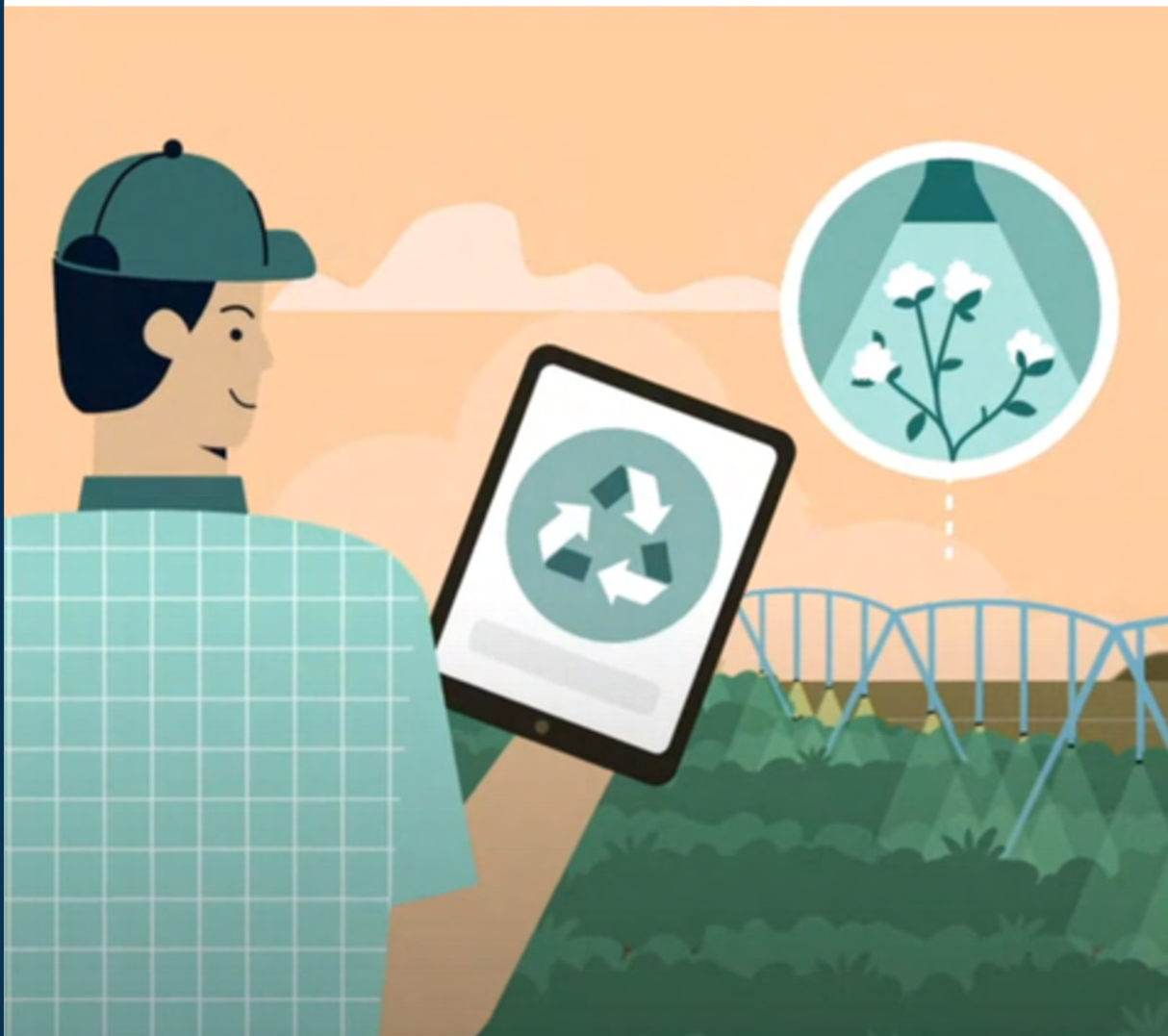


# Working with Data

## Australian Cotton Production



**Lesson & Activity Guide**  
**Years 7 to 10**  
**Design and Technologies,**  
**Geography and Science**

# Working with Data - Australian Cotton Production Overview



COTTON AUSTRALIA

Primary Industries Education Foundation Australia

## Lesson Objective

Students will explore the importance of data collection, analysis, and data-driven decision-making in the food and fibre industries, with a focus on the Australian cotton sector. They will engage in tasks that involve creating and analysing graphs and tables to interpret industry data, identify patterns, trends, relationships. Students will analyse anomalies, and understand the role of growers, government, and other stakeholders in data collection.

