COTTON AUSTRALIA

CRDC
COTTON RESEARCH AND DEVELOPMENT CORPORATION

AUSTRALIAN COTTON SUSTAINABILITY UPDATE 2021

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK

PLANET. PEOPLE. PADDOCK.

OUR QUEST TO IMPROVE OUR SUSTAINABILITY

Sustainability for the Australian cotton industry means creating environmental, economic and social value, while running profitable and efficient businesses. It also means being accountable to stakeholders for our actions and impacts.

As an industry, we have been quietly working to improve our sustainability for decades. We became the first Australian agricultural industry to commission an independent assessment of our environmental impacts in 1991 - a commitment we have continued each decade since. We are proud of our continuous improvements in many areas and recognise that more can be done in others. Managing sustainability, like growing cotton, is a complex and never-ending quest to improve. Our goal is to be a global leader in sustainable cotton production.

ABOUT THIS UPDATE

This update provides a summary of the Australian cotton industry's sustainability progress for the 12 months to 30 June 2021.

We have committed to delivering comprehensive sustainability reports every five years, commencing from 2014. In farming systems, where seasonal variations can make a single year look much better or worse than average, a five-year period gives a clearer picture of change over time.

Between the five-year sustainability reports, we have also committed to delivering concise annual updates like this to give a summary of actions, insights, and data where available.

For readers wanting more detail, links to online documents are provided throughout this update.

A data pack containing data sources, explanations of methodologies, pathways for improvement and more for each topic is also available.

> MORE DETAIL: AUSTRALIAN COTTON SUSTAINABILITY DATA PACK

The Australian cotton industry acknowledges Australia's Indigenous people as the traditional custodians of our country, and recognises their continuing connection to lands, waters and culture. We pay our respect to Elders past, present and emerging, and extend that respect to all Indigenous people.

COVER IMAGE

Closing the circle: Cotton textile products are naturally biodegradable, renewable and recyclable. The Australian cotton industry is trialling an innovative idea to recycle end of life cotton products back into to the fields that grow cotton. Adding shredded waste cotton fabric to soil could improve soil health and provide one scalable solution to textile waste.

> MORE DETAIL: RETURNING COTTON TEXTILE WASTE TO COTTON FIELDS

Photos throughout this update are provided courtesy of Cotton Australia, Ali Kuchel, Hayden Petty and Nigel Burnett.

ABOUT THE AUSTRALIAN COTTON INDUSTRY

Cotton is a renewable resource that is recyclable, biodegradable and 100 per cent natural. Used by civilisations around the world for thousands of years, cotton grows on a leafy green shrub in the same family as the hibiscus species.

After picking, cotton is sent to a gin where lint is separated from seeds. Each kilogram of cotton produces about 450 grams of lint and 550 grams of seeds. Lint is spun into yarn to make a wide range of fabrics. Australia is the fourth largest exporter of cotton lint in the world and produces very high quality cotton sought after by customers. There are no spinning mills in Australia; all lint is exported. Each kilogram of seed yields about 200 grams of cholesterol-free cotton seed oil used for cooking and food products, and about 800 grams of meal and hulls used for stock feed.

1 kilogram

OF AUSTRALIAN COTTON CAN PRODUCE...

5.3
T-SHIRTS

19
PAIRS OF SOCKS

1.1
PAIRS OF JEANS

Production matches annual water availability

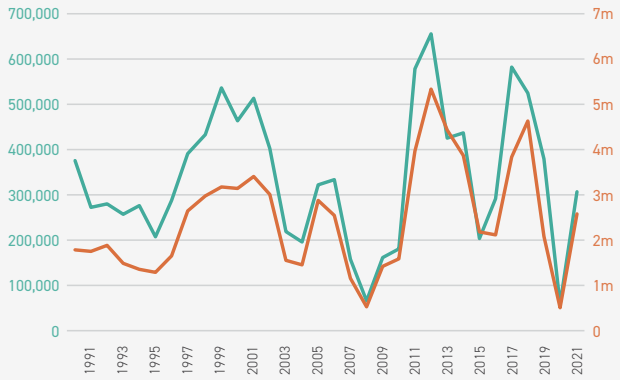
As cotton is an annual crop, growers adjust the area of cotton they plant each year to reflect changing seasonal conditions. As a result, the area of cotton planted and amount of cotton picked each year is closely tied to water availability. Cotton is grown mainly on family farms in inland eastern Australia.

2020/21 INSIGHTS

Following two years of severe drought, improved seasonal conditions in 2020/21 saw 271,739 hectares planted (about 17 per cent less than the five-year average) and 2.8 million bales picked (in line with the five-year average).

In recent years, cotton has started to be grown in northern Australia. From 1,000ha in 2016/17, 14,000ha was planted in 2020/21, representing about five per cent of the national area sown. Plans to build a cotton gin in Katherine, announced in 2021, are likely to see more cotton grown in northern Australia.

Australian cotton area & production
1989/90 - 2020/21



Source: Cotton Australia

An important contributor to the national economy

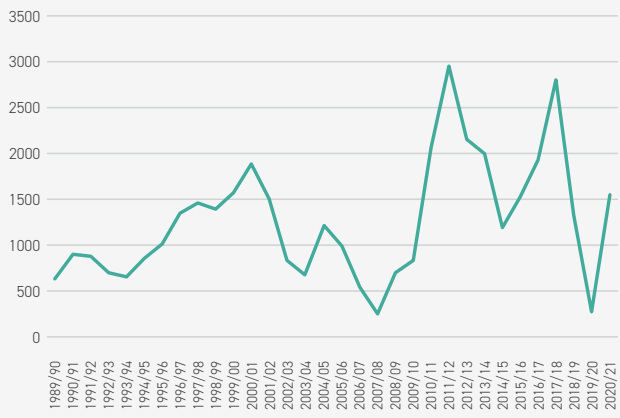
Income earned by cotton growers is used to support:

- Regional economies: more than 75 per cent of cotton grower business expenses are spent locally, and cotton farms employed an average of 6.5 staff in 2020/21
- Industry investment: 35 per cent of cotton growers hosted research trials on their farms in 2020/21, contributing an average of 19 hours and $5,000 per trial
- State and national economies: export income and taxes from cotton industry workers and businesses help pay for roads, schools, hospitals and other services right around Australia.

