industry makes to regional economies and Australia more broadly is an important driver of community trust and acceptance.

External factors: risks increasing over time.

- By far the most impact on a cotton growers' ability to contribute to the economy is their profitability. Reducing inputs while achieving yield targets can improve profitability, but many factors are outside the control of farmers. These include input costs like fuel and fertiliser, exchange rates, interest rates and cotton prices.

SUMMARY STRATEGY



Where we are now

Community uncertainty about the benefits of the cotton industry to Australia.

Where we want to be

Australian cotton industry is recognised by decision-makers and influencers for the contribution it makes to rural economies and Australia more broadly.



Actions industry is taking to reach our goals

- Implementing RD&E to achieve CRDC's 2023-28 Strategic RD&E Plan goal of delivering \$1 billion in additional value to the Australian cotton industry across three pillars: Paddock, People and Planet.
- Developing and implementing an Australian Cotton Strategic Roadmap that enhances the sustainability, market access and value of Australian cotton.

Actions growers are taking now

- Prioritising support for local and regional economies
- Operating profitable farms to reinvest in productive and resilient whole farm business.

¹⁰ The cotton industry needs to make this estimate because Census data significantly under-represents employment numbers: farmers growing other crops or livestock may not choose 'cotton growing' as their primary occupation, and it is done in August when seasonal employment in cotton is lowest.



PROGRESS

DEPENDENCIES

Farm profitability.

Profitability is essential for all farmers. Profitable cotton growers generate more economic value for society than unprofitable ones and have more resilient whole-of-farm businesses. Importantly though, the industry does not encourage profitability at the expense of other sustainability topics – economic sustainability needs to be balanced with environmental and social sustainability.

Profitability is a function of many drivers; some are outside the industry's control (seasonal conditions, cotton prices, exchange rates, input costs) while others (yield, operating costs) can be influenced by growers.

IMPACT DRIVERS

Economic value generated.

The factors that influence profitability also impact gross cotton production revenues: seasonal conditions, global cotton prices, exchange rates, yield and operating costs. The factors that can be influenced are the areas industry invests in research and innovation.

Economic value distributed.

Multiple factors also influence where the cotton industry has an economic impact. The presence of vibrant local service centres is perhaps most important: these are more likely to have goods and services, have potential labour pools, and provide a hub to attract and retain people to farms.

2024/25 INSIGHTS

A decline in cotton prices meant the 2024/25 Australian cotton crop's gross value of production (delivered to gin) of \$3.1 billion was the same as the previous year, despite 12 per cent more bales being picked.

The five-year average value of production is also \$3.1 billion.

2024 research estimated on average, 67 per cent of gross revenues earned by irrigated Australian cotton farms flow back into the economy through purchase of goods and services, employee wages, taxes and payments to providers of capital.

> MORE DETAIL: DISTRIBUTION OF ECONOMIC VALUE IN THE COTTON INDUSTRY

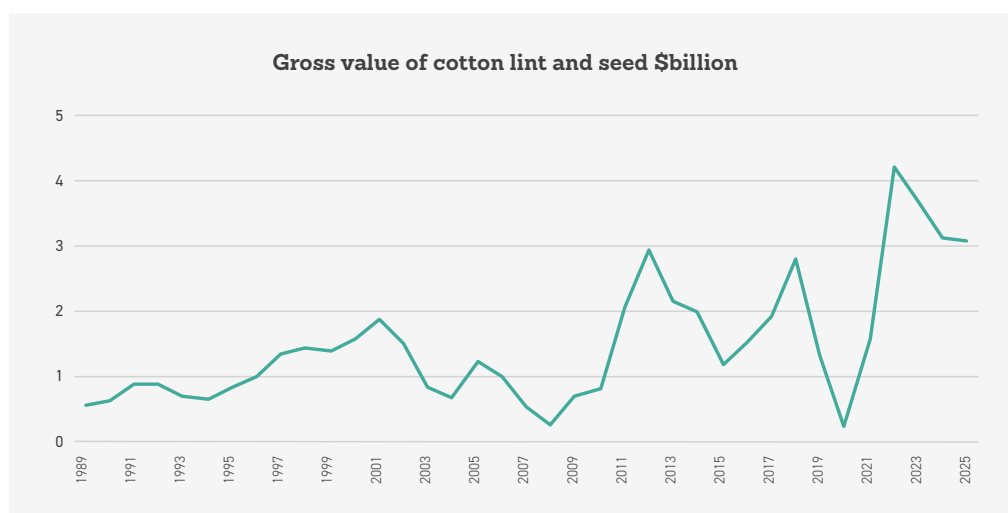
With irrigated cotton accounting for about 85 per cent of production, this means for the five years to 2025, irrigated cotton farms injected on average \$1.7 billion per year into the economy; the majority of this is likely to be in regional economies.

