CottonInfo Information when you need it

the cotton thread
Border Rivers, St George and Dirranbandi

October 2022

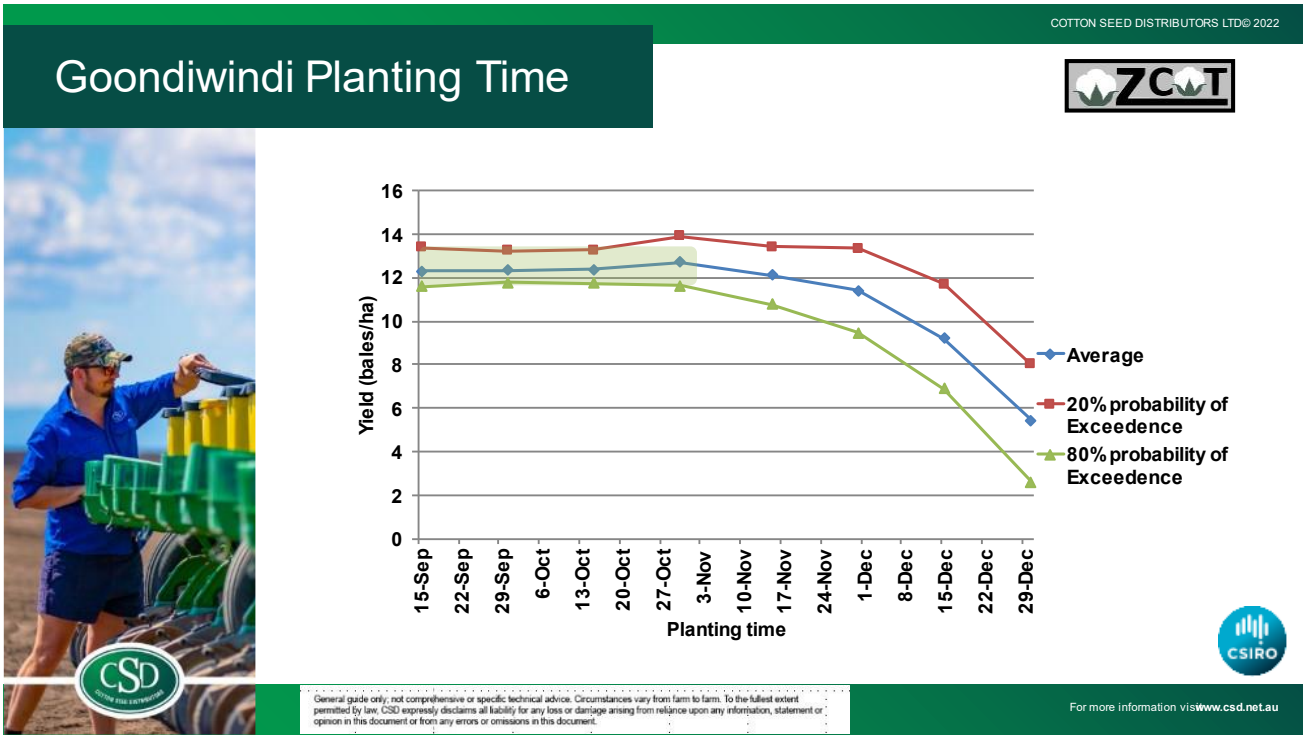
Late Cotton Plant Considerations (also covered in a Cotton Yarns podcast)