2020/21 INSIGHTS

Seasonal variation is clearly evident in recent years. The 2020/21 gross value of $1.6 billion was just below average; the drought-stricken 2019/20 season was the lowest in 37 years, and the coming 2021/22 season is forecast to be the highest on record due to high world prices and a large area planted.

Australian cotton lint & seed gross value
1989/90 - 2020/21

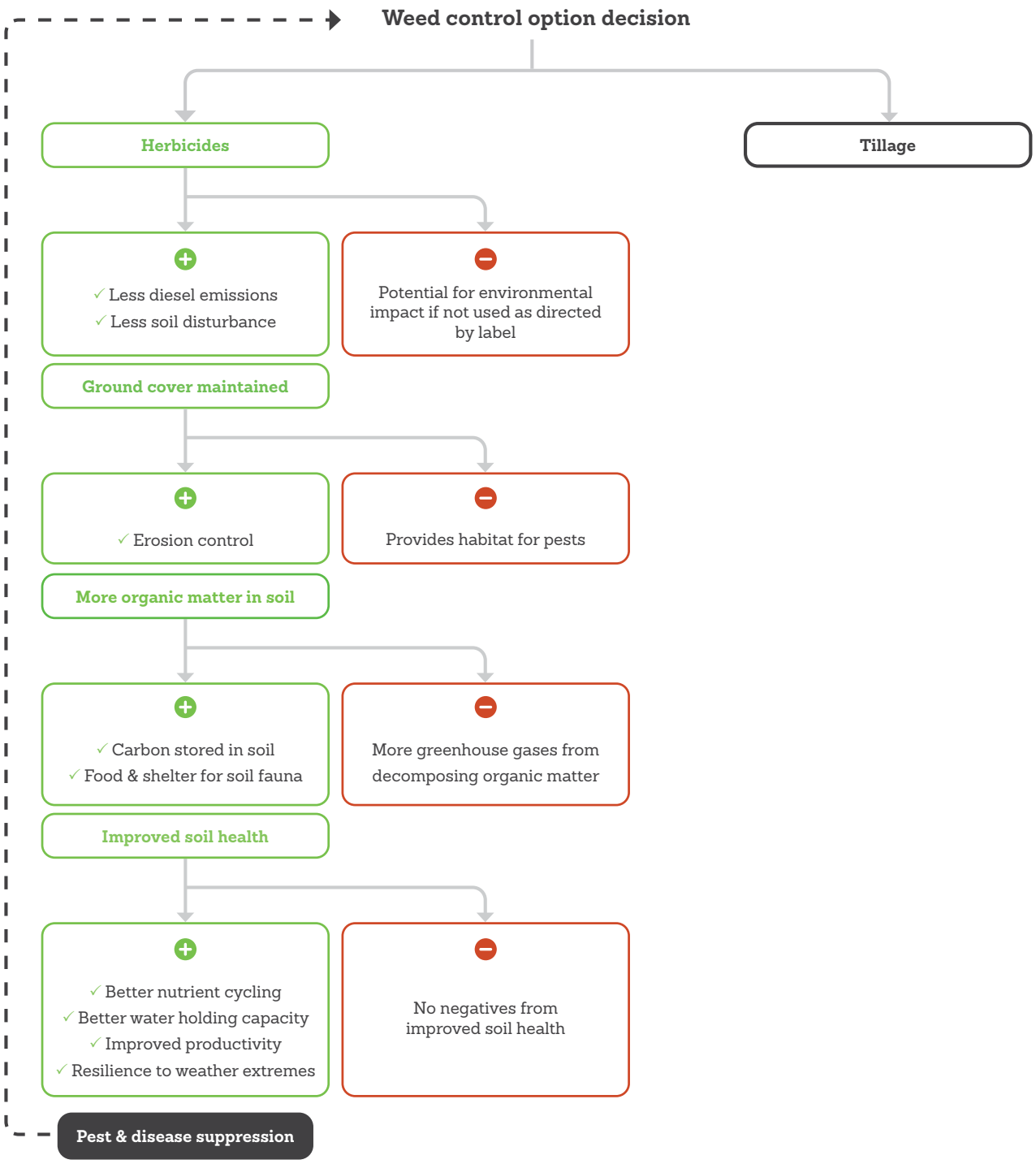


Source: ABARES

COTTON AND COMPLEXITY

Cotton farms are complex systems where most things are interconnected.

In a complex farming system, decisions can have a domino effect of positive and negative impacts on other parts of the system. This is demonstrated visually in the figure below. As just one example, most cotton growers choose to use herbicides to control weeds, instead of choosing to till the soil. In most cases, the positives of responsible herbicide use outweigh the negatives - but there will be cases where tillage is the better option. A complex system is never simple!



PLANET. PEOPLE. PADDOCK. AT A GLANCE

PLANET. PEOPLE. PADDOCK. is the Australian cotton industry's framework to achieve its vision of being a global leader in sustainable cotton production.