## Lesson Overview

**Activity 1** - Data and its Role in the Australian Cotton Industry (10 mins)

**Activity 2** - The Australian Cotton Data Dashboard (30 mins)

**Activity 3** - SataCrop Map Quest (20 mins)

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## ATTRIBUTION, CREDIT & SHARING



This resource was produced by Primary Industries Education Foundation Australia (PIEFA) in collaboration with Cotton Australia. Primary Industries Education Foundation Australia's resources support and facilitate effective teaching and learning about Australia's food and fibre industries. We are grateful for the support of our industry and member organisations for assisting in our research efforts and providing industry-specific information and imagery to benefit the development and accuracy of this educational resource.



While reasonable efforts have been made to ensure that the contents of this educational resource are factually correct, PIEFA, and Cotton Australia do not accept responsibility for the accuracy or completeness of the contents and shall not be liable for any loss or damage that may be occasioned directly or indirectly from using, or reliance on, the contents of this educational resource.



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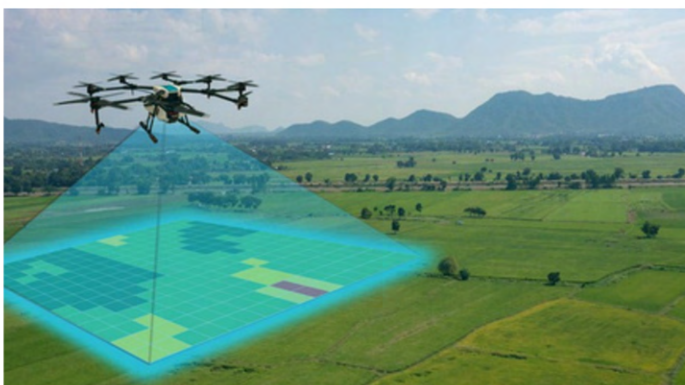
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### Australian Curriculum Content Years 7-10

#### Design and Technologies

- Analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments (AC9TDE8K01)
- Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures (AC9TDE8K02)
- Analyse how food and fibre are produced in managed environments and how these can become sustainable (AC9TDE8K04)
- Analyse how people in design and technologies occupations consider ethical, security and sustainability factors to innovate and improve products, services and environments (AC9TDE10K01)
- Analyse the impact of innovation, enterprise and emerging technologies on designed solutions for global preferred futures (AC9TDE10K02)
- Analyse and make judgements on the ethical, secure and sustainable production and marketing of food and fibre enterprises (AC9TDE10K04)



#### Science

- Select and construct appropriate representations, including tables, graphs, models and mathematical relationships, to organise and process data and information (AC9S7I04, AC9S8I04)
- Select and construct appropriate representations, including tables, graphs, descriptive statistics, models and mathematical relationships, to organise and process data and information (AC9S9I04, AC9S10I04)
- Analyse data and information to describe patterns, trends and relationships and identify anomalies (AC9S7I05, AC9S8I05)
- Analyse and connect a variety of data and information to identify and explain patterns, trends, relationships and anomalies (AC9S9I05, AC9S10I05)

#### Geography

- The effects on environments of human alteration of biomes to produce food, industrial materials and fibres (AC9HG9K02)
- Causes and effects of a change in an identified environment at a local, national or global scale, and strategies to manage sustainability (AC9HG10K04)
- Collect, represent and compare data and information from primary research methods, including fieldwork and secondary research materials, using geospatial technologies and digital tools as appropriate (AC9HG9S02, AC9HG10S02)

# Working with Data - Australian Cotton Production

## Background Information

Page 1 of 2



### The Role of Data in Australian Food and Fibre Production and the Cotton Industry

#### What is Data?

Data refers to information collected through observations, measurements, experiments or automated systems. This data is typically stored on electronic devices or stored remotely by a service provider in the 'cloud' for later use and analysis.

In the food and fibre industries, data includes information on soil quality, weather patterns, crop yields, water usage, pest and disease monitoring, and market trends. Data can be collected on a large scale across large areas of land, such as the whole of Australia, or an entire state or territory, as well as on a much smaller scale by individual producers or growers. By analysing and interpreting data, producers and agribusinesses can make data-informed decisions to optimise resource use, reduce costs, increase production and enhance economic, environmental and social sustainability.

#### Data in the Australian Cotton Industry

The Australian cotton industry is highly data-driven, using technology for collection (sensors, satellites, drones) and analysis of data to enhance production efficiency, sustainability and profitability. By using real-time monitoring via live data feeds, precision technologies such as GPS, sensors, drones, and robotics, and predictive analytic software, cotton growers can produce higher yields with fewer resources.

