



Information when you need it

the **cq cotton call**

August 2023

Welcome to the August Edition

What's been happening?

August here we are!! Welcome to the first edition for the 2023-24 season. It's pretty crazy we are already back with the planting window open again – the year has flown and we find ourselves in the 2023-24 cotton season already. This issue will focus on establishing the crop and considerations for managing this process.

Central Queensland is looking to have the similar amount of cotton planted as last year with approximately 30,000 hectares for the region. Water may be the limiting factor coming into this season after the first irrigation as many growers will be relying on some water flows in their catchments after this time. Some growers are not going to plant everything now but will wait to see what the first couple of months are like and if we get some valuable rain to then plant more on that. Compared to this time last year growers are a lot further ahead with ground prep and gaining access to fields to complete either bed preparations (fertiliser, herbicide, soil tillage) or planting. Some planting is already underway and will be in full swing in the coming weeks.

On the Look out



Cotton Australia Regional Manager – Dawson Valley

Part-time or Contract Position – 1 day per fortnight (equivalent, flexible hours)

Cotton Australia is looking for a motivated, flexible person with a passion for the cotton industry to represent our organisation in the Dawson and Callide Valley. Your prime responsibility will be to work with growers, through the Dawson Valley Cotton Growers Association, to ensure they are fully serviced by Cotton Australia.

A strong focus on driving the adoption of the cotton industries myBMP program, focusing on both registration and completion through to accreditation. The performance in this area will be a Key Performance Indicator (KPI)



is a joint initiative of



Best Practice

for this role. For more information, please contact Cotton Australia's myBMP manager Rob Crothers – 0408646111 or jobs@cotton.org.au

To apply, please send your current Resume and a letter of no more than three pages outlining why you are the ideal candidate for the position to jobs@cotton.org.au by September 8, 2023

Dates for the diary

31st August: Farm Biosecurity Workshops with Sharna Holman, CottonInfo Biosecurity Tech Lead, Emerald.

- These workshops are designed for cotton or grain growers interested in improving on-farm biosecurity and who want to take proactive steps towards preventing the establishment and spread of pests, weeds, and diseases.
- As these are full, if you missed out in attending either of these sessions, please contact Sharna at sharna.holman@daf.qld.gov.au or via phone 0477 394 116.

5-7 September: AACS Cotton Research Conference, Toowoomba QLD

4th & 5th October: Soil Health and Nutrition Workshops- Central Highlands, and Dawson Valley Regions.

13th October: The Central Highlands Cotton Growers and Irrigation Association is hosting a 'Meet and Greet'.

- This event aims to celebrate and share the growth in skills and exposure to experiences of those who have engaged in leadership apart of the CHCG&IA and encourage new individuals to be involved and take on leadership within the CHCG&IA.

17th November: Central Highlands Cotton Growers and Irrigators Association Awards Night, Emerald

Information and Topics

Planting: Do it right, do it once

- 1) Use the [TRAFFIC LIGHT FOR PLANTING](#)
- 2) Soil temperature 14°C and rising for the week following planting
- 3) Plant into a firm, well-structured, well-prepared seed bed
- 4) Make sure your planter is ready, well maintained, calibrated, ensure planting speed, depth and pressure are correct for the situation. See [Planter Checklist](#)
- 5) Have accurate seed quality information

"IF YOU CAN'T MEET THESE REQUIREMENTS ADJUSTMENTS WILL NEED TO BE MADE"

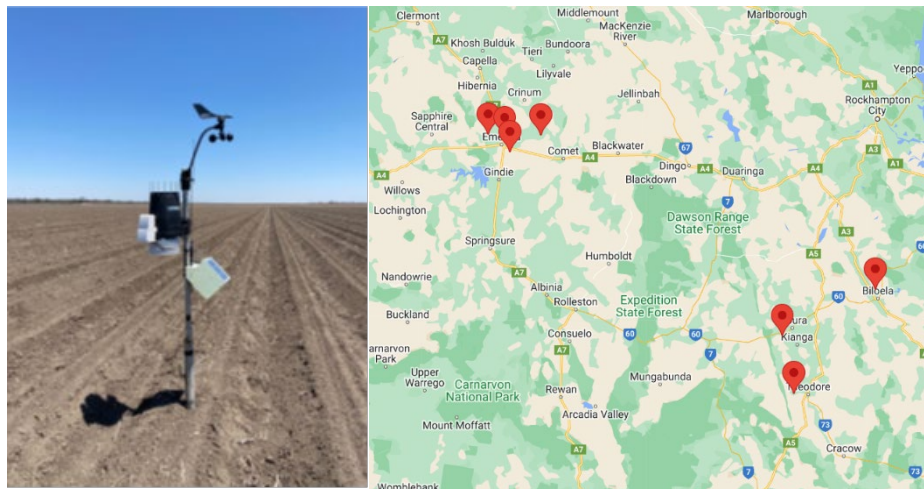
The [Fast Start Initiative](#) is giving you the tools and information to ensure the best start to your crop.