It guides work to set sustainability targets in the areas most important to industry and stakeholders, coordinate a whole-of-industry strategy to achieve these targets, and engage effectively with stakeholders on actions and progress. PLANET. PEOPLE. PADDOCK. is not a compulsory standard or a brand. It is a framework that recognises sustainability is an integral part of doing business, and provides a path for the entire industry to benefit from continually improving sustainability performance. > MORE DETAIL: FRAMEWORK OVERVIEW

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 do their bit. That is why each Australian cotton sustainability aspiration and draft target is aligned to a relevant SDG: by being guided in scope and ambition by the SDGs, the Australian cotton industry is aiming to play its part.

> MORE DETAIL: AUSTRALIAN COTTON AND THE SUSTAINABLE DEVELOPMENT GOALS

		TARGETED OUTCOMES	2020/21 SUMMARY	SDG ALIGNMENT
PLANET	Water	Continuous increase in the efficiency of water used for cotton irrigation, within sustainable river & ground water system limits.	• Water use efficiency improved • 48% less water now needed to grow a bale of cotton compared to 1993.	6 CLEAN WATER AND SANITATION
	Greenhouse gases	Contribute to the Paris Agreement's aim of a climate neutral world.	• Emissions per bale estimated to have reduced 6% from the previous year	13 CLIMATE ACTION
	Biodiversity	Native vegetation management in the cotton landscape is in line with regional priorities[1].	• 21% of an average cotton farm is remnant native vegetation	15 LIFE ON LAND
	Pesticides	Pesticide use supports optimal crop production while having no negative impact on human & environmental health.	• Insecticide hazard reduced • Herbicide hazard increased: more rain = more weeds	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
	Soil Health	Sustained cotton productivity growth by improving soil health.	• Soil health measures are being developed • 30% of growers use cover crops	2 ZERO HUNGER
PEOPLE	Wellbeing	Contribute to improved wellbeing of people living and working in cotton communities.	• Physical health and community involvement has increased • Mental health has decreased	8 DECENT WORK AND ECONOMIC GROWTH
	Workplace	Injury-free cotton farms, skills for innovative and modern agriculture, & a diverse workforce that is treated ethically.	• Better workplace data is a priority • Industry workplace strategy in development	3 GOOD HEALTH AND WELL-BEING
PADDOCK	Productivity	Increase Australian cotton yield and quality within sustainable environmental boundaries.	• Yield increased from previous two drought years, but remains below long-term trend	2 ZERO HUNGER
	Profitability	Growers have sufficient profitability to confidently re-invest in their business & community.	• No insights on 2021 profitability due to a data lag.	8 DECENT WORK AND ECONOMIC GROWTH

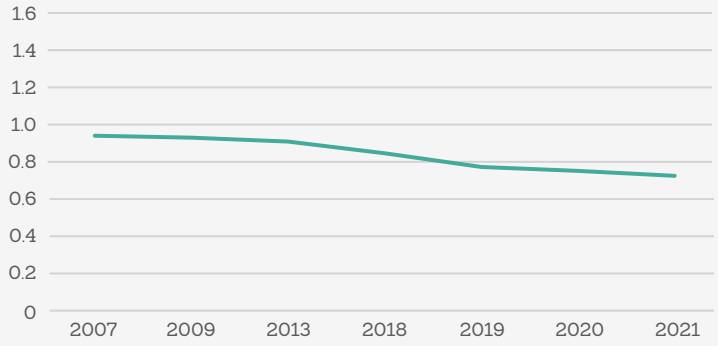
[1]The Australian cotton industry is working with NRM Regions Australia to explore if the cotton industry can align to regionally-specific biodiversity priorities.

WATER

DRAFT 5-YEAR TARGET:
Improve irrigated cotton water use efficiency by 12.5 per cent.

2020/21: Water use efficiency improved.
On track for draft target.

Gross production water use efficiency ML/bale



Source: NSW DPI research commissioned by CRDC. 2019, 2020 and 2021 figures are based on estimates for soil water use. Rainfall and applied water based on actual data.

CONTEXT

The relevant SDG target is to ensure sustainable withdrawals of freshwater and substantially increase water use efficiency.

The cotton industry's approach to water use directly aligns to this:

- In Australia, water is highly regulated to ensure sustainable withdrawals of freshwater. Governments set sustainable water use limits, where basic needs of the environment and humans must be met before any water is allocated for irrigation. Cotton is grown when water is available to farmers: each year, farmers choose what crop is best to grow with the water available to them.
- Cotton growers work to be as efficient as possible with rainfall and irrigation water made available to them. Australian cotton growers have substantially increased water use efficiency. From 1993 (when the industry began measuring cotton's water use efficiency) to 2021, the volume of water needed to grow a bale of cotton reduced by 48 per cent, or 2.5 per cent per year. Industry's draft target is to continue this trend of a 2.5 per cent improvement in water use efficiency per year.

2020/21 INSIGHTS

Water use efficiency continued to improve in 2020/21; the estimated 2020/21 Gross Production Water Use Index of 0.71 is 3.6 per cent less than the previous year. Together, improvements in plant breeding, reducing losses in storage and distribution, and more accurately applying water to match plant needs account for better water use efficiency. The very significant challenge is to continue this improvement after more than three decades of sustained water use efficiency gains.

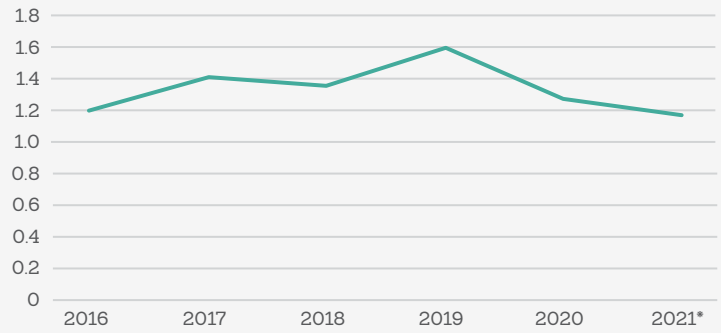
PLANET GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS

DRAFT 5-YEAR TARGET:
Under development

2020/21: Emissions per bale reduced.
Further reduction sought.