#### Two data platforms supporting the industry include:

- **Australian Cotton Data Dashboard** (<https://www.cottondata.com.au/>)
- **SataCrop** (<https://cottonaustralia.com.au/news/prevent-spray-drift-with-new-crop-mapping-technology-satacrop> and <https://satacrop.com.au/>).

In the Australian cotton industry, data collection integrates various sources of data to support growers in making informed decisions. According to Cotton Australia (2023), growers gather data through on-farm monitoring, industry-wide research, and government sources. This comprehensive data collection encompasses metrics such as production volumes, yield rates, quality assessments, and social and environmental sustainability indicators. The [Australian Cotton Data Dashboard](#) illustrates this by consolidating over 70 datasets from these diverse sources, providing a user-friendly platform for growers and other stakeholders, allowing the Australian cotton industry to open and transparent about its performance. By analysing data on water usage, soil health, and pest management, growers can make evidence-based decisions that improve crop yields, optimise resource use, reduce costs and increase sustainability.



# Working with Data - Australian Cotton Production

## Background Information

Page 1 of 2



**SataCrop** is a data platform used to mitigate the risk of spray drift – defined by the Australian Pesticides and Veterinary Medicines Authority (2024) as the movement of spray droplets of a pesticide outside of the application site during or shortly after application. SataCrop does this by allowing operators to understand where sensitive crops are, such as cotton, that might be damaged by the pesticides sprayed. SataCrop is also beneficial to apiarists who move bee colonies to different locations during the season.

The SataCrop tool is an industry initiative developed by Cotton Australia and Precision Cropping Technologies. SataCrop has the ability to map all crop types, including cotton, grains and tree crops. Growers can log in and plot the location of fields they have planted with different crops each season. Other producers and spray contractors can review the site when planning spray applications to see the location of potentially sensitive neighbouring crops. This, coupled with vigilance around spray conditions, wind directions, and application, helps reduce the adverse effects of spray drift.

As local and global markets increasingly demand transparency and sustainability, having robust data available to all stakeholders allows Australian cotton to maintain its competitive edge and meet the expectations of consumers and others along the supply chain. As data analytics and artificial intelligence (AI) continue to evolve, the role of data in food and fibre industries will become even more critical in addressing challenges such as climate change, weather extremes, resource scarcity, and market fluctuations.



[The Australian Cotton Data Dashboard](#) and [SataCrop](#) provide a vast amount of data that may be used in a variety of ways in the classroom.

The student activities provided show a small number of ways this data can be used to support student learning. The student resource is divided into three activities and may be used independently of each other or provided to students as a whole to work through at their own pace, as all instructions are provided on each activity worksheet.

# Working with Data - Australian Cotton Production Resources & Equipment

1. Digital devices
2. Highlighters, scissors, and glue
3. Student Resource
  - a. **Worksheet 1 – Data and its Role in the Australian Cotton Industry**
  - b. [Explained: Water allocations and cotton](#) (1:18)
  - c. **Worksheet 2 – The Australian Cotton Data Dashboard**
  - d. [Australian Cotton Data Dashboard](#)
  - e. [SataCrop](#)
  - f. **Worksheet 3 – SataCrop Map Quest**
  - g. [Reducing Herbicide Spray Drift](#)

## Additional Resources

- [Digital foundations for agriculture strategy](#) (Australian Government 2022)
- [Australian cotton and the digital agriculture revolution – Google Arts & Culture](#)
- [World First Data Dashboard launched to transparently report on Australian cotton Cotton Australia | Spraydrift and SataCrop](#)



# Observe label directions for minimum and maximum droplet size. Water rates may need to be modified with increased droplet sizes.

***Spray it right or lose the right***

# Working with Data - Australian Cotton Production

## Lesson Guide

### Activity 1, 2 & 3



COTTON  
AUSTRALIA



#### Activity 1 – Data and its Role in the Australian Cotton Industry

Students will learn about the role of data in agriculture, focusing on data in the Australian cotton industry.

- Distribute **Worksheet 1** – Data and its Role in the Australian Cotton Industry.
- Ask students to read through the worksheet, highlight key information and follow the instructions provided, to cut out the statements on page one, sort them, and paste each one in the appropriate section on page two. (Answers page 8)
- Discuss answers with students once questions have been completed.