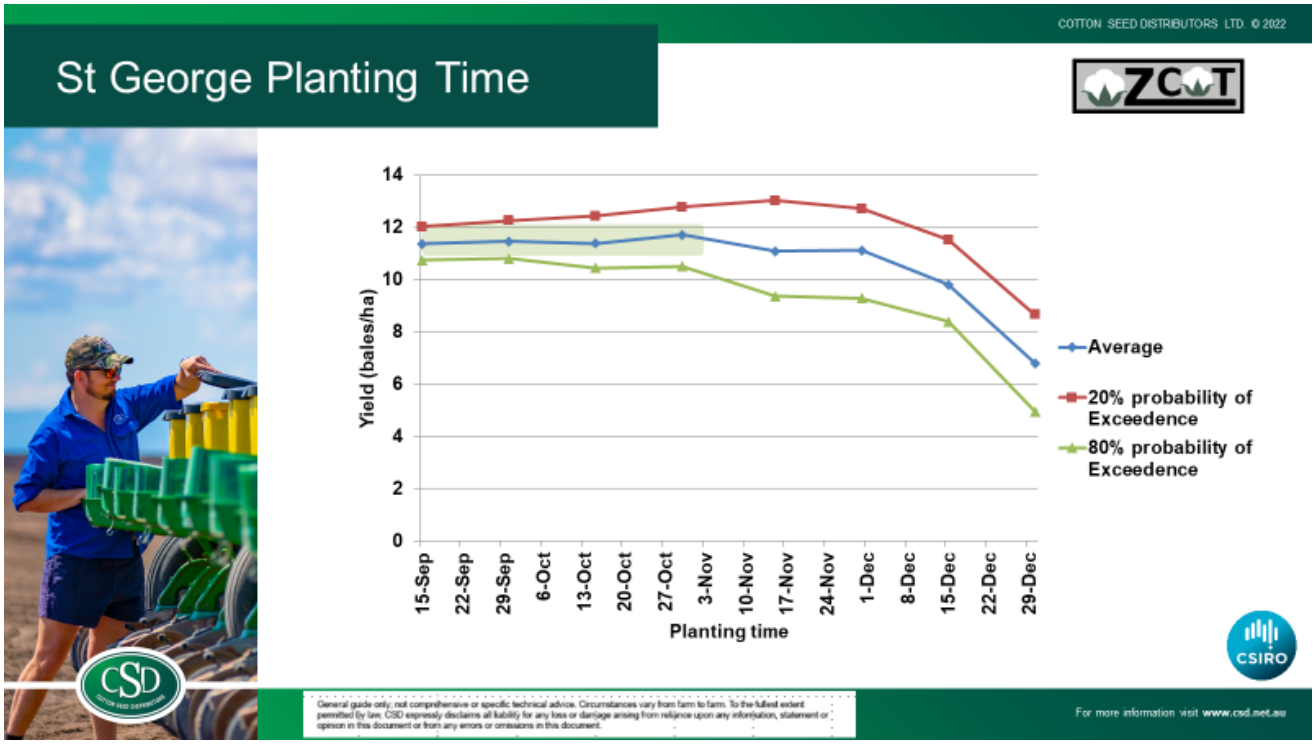
Recently I attended a webinar in which Dr Michael Bange (CSD Commercial Research Manager) presented on considerations for those forced into late planting situations by weather and other factors. While this was targeted towards the southern production areas, these considerations may apply to some other areas where growers are finding themselves in similar situations.

Simulated crop outcomes based on planting date were run through the Ozcot model developed by CSIRO research agronomist, Dr Brian Hearn. The model uses detailed knowledge of cotton crop physiology and growth, and predicts impacts of management, soil conditions, variety and environment (e.g., rainfall, radiation levels and temperature) on lint yield. The model predicts yield for each cotton season where information on soil and weather data exists. The simulation exercise here has OZCOT estimating yield for each cotton season from 1957 to present day (around 60+ years) for a range of planting times. ***An underlying assumption is the crop is managed in a way that there is no water or nitrogen limitations and uses a variety with high fruit retention*** (like Bollgard III varieties).

The graphs shows the average yield for each planting time as well as the 20% and 80% probability of exceedance. The 20% probability of exceedance means, that over the range of yields estimated with the Ozcot model, 20% percent of these exceeded this yield value for that plant date. 80% probability of exceedance means that 80% of yields were above this value (or conversely, 20% below this value). The shaded area on the graph is an attempt to highlight the planting dates when yields are optimal and there is lower variation (lines closer together) in the predicted yields.

When looking at these graphs, it is important to note that it considers variability over 60yrs. Not all years will be high yielding years, however it does **not** account for pests, disease or poor nutrition, so keep that in mind.





Figs 1 & 2: Ozcot modelling summary for Goondiwindi and St George: Dr Michael Bange, Dr Brian Hearn

These models suggest that planting dates after early November for both regions, will potentially have greater variability in yield outcomes with the average yield starting to decline. By December planting dates, the yield potential declines more rapidly and growers may need to consider:

- Dialling back their yield expectations
- Adjusting nutrition to these yield expectations
- Monitoring the seasonal potential via seasonal outlook models
- Determine appropriate cut out dates with your consultant and stick to them
- In some cases, factor in possible quality discounts

Rainfall in the recent fortnight has been variable with falls up to 200mm over roughly 7 days. Fortunately 70-100mm seemed more the norm for the Balonne and MacIntyre regions although around Dirranbandi over 100mm seemed common. Crops planted before the rain seem generally ok with a few caught at a vulnerable stage that has hampered emergence. There seem to be small areas of inundation (repeat in some cases) that might be potential replant areas. Estimates at this stage are that St George is 70-80% planted, the irrigated areas of the MacIntyre are 25-30% planted while the dryland area is minimal and may stay this way if it stays wet. Close to Dirranbandi is largely unplanted while those more distant from town who missed some of the more intense rain and have managed to get some area planted (rough guess at 25-50%).