Farm GHG emissions: kg CO2e / kg lint



Source: Ekonomou A., Eckard R.J. (2021), University of Melbourne. **A Greenhouse Accounting Framework for cotton farms** (C-GAF) based on the Australian National Greenhouse Gas Inventory methodology. *Data for N use is sourced from CRDC grower surveys 2016-2020. 2021 N usage was calculated from a Cotton Consultants of Australia survey.

CONTEXT

Growing, ginning and transporting cotton to port is estimated to account for about 0.2 per cent of Australia's greenhouse gas (GHG) emissions.

The Australian cotton industry's ambition is to contribute to the Paris Agreement's aim of a climate neutral world. This means reducing the emissions from cotton production while sustaining carbon in the soil and vegetation on cotton farms. Research with other agriculture sectors is ongoing on how to accurately measure emissions and sequestration at an industry scale, and to account for cotton production emissions and carbon storage on farms that produce a range of food and fibre commodities. Targets will be developed when this methodology is agreed and baselines measured. Until then, work is continuing to reduce emissions and increase carbon storage.

2020/21 INSIGHTS

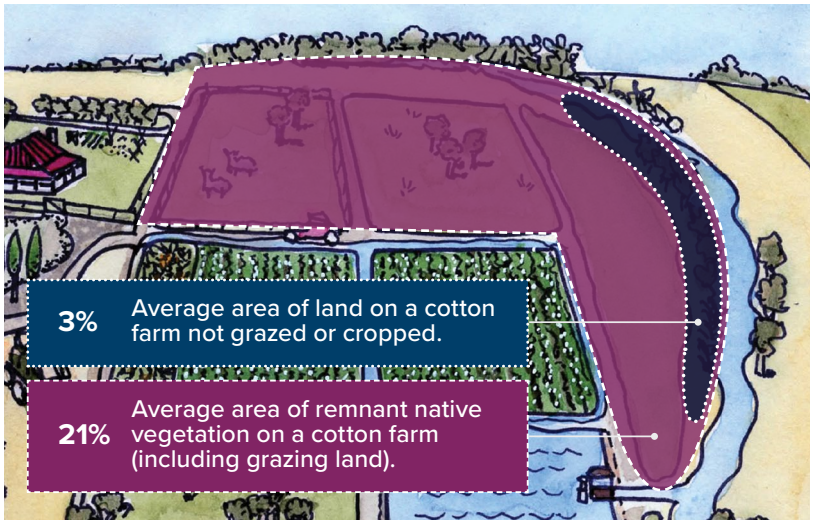
Nitrogen (N) is essential for plant growth, but N fertiliser also accounts for about 60 per cent of cotton production GHG emissions. Improving the efficiency of N use is therefore essential to reduce emissions. GHG emissions per bale are estimated to have reduced 6 per cent in 2021 compared to the previous season (and 26 per cent from 2019) due to an estimated slight decrease in N and an increase in productivity. However, due to the 2021 crop being almost five times larger than 2020, total emissions increased almost threefold to an estimated 621,212 t CO2-e.

The price of fertiliser increased significantly in the 2021/22 season. The cotton industry is looking to use this financial driver as part of ongoing extension efforts to encourage growers to more accurately match fertiliser applications to actual plant needs – which could decrease emissions further without impacting yield. This builds on the cross-sectoral, five-year More Profit from Nitrogen project led by CRDC with support from the Australian Government through the Rural R&D for Profit program, to improve nitrogen use efficiency and profitability.

BIODIVERSITY

DRAFT 5-YEAR TARGET:
Under development

2020/21: Mean proportion of cotton farm area managed for conservation steady at 3 per cent.



CONTEXT

In this context, 'Biodiversity' refers to native vegetation on a cotton farm. Soil biodiversity is addressed in the Soil Health topic, and aquatic biodiversity is managed through healthy terrestrial riparian vegetation and water quality in the Water topic. On average, about 21 per cent of the area of a cotton farm has remnant native vegetation (the majority of which is grazing land), and about three to four per cent of the area of a cotton farm is managed for biodiversity (ie, land not cropped or normally grazed). Native vegetation can benefit cotton growers. However, improving native vegetation condition on farms is slow, and can be hindered by many factors including drought, excessive grazing, cost, time, or lack of knowledge of what practices have the greatest impact in the regional landscape, such as the most appropriate species of trees to plant.

2020/21 INSIGHTS

In addition to individual grower work to manage their biodiversity, a partnership between Country Road, Landcare and the Australian cotton industry saw 34 hectares of land revegetated in 2020/21. The area of land covered by native vegetation is important, but so is the quality of the vegetation in that area, and the amount of connectivity it has across the landscape to provide corridors for animals to travel.

In 2020/21 industry began work on two important projects with the aim of increasing the positive impact of industry and grower investments in enhancing biodiversity:

1. Working with regional natural resource organisations to understand how the cotton industry and individual growers can contribute to regionally-specific biodiversity priorities
2. Commissioning behavioural research to better understand how to encourage growers to invest time and money in improving biodiversity in the cotton landscape.