#### Activity 2 – The Australian Cotton Data Dashboard

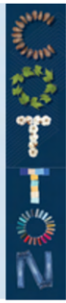
Students will engage in various tasks involving the creation and analysis of graphs and tables to interpret data, identify patterns, trends, relationships, and anomalies, and use data available to stakeholders in the Australian cotton industry via the Australian Data Cotton Dashboard. With a vast range of available datasets, this activity offers great potential for adaptation and extension to suit diverse student abilities and interests.

- Distribute **Worksheet 2** – The Australian Cotton Data Dashboard and provide students with access to digital devices.
- Instruct students to access [The Australian Cotton Data Dashboard](#) on their digital devices to follow the instructions to answer each question on the worksheet. (Answers page 9)
- Discuss answers with students once questions have been completed.

#### Activity 3 – SataCrop Map Quest

Students will conduct an inquiry-based map quest with the SataCrop digital platform that uses GIS and satellite imagery to enable producers to be better informed of the proximity of sensitive crops before spraying herbicides to prevent spray drift. Students will explore the platform to answer geographical tools and skills questions whilst using real-world food and fibre data and industry information.

- Distribute **Worksheet 3** – SataCrop Map Quest and provide students with access to digital devices.
- Instruct students to access [SataCrop](#) on their digital devices and follow the instructions to answer each question on the worksheet. (Answers page 10)
- Discuss answers with students once questions have been completed.



# Working with Data - Australian Cotton Production Answers

## Activity 1 – Data and its Role in the Australian Cotton Industry

### Worksheet 1 – Data and its Role in the Australian Cotton Industry

#### Water use efficiency

- The myBMP (Best Management Practices) program encourages growers to collect data for improved water management.
- Data from remote sensing soil moisture probes help cotton growers optimise irrigation and reduce water use.
- Real-time weather data ensures water is applied at the right time to optimise production and reduce water use.

#### Crop management and yield prediction

- Growers can optimise seeding rates and fertiliser applications for increased yields using their own data to inform decision-making.

#### Soil health and nutrient management

- Soil testing and nutrient mapping provide insights into soil fertility, enabling efficient fertiliser use.

#### Pest and disease control

- Satellite imagery is used to provide spatial data, and growers log intended pesticide applications to protect sensitive crops and prevent spray drift (the movement of spray droplets of a pesticide outside of the application site during or shortly after application).

#### Sustainability and environmental monitoring

- The cotton industry uses satellite data to identify the types of biodiversity found in buffer zones next to waterways and remote sensing.
- Blockchain (a decentralized database across multiple computers) and digital tracking systems provide transparency for sustainable cotton certification – Better Cotton.
- BeeConnected is a free app and website that helps producers and beekeepers communicate about hive locations and crop protection activities to reduce the risk of pesticide exposure to bees and support sustainable farming practices.



# Working with Data - Australian Cotton Production Answers - continued



## Activity 2 – The Australian Cotton Data Dashboard

### Worksheet 2 – The Australian Cotton Data Dashboard

2. a)–c) Answers will vary depending on student choice

5. a) MegaLitres, one million litres,  $10^6$  L

b) The graph shows a clear decline in total water usage per bale from 1998 to 2015, followed by fluctuations from 2015 to 2022. In 1998, water use was approximately 1.4 ML per bale, steadily decreasing to around 0.88 ML by 2018, indicating significant improvements in water efficiency. After 2018, the trend became more variable, with a sharp increase between 2018 and 2019, followed by a rapid drop to the lowest point in the data, before rising again in 2022. Despite recent inconsistencies, the overall trend shows a significant reduction in water usage per bale over the long term.

6. a) 1998 irrigation water applied = 9.01 ML/hectare  
2022 irrigation water applied = 5.66 ML/hectare  
 $9.01 - 5.66$  ML/hectare = 3.35 ML/hectare

7. a) The Australian Bureau of Statistics (ABS)

9. a) Note students may choose to use units other than billions of dollars (\$bn). Example table shown on the right.

b) The graph shows significant fluctuations in the value of Australia's cotton crop from 2000 to 2024, with periods of steep increases and decreases. Peaks occurred in 2003, 2010, 2016 and 2022, and steep declines in the value of Australia's cotton crops occurred in 2006, 2013, 2018, and 2020.

c) A line graph makes it easier to spot trends over time compared to a table of raw data, as it visually highlights fluctuations, peaks, and declines. Patterns like the sharp rise in 2010 and 2022 or the drop in 2020 are instantly clear, whereas a table requires careful reading and comparisons of numbers to detect changes and patterns.

d) Answers will vary here due to student age and ability. The value of Australia's cotton crop fluctuates due to global cotton prices (demand versus supply), production volumes, and extreme weather events such as drought and floods. When the value of Australia's cotton crop is very high (peaks shown in the graph), such as in 2010 and 2022, this reflects high global demand for Australian cotton and, therefore, higher prices, while declines in the values of Australian cotton crops often align with extreme weather events and decreased yields. Water availability also impacts production, with drought years reducing yield and higher rainfall years increasing yield. Climate cycles like El Niño and La Niña influence rainfall, while international trade policies and tariffs also affect the market value of Australia's cotton crops.