IMPORTANT

- If you cannot give a green tick next to at least one of these statements, then planting conditions are definitely unsuitable – **STOP!**
- If you can give a green tick to only one of these statements – **BE CAUTIOUS**. Adjustments may need to be made.
- If you can give both statements a green tick – **LET'S GO!**

| | RED LIGHT | AMBER LIGHT | GREEN LIGHT |
|--|-----------|-------------|-------------|
| Soil temperature at 10 cm depth above 14°C at 8am (AEST) | X | ✓ | ✓ |
| Forecast average temps on a rising plane, and contributing to adequate day degrees for emergence for the coming week | X | X | ✓ |
| | STOP! | STEADY | GO! |

- Planting can begin when there is a rising plane of soil temperature forecasted above 14°C for the next 7 days (where the temperature is recorded at 10cm depth at 8am AEST). Refer to the [CSD Soil Temperature Network](#) to see what soil temperatures are doing in Central Queensland. You will need to be a CSD member to access the weather stations. It costs \$20/yr and you'll get it back just by using the weather network, let alone the other tools and resources on the website.
- You can join here: <https://csd.net.au/membership>



CSD Soil Temperature Network,
<https://csd.net.au/soil-temperature>

Why Is Forecast Temperature Important?

Temperature affects the time taken for plants to emerge and the longer it takes the greater chance of seedling death through disease and insect damage. Check out the results of a CSD experiment using their thermogradient table – difference in growth at 7-days at different temperatures (Figure 2).

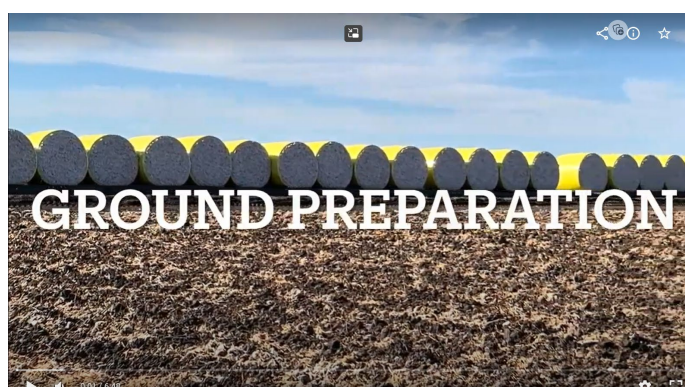
Figure 2: Difference in cotton seed germination and growth at 7-days at 12 °C, 14 °C, 16 °C, 18 °C and 20°C. Source: CSD Facts on Friday: [Factors that affect Cotton Establishment](#)



Ground Preparation Video

Several growers in the St George region have altered their ground preparation process in recent years. The video looks at the change, how it works and what growers feel it offers them. Watch here:

<https://www.youtube.com/watch?v=okBp6Uyhufk>



Planting Rate

The [cotton planting rate calculator](#) helps you determine the planting rate required to achieve your desired plant stand. It's based on the following factors:

- Variety
- Field conditions
- Disease levels
- Establishment method
- Seed germination percentage
- Soil temp at planting
- 7-day soil temp forecast.

The cotton planting rate calculator does the maths for you, but for those old school below are two examples of calculating planting rate comparing sub-optimal and more optimal conditions.

| Example | Poor soil conditions represent cool air temperatures for the week after planting, usually back to back with a field score of 3 to 5 and a low soil temperature (<14°C) | Good soil conditions represent rising warm air temperature post sowing, usually a fallow field with a field score of 2 or above and a warm soil temperature (>16°C) |
|---|--|---|
| Desired plant stand | • 10 plants/m • 100,000 plants/ha | • 10 plants/m • 100,000 plants/ha |
| Divide by estimate plant survival | • 60% (40% establishment mortality) • $100,000 / 0.60 = 166,666$ | • 80% (20% establishment mortality) • $100,000 / 0.80 = 125,000$ |
| Divide by the germination percentage of your seed | • 89% • $166,666 / 0.89 = 187,265$ | • 89% • $125,000 / 0.89 = 140,449$ |
| Your seedling rate | • 187,265 seeds/ha • 18.7 seeds/m | • 140,449 seeds/ha • 14.0 seeds/m |
| Divide by seeds/kg for your variety | 11,500 seeds/kg | 11,500 seeds/kg |
| kg/ha required | $187,265 / 11,500 = 16.3$ kg/ha | $140,449 / 11,500 = 12.2$ kg/ha |