Seasonal Outlook

The CottonInfo Moisture manager for October is yet to be released however the September edition that suggested wetter than normal conditions, as did the BoM forecast, certainly delivered.

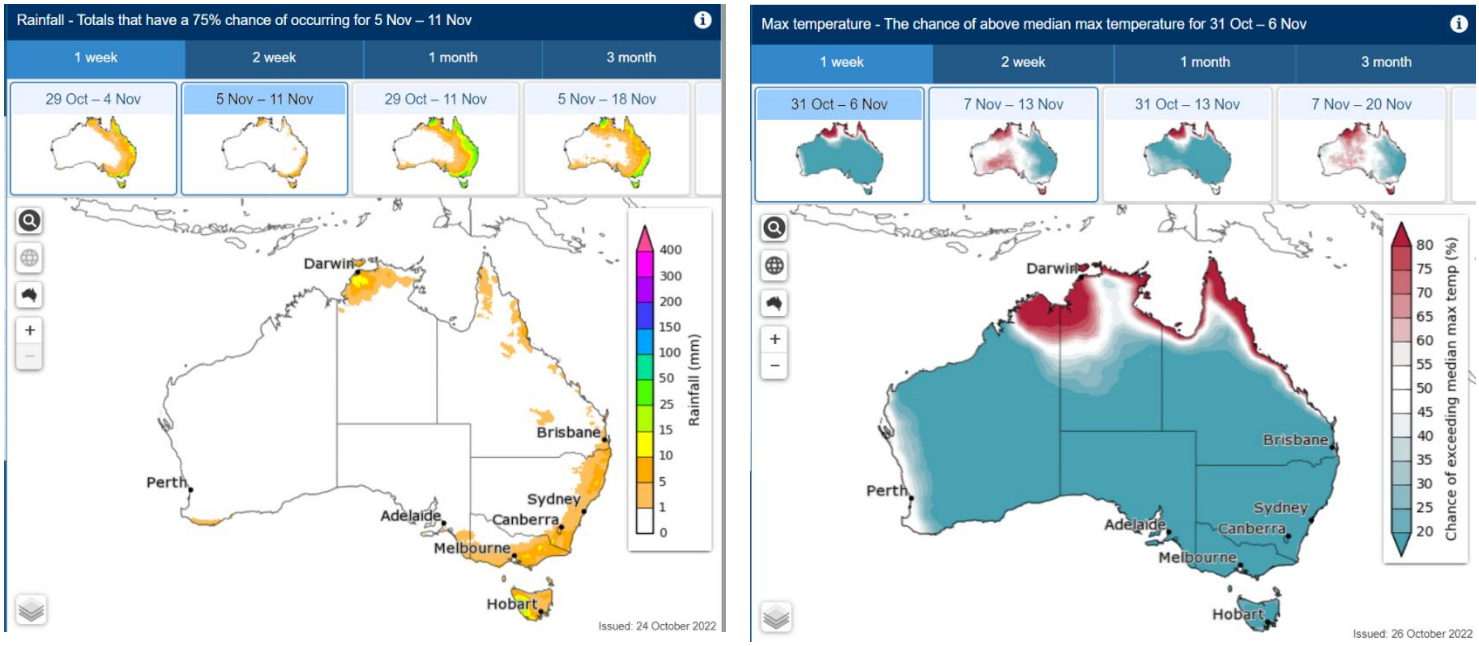
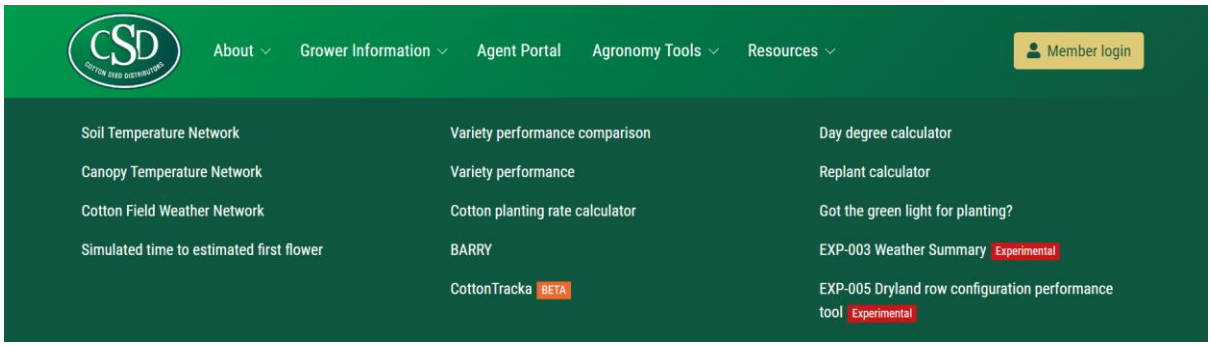