Year	Value of Australia's Cotton Crop (\$bn)
2000	1.499
2001	0.844
2002	0.689
2003	1.222
2004	0.995
2005	0.542
2006	0.254
2007	0.693
2008	0.828
2009	2.072
2010	2.949
2011	2.154
2012	2.004
2013	2.013
2014	1.530
2015	1.934
2016	2.796
2017	1.322
2018	0.281
2019	1.560
2020	0.250
2021	1.572
2022	4.435
2023	4.138
2024	3.118



# Working with Data - Australian Cotton Production Answers - continued



## Worksheet 3 – SataCrop Map Quest

### 2. NSW

#### 4. Cotton and Corn

#### 7. Answers may range from 65–75 ha

#### 9. A range of descriptions may be given, including:

Spraydrift may occur and cause the herbicide to drift into:

- the nearby Murrumbidgee River, which may then affect aquatic life and water quality.
- the nearby fields affect the sensitive crops and potentially reduce yields.
- the nearby Woolloondool Campground, which may impact those camping.

#### 10. A range of responses may be given by students, including:

- Check the weather conditions before spraying herbicides, and do not spray on windy days.
- Use SataCrop to check for susceptible crops in the area before spraying.
- Check the product label for legally required spray quality and potential no-spray zones. (NSW Department of Primary Industries and Regional Development, 2017)
- Avoid spraying during high temperatures greater than 28 degrees Celsius. (NSW Department of Primary Industries and Regional Development, 2017)
- Use the largest droplets that will give adequate spray coverage. Increase water volumes if necessary to improve spray coverage with large droplets. (NSW Department of Primary Industries and Regional Development, 2017)

### 13. Cotton

#### 16. North/North-East

17. A range of responses may be given from the surrounding built environment, including Victoria Hwy, East Kimberley Regional Airport, Kununurra Diversion Dam, Kununurra Speedway, Ivanhoe Crossing, Ord River District Co-operative, Kimberley Quarries, Discovery Parks – Lake Kununurra, etc.

18. A range of responses may be given from the surrounding natural environment, including Ord River, Barrabem Conservation Park, Goomig Conservation Park, Darram Conservation Park, Bandicoot Beach, Anzac Hill, Lily Creek Lagoon, Black Rock Falls, etc.

#### 19. A range of benefits may be noted, including:

- Reduced environmental impact on the surrounding production fields
- Reduced environmental impacts on the surrounding natural environment
- Sensitive crops may be protected from potential spray drift
- Helps to promote sustainable production practices
- May lead to better communication by producers
- Greater knowledge of the surrounding areas and environment.



# Working with Data - Australian Cotton Production References



Cotton Australia. (n.d.). Australian cotton and the digital agriculture revolution. Google Arts & Culture. <https://artsandculture.google.com/story/australian-cotton-and-the-digital-agriculture-revolution-cotton-australia/xAXRYjWkkhbjKw?hl=en>

Australian Pesticides and Veterinary Medicines Authority. (2024). Spray drift. <https://www.apvma.gov.au/resources/using-chemicals/spray-drift>

Cotton Australia. (n.d.). Spraydrift and Satacrop. <https://cottonaustralia.com.au/spraydrift-and-satacrop>

Cotton Australia. (2020). Australian cotton's contribution to the sustainable development goals: 17 Goals to transform our world 2. [https://australiacotton.com.au/assets/downloads/Australian\\_Cottons\\_Contribution\\_to\\_SDGs\\_REPORT\\_July\\_2020.pdf](https://australiacotton.com.au/assets/downloads/Australian_Cottons_Contribution_to_SDGs_REPORT_July_2020.pdf)

Cotton Australia. (2021, October 6). Explained: Water allocations and cotton. YouTube. <https://www.youtube.com/watch?v=-4I5GDUTL0>

Cotton Australia. (2023). Cotton Data. [Cottondata.com.au](https://www.cottondata.com.au/).