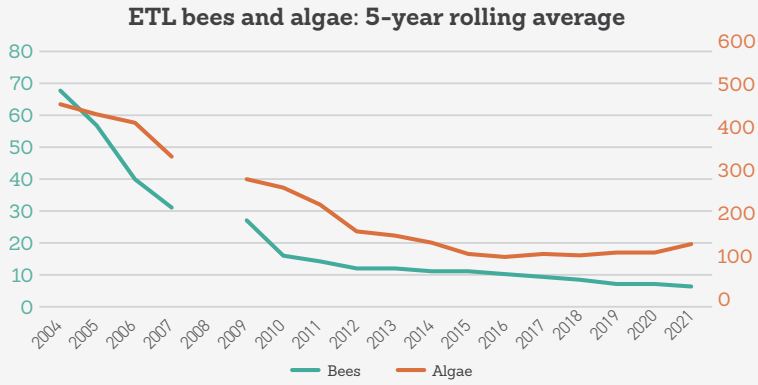
Results from these two programs will contribute to industry planning in 2021/22.

PESTICIDES

DRAFT 5-YEAR TARGET:
Reduce ETL for bees and algae by 5 per cent

2020/21: ETL for bees reduced.
On track for draft target.

2020/21: ETL for algae increased.
Not on track for draft target.



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

CONTEXT

Pesticides (including insecticides and herbicides) are part of a cotton grower's pest control toolbox called Integrated Pest Management (IPM). IPM is a management approach 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. Pesticide use has changed over time: insecticide volume reduced by 95 per cent per hectare between 1993 and 2019 as genetically modified cotton and IPM were introduced. In the same period, a move to less tillage to control weeds increased herbicide use by 20 per cent. However, volume does not paint a full picture of potential impact as it doesn't take into account the differing toxicity of pesticides. Environmental Toxic Load (ETL) is a measure of hazard that takes into account these differences in toxicity. A five per cent ETL reduction over five years indicates industry's desire to always minimise any impact from pesticides and will be very challenging to achieve with the significant reductions made over recent decades.

> MORE DETAIL: ENVIRONMENTAL TOXIC LOAD ANIMATED EXPLAINER

2020/21 INSIGHTS

While the ETL for bees decreased, the ETL for algae, an indicator species for herbicide use, increased. Researchers think this is due to a combination of a wetter season creating a higher volume of weeds than previous drought years, additional controls needed to manage a higher weed seed risk caused by farmers bringing fodder onto their farms during the drought, and increased use of residual herbicides to manage glyphosate resistance.

With 2021/22 a wetter season again – with more weeds as a result – the draft 2024 target for algae ETL will be very difficult to achieve. Potential options to reduce ETL for algae are seeking alternatives to residuals, and increasing adoption of optical sprayers for more precise spot-spraying of weeds, which are starting to come to market. These options need to be considered as part of other IPM tools growers have within the industry's resistance management strategy.

PLANET SOIL HEALTH

SOIL HEALTH

DRAFT 5-YEAR TARGET:
Under development

2020/21: 30 per cent of growers use cover crops

Healthy soil is alive. Principles to support soil life:

Protect soil habitat

Maximise soil cover
- 98% of growers conserve crop residues (2020)

Minimise disturbance
- 92% of growers use minimum tillage (2020)

Feed soil organisms

Maximise living roots
- 30% of growers use cover cropping (2021)

Maximise biodiversity
- Crop rotations standard practice

Source: CRDC grower survey, 2020 and 2021.

CONTEXT

Healthy soil is the starting point for productive agriculture and the foundation of all terrestrial life. 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.

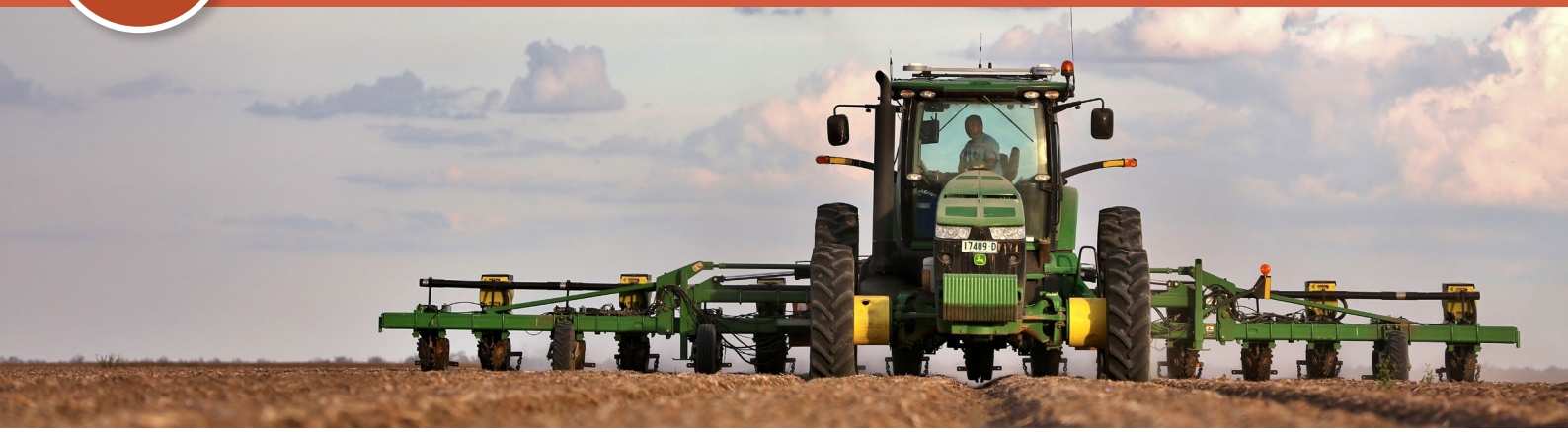
Soil health is the capacity of soil to function as a living system. This means the principles for improving soil health are to provide food and shelter to the living organisms within soil.