Cotton farming's total economic contribution would be higher when rainfed cotton production is added in; a lack of data for rainfed cotton businesses currently prevents this estimate being made.

Quantifying the economic value distributed to the economy is important new research that lets our stakeholders more clearly see the direct value Australian cotton growers provide to Australia.

Cotton growers support regional economies in particular:

- About 80 per cent of cotton grower business expenses are spent locally^{xxxv}
- The average Australian cotton farm has about six employees^{xxxvi}
- In 2021/22 the Australian cotton industry was estimated to directly employ 7,222 people on farms and in gins; when flow-on effects are considered that figure grows to 21,896 people^{xxxvii}
- Analysis of mixed farming operations shows irrigated cotton has a much higher return on assets managed than other crops, which provides greater whole-farm resilience and ability to manage through poorer seasons^{xxxviii}
- The Regional Wellbeing Survey reports cotton growers were much more likely than any other group to regularly volunteer.



Source: ABARES^{xxxiv}



Economic value generated \$b	2019	2020	2021	2022	2023	2024	2025
Gross value (cotton lint)	1.3	0.3	1.6	4.2	3.7	3.1	3.1

Source: [ABARES Agricultural commodities: March quarter 2026](#)

Economic value distributed \$m (irrigated cotton)	2019	2020	2021	2022	2023	2024	2025
Total	1,273	456	1,095	2,099	2,470	2,090	2,059
Operating costs	1,023	377	793	1,523	1,710	1,534	1,512
Employee wages and salaries	101	41	70	122	180	145	143
Payments to government / taxes	84	12	170	379	464	314	309
Payment to providers of capital	65	26	62	75	116	97	96

Source: Estimate based on commissioned research by [Boyce](#) on 2019–2023 financial year farm business data. Figures for 2024 and 25 have been extrapolated in proportion to 2019–23, and should be regarded as indicative only.

Other indicators of economic contribution	2017	2020	2021	2023
Proportion of cotton business expenses spent locally*	79	76	-	82
Average number of employees per farm*	11	5	7	6
Volunteering rate (mean 1-7)**	-	5.6	4.4	-

*Source: CRDC Cotton Grower Survey

**Source: Regional Wellbeing Survey

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- ii Cotton Australia, Australian cotton production forecasts. 5-year average 1990-1994 cf 2021-2025
- iii ABARES, [Agricultural Commodities Report March 2026](#)
- iv Textile Exchange, [Materials Market Report September 2024](#)
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- viii Voconiq, Australia, [Voconiq \(2025\) Community Trust in the Australian Cotton Industry](#)
- ix The 0.24% here is cotton's contribution to all Australian emissions. Calculated by industry using an updated estimate of cradle-to-port emissions by Francois Visser in 2019, based on average cotton production emissions 2021-2025 and the 2024 National Inventory Report (the latest at time of writing). This is an increase from 0.2% previously reported, likely due to larger crops in recent years than in the five years to 2019.
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- xxxiv ABARES, [Agricultural commodities: September quarter 2024 - Statistical tables - data tables XLS. Table 13](#)
- xxxv Average of CRDC Grower Survey business expenses spent locally = 79%. [2023 (82%), 2020 (76%), 2019 (80%) and 2017 (79%).]
- xxxvi CRDC, [2023 Grower Survey](#)
- xxxvii [ACIL Allen research, 2024](#)
- xxxviii AgriPath, Water, N and Rate of Return (unpublished research). 5-year analysis 2021 and 2022. From 2022 report: Both the 2021-22 and 5-year average ROAM for irrigation assets is higher than whole farm asset returns. Irrigation assets are making a significant contribution to whole farm profitability. High gross margin provides greater business resilience and the ability to manage through periods of lower cropping intensity due to low water allocations /availability.

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK

PLANET. PEOPLE. Paddock.



This Sustainability Report has been developed by the Sustainability Working Group on behalf of the Australian cotton industry.

We encourage you to provide feedback on how we can improve this Report or our management of sustainability.

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