Cotton Australia. (2024a). Prevent spray drift with new crop mapping technology: SataCrop. <https://cottonaustralia.com.au/news/prevent-spray-drift-with-new-crop-mapping-technology-satacrop>

Cotton Australia. (2024b). World First Data Dashboard launched to transparently report on Australian cotton. <https://cottonaustralia.com.au/media-release/world-first-data-dashboard-launched-to-transparently-report-on-australian-cotton>

Department of Agriculture, Water and the Environment. (2022). Digital Foundations for Agriculture Strategy 2022 | Driving the development and uptake of digital technologies in the Australian agriculture, fisheries and forestry industry. <https://www.agriculture.gov.au/sites/default/files/documents/digital-foundations-agriculture-strategy.pdf>

NSW Department of Primary Industries and Regional Development. (2017). Reducing herbicide spray drift. [www.dpi.nsw.gov.au](https://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control/herbicides/spray-drift). <https://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control/herbicides/spray-drift>

Precision Cropping Technologies. <https://pct.ag/>

SataCrop. (2024). [Satacrop.com.au](https://satacrop.com.au/). <https://satacrop.com.au/>

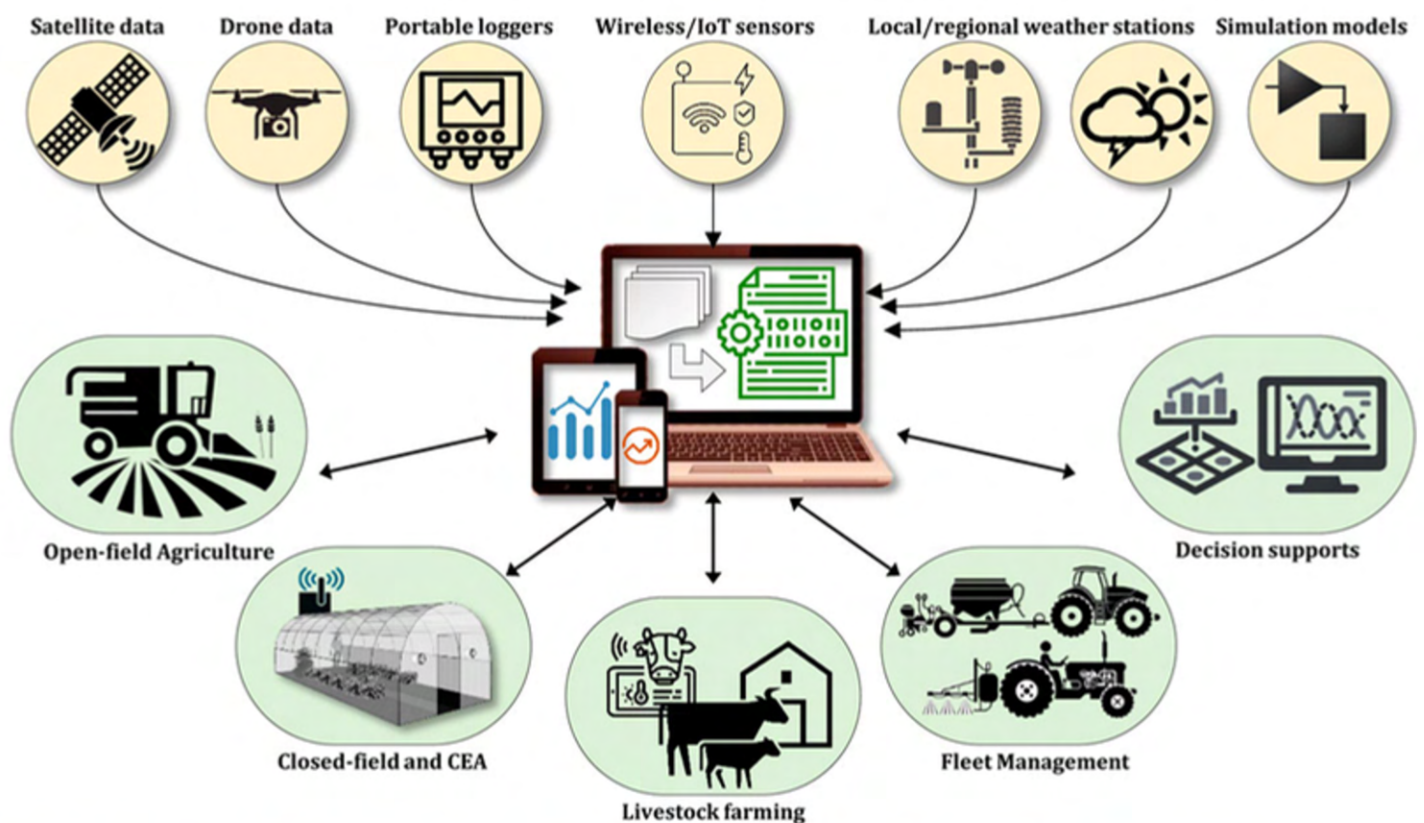
# Data and Its Role

## in Australian Cotton Student Worksheet 1

### What is Data?

Data refers to information collected through observations, measurements, experiments or automated systems. This data is typically stored on electronic devices or in the cloud for later use and analysis.