> MORE DETAIL: AUSTRALIAN COTTON SOIL HEALTH FRAMEWORK

2020/21 INSIGHTS

Soil health's complexity and regional differences makes it difficult to measure at an industry scale, and very difficult to boil down to a small number of indicators. In addition, there is no standardised approach to soil monitoring and evaluation at a national level. A National Soil Strategy was released in 2021 which, in future, will work to deliver nationally consistent key performance indicators and methods to measure and report soil conditions. The cotton industry supports this Strategy and will work with others to adopt a nationally consistent approach to measuring soil health, when available.

Until then, the industry plans to take a principles-based approach to soil health, rather than dictating specific practices to be used everywhere. Because soil health can vary across different geological conditions, ecosystems and land uses, appropriate practices to manage soil health can also vary. Australian cotton farmers use practices such as minimum tillage, controlled traffic farming, rotational crops, cover crops and optimising fertiliser application. All of these are consistent with the core principles of protecting soil habitat by maximising soil cover and minimising disturbance, and feeding soil organisms by maximising living roots and biodiversity.



WORKPLACE

SAFETY: DRAFT 5-YEAR TARGET:
Zero fatalities; reduce serious injuries by 30 per cent.

No new data to update progress

CONTEXT

From 2014 to 2019, the agricultural sector had one of the highest rates of fatalities and serious injury in Australia. During this period, 399 people lost their lives on Australian farms, including six on cotton farms. On average, 38 people per year also had a serious injury in the same period on cotton farms.

2020/21 INSIGHTS

In 2020/21, the cotton industry and other agriculture sectors continued to contribute to the Rural Safety and Health Alliance, to improve data collection and better coordinate investments in safety. Cotton Australia and CRDC also formed a Workplace Health and Safety committee, including NSW and Queensland government representatives, to better collaborate on safety issues.

WORKPLACE

DIVERSITY AND TRAINING: DRAFT 5-YEAR TARGET:
Draft targets under development.

No new data to update progress

CONTEXT

Measures for skills and diversity are currently sourced from the Census. The most recent Census data (2016) gives insights into the diversity of cotton farming and ginning employees. In 2016, 49 per cent of the on-farm and gin workforce had tertiary qualifications, 23 per cent were female and 5.5 per cent of Aboriginal or Torres Strait Islander origin.

2020/21 INSIGHTS

The Australian Cotton Workforce Strategy is currently being updated, including for northern Australia. When complete, this strategy will inform targets for diversity and skills, and pathways for reaching them.

The cotton industry has collaborated with the grains, horticulture, viticulture and rice growing industries to deliver a government-funded and industry-led workforce development strategy called AgSkilled in NSW. Discussions to collaborate on a similar program in Queensland are ongoing.

Sourcing regular and accurate workforce data is a challenge in agriculture. The cotton industry currently commissions research into safety data, and uses Census data for diversity and training (which gives an incomplete picture of the industry, as it is conducted only every five years, and is done in August when seasonal employment in cotton is low). Cotton is working with other sectors to collaboratively improve agricultural workplace data quality.

WELLBEING

DRAFT 5-YEAR TARGET:
Contribute to a coordinated wellbeing strategy with other stakeholders for cotton regions by 2024.

> **Consultation with other stakeholders is planned to begin in 2021/22.**

Cotton Growers	2018	2020
Global Life Satisfaction, mean 0-100 (higher is better)	77.3	74.3
Physical health, % reporting very good or excellent health (higher is better)	34.4	80.6
Mental health, mean 6-30 Kessler 6 psychological distress scale (lower is better)	12	14.2
Community wellbeing, mean 1-7 (higher is better)	5	5.8
Community involvement, mean 1-7 (higher is better)	4.4	5.3

CONTEXT

'Wellbeing' is defined by the University of Canberra's Regional Wellbeing Survey as being a state in which a person can realise their own potential and contribute to their community. This is a complex topic: wellbeing is influenced by a combination of physical, mental, financial, social and other factors. This complexity means no single organisation, or no single industry, is responsible for the wellbeing of individuals in a community.

The cotton industry plans to work with other stakeholders (such as government, other industries, communities and individuals) across cotton growing communities to understand what drives wellbeing, and contribute to a collaborative approach to improve it. With a strategy in place, the cotton industry can then understand how it can best contribute to the wellbeing of people in cotton communities.

2020/21 INSIGHTS

In the 2020 Regional Wellbeing Survey, cotton growers reported a significant increase in physical health when compared to 2018, and an increase in community involvement. On the downside, growers reported small decreases in general life satisfaction and mental health. The cotton industry is working with the Regional Wellbeing Survey to understand the reasons behind these numbers (for example, the survey was conducted over summer, which is a particularly stressful time for growers irrigating cotton crops or hoping for rain).

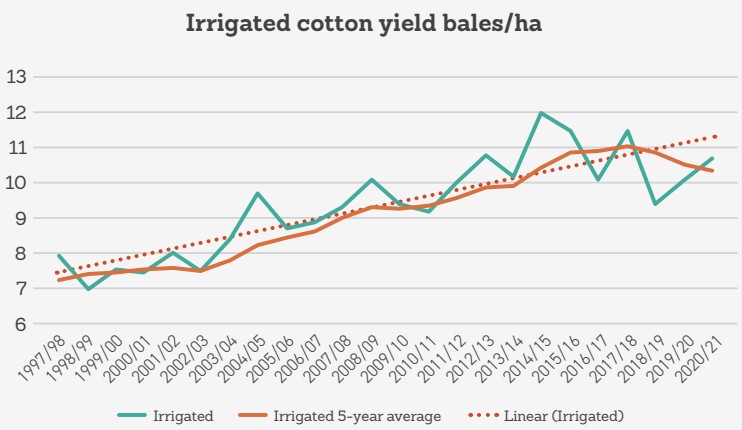
In 2021/22, the industry will begin consulting with growers and local stakeholders to understand how to work collaboratively to improve wellbeing.