Table 1: Calculating Planting Rate. Source: [FastStart Establishment Guide](#), Pg 40

Check for soil pests prior to planting

A [CottonInfo e-newsletter](#) focused on how to check for soil pests prior to planting. Soil pests such as wireworms and, occasionally, earwigs can decimate plant stands while post-planting control options are largely ineffective. It is better to get a handle on numbers prior to planting and implement control measures such as in-furrow insecticide sprays at planting, if required.



The true **wireworm** is a soft-bodied, cream-coloured larva with a flattened, dark brown head. 20mm (Photo: L. Wilson)



Several species of false wireworms may occur in any particular crop, depending on locality, soil type, organic matter and tillage practices. Larvae feed on germinating seed and chew on seedling roots and shoots, resulting in patchy stands. 35mm (Photo: L. Wilson)



The black field earwig can be a pest and a predator. They can be a seedling pest in a wide range of crops, and also a predator of larvae, pupae and wireworm. 14mm (Photo: K. Power)



Adult true **wireworms** are grey to brown elongated beetles that jump and click when disturbed. They are known as click beetles. 25mm (Photo: J. Wessels)



Adults of the large false wireworm (20mm - left) and the southern false wireworm (9mm - right). (Photo: D. Ironside)



The common brown earwig is a nocturnal predator of caterpillars. 24mm (Photo: K. Power)

How to check?

Digging randomly in the soil is generally ineffective and **bait sampling** 3-4 weeks prior to planting is regarded as the most effective technique. Bait sampling involves the burial of soaked grain or cut potatoes at several (or more) sites in a field for 5-7 days then checking for the presence of the pests or damage to the bait (easier to see with the potato). The baits attract pests to the site so that they can be identified in the soil. A video on how to conduct bait sampling is available on the [CottonInfo Youtube](#) channel.

How Many is Too Many?

While there are no specific thresholds developed for cotton, summer grain crop thresholds can be used as a guide. One or more wireworm larvae per bait is considered damaging and 2-3 earwigs per bait (50 across 20 baits) is likely to warrant control measures. See the link below to the cotton pest management guide for more detail and control options. cottoninfo.com.au/sites/default/files/documents/CPMG 2022 FOR WWW.pdf

| Likely Advantages | | Likely disadvantages |
|--|---|---|
| <p>Potential to take advantage from pre-plant rain events so the irrigation may require less water.</p> <p>Easier to plant, especially when beds are not 100% even.</p> <p>Faster planting operation and less machinery needed.</p> |  Watering-up | <p>Reduction in soil temp after planting in cool conditions; can increase disease pressure.</p> <p>Herbicide damage more likely.</p> <p>Sides of beds might erode when flushing for a long time.</p> <p>Can germinate weeds with the crop.</p> <p>Water logging if rain after flushing.</p> |
| <p>No time pressure to apply the water.</p> <p>In heavy clay, water losses can be less than keeping it in an on-farm storage.</p> <p>Soil temperature is less likely to drop after planting - potentially less disease pressure.</p> |  Pre-irrigation | <p>Soil drying out too quickly.</p> <p>Dry rows in uneven fields.</p> <p>Soil stays wet when followed by rain.</p> <p>Unable to capture rainfall before planting.</p> |
| <p>Helps in fixing up plant stand problems.</p> <p>Can give the crop the necessary boost to get going after a slow start.</p> |  Pre-irrigation + late flush | <p>Likely to use more water.</p> |

Pre-irrigate, or water-up?

CottonInfo has a [CottonInfo e-news](#) comparing the advantages and disadvantages of pre-irrigating and watering up. It includes some on-ground observations from Mike Stone, ICMS, Moree and Jim Purcell, Aquatech Consulting, Narrabri.



George Revell is a Principal Economist for AgEcon and is a regular contributor to CottonInfo; most recently developing two new Gross Margin risk analysis fact sheets for cotton growers: one regarding Nitrogen prices and NFUE, and the other regarding WUE.

Gross Margin risk analysis: Nitrogen prices and NFUE

While there is little that can be done about the cost of nitrogen, growers can still manage their N input costs by looking at their nitrogen fertiliser use efficiency (NFUE).