In food and fibre industries, data includes information on soil quality, weather patterns, crop yields, water usage, pest and disease monitoring, and market trends. Data can be collected on a large scale across large areas of land, such as the whole of Australia, or an entire state or territory, as well as on a much smaller scale by individual producers or growers. By analysing and interpreting data, producers, and agribusinesses can make data-informed decisions to optimise resource use, reduce costs, increase production and enhance economic, environmental and social sustainability.



### Data and the Australian Cotton Industry

Industry data is transforming the Australian cotton industry, enabling enabling farming to be more precise and optimise resource use, also known as ‘precision farming’. Platforms such as the Australian Cotton Data Dashboard and SataCrop provide growers with insights based on data, helping them make informed decisions and remain globally competitive. As data analytics and AI continue to progress, the role of data in agriculture will become even more critical in addressing challenges in production, climate change, resource scarcity, and market fluctuations.



## Data and Its Role

in Australian Cotton

## Student Worksheet 1

Page 2 of 3



COTTON AUSTRALIA



Australian cotton growers use data to make informed decisions about managing their crops.

- 1. Read the examples below to see how data helps solve challenges and improve different aspects of cotton production.**
- 2. Cut out the examples, sort and paste them onto the relevant production areas on the next page.**

BeeConnected is a free app and website that helps producers and beekeepers communicate about hive locations and crop protection activities to reduce the risk of pesticide exposure to bees and support sustainable farming practices.



Data from remote sensing soil moisture probes help cotton growers optimise irrigation and reduce water use.

Soil testing and nutrient mapping provide insights into soil fertility, enabling efficient fertiliser use.

The myBMP (Best Management Practices) program encourages growers to collect data for improved water management.

Satellite imagery is used to provide spatial data, and growers log intended pesticide applications to protect sensitive crops and prevent spray drift (the movement of spray droplets of a pesticide outside of the application site during or shortly after application).

Real-time weather data ensures water is applied at the right time to optimise production and reduce water use.

The cotton industry uses satellite data identify the types of biodiversity found in buffer zones next to waterways and remote sensing.

Growers can optimise seeding rates and fertiliser applications for increased yields using their own data to inform decision-making.

Blockchain (a decentralized database across multiple computers) and digital tracking systems provide transparency for sustainable cotton certification – BetterCotton

# Data and Its Role

in Australian Cotton

## Student Worksheet 1



COTTON AUSTRALIA



Page 3 of 3

### Ways in which data is used in the Australian Cotton Industry

Water Use Efficiency



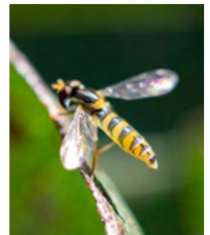
Crop Management and Yield Prediction



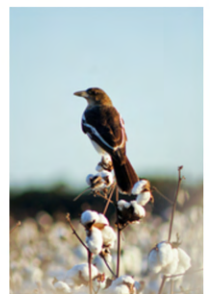
Soil Health and Nutrient Management



Pest and Disease Control



Sustainability and Environmental Monitoring





# Working with Data - Australian Cotton Production

## Australian Cotton Data Dashboard

### Student Worksheet 2



Primary Industries Education Foundation Australia

Page 1 of 4

The Australian Cotton Data Dashboard is a world-first platform launched by Cotton Australia to provide transparent and comprehensive data on the Australian cotton industry. It draws on data from the Australian cotton industry, the Government, publicly available information and commercial businesses.

The Australian Cotton Data Dashboard contains over 70 datasets covering sustainability, workforce well-being, production efficiency, and cotton quality. These datasets are categorised into six key areas: Planet, People, Paddock, Practices, Product, and Projects. The dashboard supports stakeholders such as growers, supply chain partners, and consumers by offering accurate, up-to-date data to help them make informed decisions that improve crop yields, optimise resource use, reduce environmental impact, and increase sustainability.