PADDOCK PRODUCTIVITY

PRODUCTIVITY

DRAFT 5-YEAR TARGET:
Increase irrigated cotton yield by 12.5 per cent.

2020/21: Yield increased.
Not on track for draft target.



CONTEXT

The cotton industry invests heavily in research to increase yields, and works with growers to adopt research and new technologies. The industry's aim 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 7.4 bales per hectare in 1998/99 to 10.9 bales per hectare in 2018/19. The draft target of a 12.5 per cent increase mirrors the water use efficiency draft target: the industry recognises the importance of yield not increasing at the expense of environmental and social sustainability.

2020/21 INSIGHTS

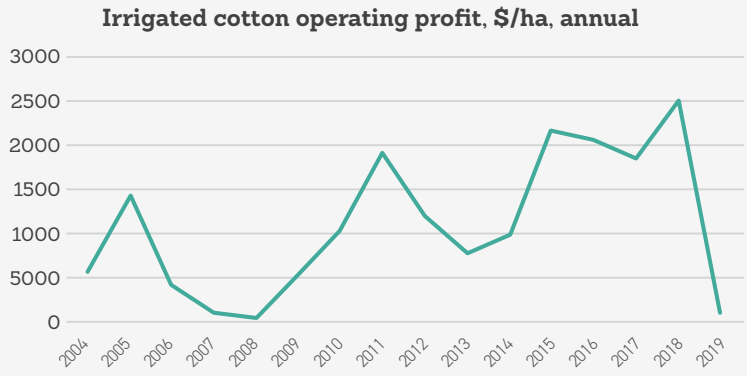
Average irrigated yield was 10.7 bales per hectare in 2020/21. This and the previous two seasons' drought-affected yield have taken the five-year average well below the trendline of yield increases. At this stage, the 2024 five-year average target of 12.4 bales per hectare will not be reached unless the next three seasons produce yields well above the long term trend.

PADDOCK PROFITABILITY

PROFITABILITY

DRAFT 5-YEAR TARGET:
No target will be set.

No data for 2020/21



CONTEXT

Profitability is a fundamental sustainability indicator for growers. Profitable cotton growers can invest in the technologies and practices needed to adapt to a changing environment and market. They can also contribute to local communities, economies and the environment. Profitability can vary greatly between seasons: the 2017/18 record average operating profit for cotton was followed by the lowest in 11 years.

Many factors influence the profitability of cotton production. These include seasonal conditions, global cotton prices, exchange rates, yields and operating costs. While seasonal conditions, exchange rates and cotton prices are outside the control of the industry, key drivers of profitability in the top 20 per cent of growers are higher yields and lower expenditure per hectare on costs such as water pumping and labour.

2020/21 INSIGHTS

There is a lag on reporting profitability data due to the timing of the crop. The crop first has to be processed before income can be accurately calculated. Some bales from the 2020/21 crop, harvested predominantly between March and July 2021, were still being ginned in early 2022.

A target is not planned for this sustainability topic for three reasons. First, each farm business will have a different view on what is an appropriate level of profitability or rate of return on their capital. Second, it's important short-term profitability increases are not encouraged at the expense of other sustainability topics. And third, many of the factors that impact profitability are outside the control of growers.

HOW THE AUSTRALIAN COTTON INDUSTRY MANAGES SUSTAINABILITY

Strategy

The Australian cotton industry's strategy to be a recognised global leader in sustainable cotton production has three pillars:

1. **Embed** the systems and culture needed to support continual sustainability improvement.
   > MORE DETAIL: GOVERNANCE SECTION (ON RIGHT)
2. **Evidence** to demonstrate credible progress, to make informed decisions, and to assess impacts.
   > MORE DETAIL: INDICATOR & TARGET SELECTION
3. **Engage** frequently and transparently with internal and external stakeholders.
   > MORE DETAIL: STAKEHOLDER ENGAGEMENT

Governance

The Australian cotton industry has formed a Sustainability Working Group (SWG) to coordinate its sustainability work. The SWG is comprised of industry representatives from Cotton Australia, CRDC, CottonInfo, *my*BMP and the Australian Cotton Shippers Association. The SWG reports to the Boards of Cotton Australia and CRDC.

Risk and opportunity management

Each quarterly SWG meeting includes a scan of potential risks and opportunities. The SWG assesses emerging issues for materiality, and considers the progress of existing actions to achieve targeted sustainability outcomes. If new or corrective actions are needed, these are discussed with key personnel in the industry's well-established programs for research and development, extension, adoption, and policy.