This 2-page fact sheet from AgEcon produced for CottonInfo explains best practice in this space and what the current situation means for the cotton gross margin. [2023 Gross Margin risk analysis: Nitrogen \(cottoninfo.com.au\)](https://cottoninfo.com.au)

Gross Margin risk analysis: Water Use Efficiency

With the Bureau of Meteorology (BOM) giving a 70% chance that El Nino may develop later in 2023 (three times the normal likelihood), there is a good chance that irrigation water requirements will increase for the 2023-24 crop. While growers cannot influence climate, the associated risk can be managed by improving farm water use efficiency (WUE). [2023 Gross Margin risk analysis: Irrigation \(cottoninfo.com.au\)](https://cottoninfo.com.au)

Seasonal Outlook

The Models show mainly drier spring conditions for cotton areas. Temperature predictions show a similar trend for warmer than normal conditions reflecting the El Niño and positive (dry) Indian Ocean Dipole condition upon us. [CottonInfo Moisture Manager - outlook unchanged as Indian Ocean enters dry phase \(mailchi.mp\)](https://mailchi.mp)

| Source | Temp Forecast | Precipitation outlook | | | | |
|----------|---------------|-----------------------|----------|---------|---------|---------|
| | | Emerald | Sth Q'ld | N-NSW | C-NSW | S-NSW |
| ACCESS-S | Hot | Drier | Drier | Neutral | Drier | Drier |
| UK Met | Warmer | Drier | Drier | Drier | Drier | Drier |
| IRI NMME | Warmer | Drier | Drier | Drier | Drier | Drier |
| ECMWF | Warmer | Drier | Drier | Drier | Neutral | Neutral |
| CMCC | Warmer | Drier | Drier | Drier | Drier | Drier |
| JMA | Warmer | Drier | Drier | Drier | Drier | Drier |

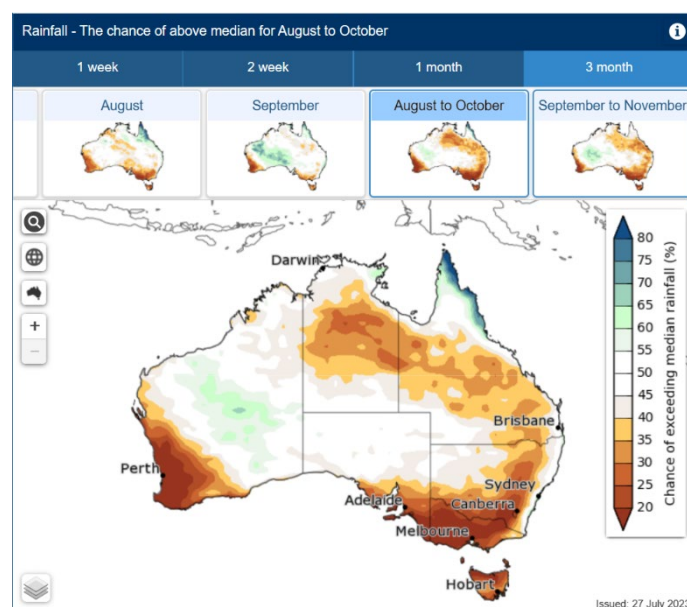


Figure 2: Current seasonal outlook from CottonInfo Moisture Manager

Fig 3: Bureau of Meteorology Seasonal Outlook for Moisture for July to September. These outlooks can be found at [Overview—Summary - Climate Outlooks \(bom.gov.au\)](https://bom.gov.au)



Crop Check Reports

CottonInfo has been doing CropCheck for the past few seasons in each cotton growing region. The idea has come about wanting to help industry, consultants, and growers more aware (both in the region and outside of the region) of what is happening in crop growth and development, insect pests and beneficials, along with any issues faced in terms of disease, weed, and insect pests. There will also be a summary of all regions on the CottonInfo webpage for future reference. I will be collating this information again this year and be available in each months newsletter.

Cotton Grower Associations

A reminder to get in touch with your local CGA to keep up to date and involved in various aspects of the industry. Add yourself to the contact lists to see updates on local field days, meetings, and events. Find your local CGA contact here. [Cotton Australia | Cotton Grower Associations](#)

Any questions, please don't hesitate to contact me.

Can I also please ask you to forward this email to any new staff within your business and ask them to contact me if they would like to be added to The Cotton Call contact list.

Kind Regards
Kim Stevens

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