Access the Australian [Cotton Data Dashboard](https://www.cottondata.com.au/) and follow the instructions to complete the questions below. (<https://www.cottondata.com.au/>)



## PEOPLE

1. Click on **PEOPLE** and then on EMPLOYMENT AND COMMUNITY
2. Read the text on employment and Community water and examine map of Cotton communities in Australia. Use the map to name:

a) One cotton community/town in WA

-----

b) Two cotton Communities/towns in NT and VIC

-----

c) Three cotton communities/towns in QLD and NSW

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# Working with Data - Australian Cotton Production

# Australian Cotton Data Dashboard

## Student Worksheet 2



## PLANET

3. View the video for an overview of water allocations.

[Explained: Water allocations and cotton \(1:18\)](#)

(<https://www.youtube.com/watch?v=-4I5GDUTL0>)

4. Click on **PLANET** from the Australian Cotton Data Dashboard and then on WATER on the Australian Cotton Data Dashboard.

5. Read the text on water and examine the graph, 'Total' water per bale including irrigation and rainfall (ML)

a. What do the units ML stand for?

-----

b. Use the line graph to describe the changes in 'Total' water per bale from 1998 to 2022.

-----  
-----  
-----

6. Examine the graph Irrigation water applied (ML/hectares).

a. Determine the reduction in the irrigation water applied (ML/ hectare) from 1998 to 2022.

-----  
-----  
-----

7. Click on the information icon on the boxes to the right of the graphs and read the text.

a. Who is responsible for collecting data on how much irrigation water is used per year on Australian farms?

-----  
-----



# Working with Data - Australian Cotton Production

## Australian Cotton Data Dashboard

### Student Worksheet 2



Page 3 of 4



## PRODUCT

8. Click on **PRODUCT** and then on VALUE.
9. Read the text discussing value and examine the graph on the Value of Australia's cotton crop (lint and seed).
  - a. Use the data from this graph to create a table of Australia's export earnings from cotton from 2000 to 2024. Include a heading for the table, column headings using units and numerical data from the graph.

(Note: Slide the open circles above the graph to adjust the years viewed and hover on each point on the graph for exact figures.)



# Working with Data - Australian Cotton Production

## Australian Cotton Data Dashboard

### Student Worksheet 2



Page 4 of 4

b) Describe the trends in the data.

c) Is it easier to describe the trends in the data using the line graph or data table?  
Explain your answer.

d) Discuss what may have caused these fluctuations in the value of Australia's cotton crop over this period of time.



# SataCrop Map Quest

## Student Worksheet 3



COTTON AUSTRALIA



**SataCrop** is a digital platform that uses a geographic information system (GIS) and satellite imagery to enable Australian producers or growers to map their fields and crops, including cotton. Its aim is to allow producers to be better informed about the locations of sensitive crops before spraying herbicides to prevent damage due to spray drift. SataCrop has been developed in partnership with Cotton Australia and Precision Crop Technologies (PCT). (Cotton Australia, 2024)



Access [SataCrop](https://satacrop.com.au/) to complete the Map Quest questions below. (<https://satacrop.com.au/>)

1. Fly to Hay.
2. Name the state where Hay is located. \_\_\_\_\_
3. Select the 2023-24 Season.
4. Name the two major crops grown in Hay.  
\_\_\_\_\_
5. Zoom in to find the Woolloondool Campground, off Maude Rd.
6. Use the measuring distance tool in the bottom right corner of the satellite image to measure the size of the first cotton field off Maude Rd, adjacent to Woolloondool Campground.
7. What is the size (in Hectares) of the first cotton field off Maude Rd, adjacent to Woolloondool Campground?  
\_\_\_\_\_
8. Locate the field of corn next to the Woolloondool Campground.
9. Scenario: If the producer failed to check weather conditions before spraying herbicide on a windy day, describe two potential impacts this could have on the surrounding environment.
  - a. \_\_\_\_\_  
\_\_\_\_\_
  - b. \_\_\_\_\_  
\_\_\_\_\_



# SataCrop Map Quest

## Student Worksheet 3



10. Explain what the producer could do to ensure spray drift does not occur. Use Reducing herbicide spray drift to help support your response.

(<https://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control/herbicides/spray-drift>)

11. Fly to Goondiwindi.

12. Select the 2022-23 season.

13. Name the predominant crop grown in Goondiwindi in the 2022-23 season.

-----

14. Fly to Kununurra.

15. Select the 2023-24 season.

16. What is the direction of the cotton fields from Kununurra?

-----

17. Name 3 features of the built environment that can be seen on the satellite image around Kununurra. (Zoom in where necessary)

a. -----

b. -----

c. -----

18. Name 3 features of the natural environment that can be seen on the satellite image around Kununurra. (zoom in where necessary)

a. -----

b. -----

c. -----

19. Outline two benefits of producers using the SataCrop digital platform.