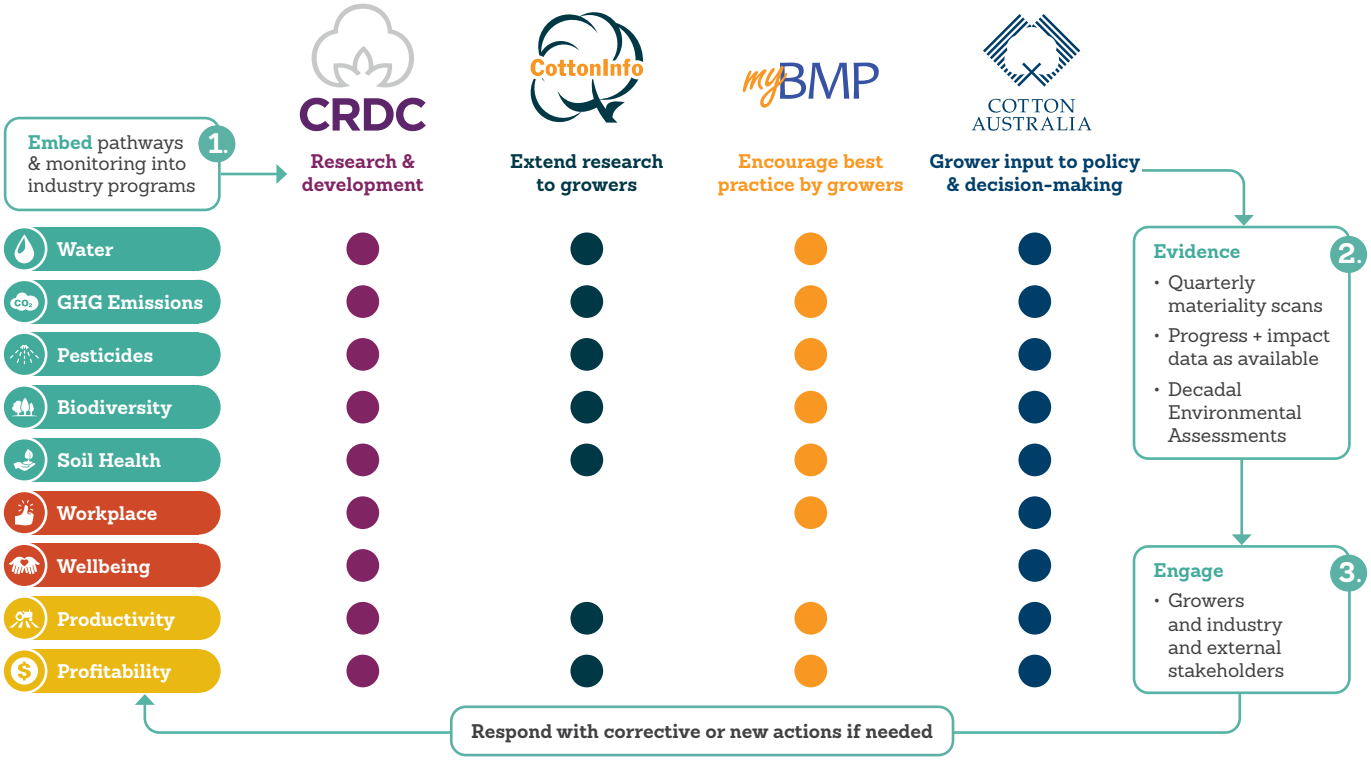
2020/21 INSIGHTS

HUMAN RIGHTS

Human rights has not been part of PLANET. PEOPLE. PADDOCK. because strong Australian legislation makes the likelihood of violations low. However, the global textile industry is increasingly looking for evidence of the absence of labour abuses, even in countries with legislative protections. Industry is now investigating if and how this data can be collected.

INDEPENDENT ENVIRONMENTAL ASSESSMENT

In 2020/21, CRDC issued a tender for cotton's fourth decadal independent Environmental Assessment. This major study is taking place in 2021 and 2022. Like previous assessments, this advice will be used to inform the industry's decisions on how to improve environmental management, and to demonstrate the industry is working to meet community expectations.



Operating environment and outlook

The Australian cotton industry needs to manage what impacts Australian cotton production now, and what is likely to impact the industry in future. A summary of this is below.

	OPERATING ENVIRONMENT 2020/21	OUTLOOK: 2021/22	OUTLOOK: TO 2029	FUTURE SUSTAINABILITY PRIORITIES
PLANET	Severe drought for part of 2020, continuing from 2019. However, enough rain fell in the second half of 2020 to see an area of cotton a little below average planted.	Widespread rainfall in March 2021 increased the availability of water for the 2021/22 crop: a record crop is forecast. Increasing emphasis will be given to accurately measuring and valuing natural capital, especially soil and native vegetation. The industry's fourth decadal independent assessment of its environmental performance will be undertaken in 2021/22. Findings will help inform industry decision-making.	Climate change may have positive and negative effects on cotton production. Increased CO2 and higher temperatures may increase yield in well-watered crops. However, reduced inflows to rivers, extreme weather events, and the impact of higher temperatures on plant stress are all likely negative impacts. Contributing to the Paris Agreement to reduce climate change impacts will be essential. There will be continued pressure to preserve native vegetation and reduce the use of pesticides. The National Soil Strategy will see an increased emphasis on all farmers being managers of soil.	• Reduce greenhouse gas emissions and adapt to a changing climate. • Strive to meet draft targets: continue to balance environmental sustainability with efficient cotton production. • Source more accurate, timely industry-scale data; this will be used for reporting, and to build an evidence base for growers of the impact of differing practices on natural capital. • Collaborate with stakeholders to make it easier for farmers to source information and help to improve natural capital.
PEOPLE	COVID-19 travel restrictions reduced the availability of seasonal labour.	COVID-19 disruptions are likely to continue.	Digital technologies and automation will be increasingly common. Building a skilled and resilient workforce – in collaboration with other agriculture sectors – will be essential.	• Source more accurate, timely industry-scale workplace data. • Achieve health and safety targets.
PADDOCK	Cotton prices 2% higher than the five-year average: 257c/kg	Higher cotton prices forecast: 337c/kg (ABARES)	Global cotton consumption forecast to increase 1.1 per cent per year to 2029/30: increasing Australian cotton export opportunities but also greater competition from Brazil, India and the US (Rabobank).	• Continue to balance environmental and social sustainability with efficient cotton production.

AUSTRALIAN COTTON SUSTAINABILITY FRAMEWORK

PLANET. PEOPLE. PADDOCK.

COTTON AUSTRALIA

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This Sustainability Update 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 our reporting or management of sustainability.

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