Fig 3&4: Bureau of Meteorology Seasonal Outlook for Moisture for 29 October to 18 November. These outlooks can be found at [Overview—Summary - Climate Outlooks (bom.gov.au)]

These outlooks can also be used to identify drier periods and the above BoM outlooks suggests early November may lack the rain of recent weeks. Depending on how wet fields are now, this may present opportunities to get onto fields and get operations done. The temperature outlook from the BoM suggests cooler than normal temperatures over coming weeks.

CSD Cotton Agronomy Tools



CSD has a comprehensive range of tools to assist growers in crop management decisions. These include soil and canopy temperatures, day degree calculators, cotton planting rate calculator, first flower estimate (STEFF), yield estimates at certain crop stages (BARRY), crop development monitoring (CottonTracka) and much more. To access this, you have be a member. It cost only $20 per year and once you log in, you can set your browser to remember the log in details making it quick and simple to use. Click here to join now if you are not a member or simply log on if you are.

Overhead Irrigator Energy Use:

With the federal budget forecasting energy price rises of up to 20%, the energy use of irrigation systems may come under scrutiny for some with these systems.

Two tools for ascertaining the energy use and some other performance indicators for centre pivots and travelling irrigators have been produced from a collaborative project with NSW DPI, Vic DPI and Goulburn-Murray Water.

They are Excel spreadsheets which you can download and use to give an indication of whether the performance of your system is reasonable or needs further investigation.

The tools are available from two sources:

1. Irrigation Australia website under eKnowledge ~ Tools and Calculators

- Pivot Irrigator Energy Tool https://irrigationaustralia.com.au/libraryviewer?ResourceID=179
- Travelling Irrigator Energy Tool: https://irrigationaustralia.com.au/libraryviewer?ResourceID=180

2. ExtensionAus website https://extensionaus.com.au/irrigatingag/energy-assessment-tool-for-centre-pivot-and-travelling-irrigation-systems/

Bug Checker Training Workshop

CottonInfo is organising a training course for bug checkers in early December at Goondiwindi. This will be presented by the CottonInfo Technical lead for IPM and QLD DAF entomologist, Paul Grundy.

Details for the event will be distributed shortly. Contact me (details at end of newsletter) for further information or to express interest in the workshop.

New Communications lead for CottonInfo

Welcome on board to Megan Woodward who has recently commenced in the role of communications lead for the CottonInfo team. Megan will support the CottonInfo team in providing the latest research to growers and consultants, helping them to achieve best practice.

CottonInfo is a joint initiative of the Cotton Research and Development Corporation (CRDC), Cotton Australia and Cotton Seed Distributors (CSD). It is a unique industry partnership that aims to communicate the outcomes of research, encourage grower adoption and improve industry practices.

Megan is an experienced communications professional, specialising in agriculture and research, development and extension (RD&E).

Megan has worked as a journalist for ABC Landline and has delivered communications projects for several of CRDC's fellow research and development corporations, including AgriFutures Australia, Meat & Livestock Australia and GRDC. Since May 2020, Megan has worked with one of CRDC's research partners, the University of Southern Queensland, delivering RD&E communications.

CSD news

The CSD Cotton Yarns for October looks at the system of "Grown-On" Cotton being adopted in central Queensland by some growers. To access this edition and other Cotton yarns, click this link. You will need to be a CSD member to listen to these.

Grown-On Cotton

CRDC news

- New communications lead for CottonInfo – Megan Woodward
- World cotton day October 7
- Final chance to apply for the Science and Innovation Awards
- CRDC in the news: Cotton fibre quality targeted in new research
- Applications for 2023-24 investment now open
- Cotton's 2023 Nuffield scholar to explore sustainable land development
- Cotton Conference returns! Read the highlights in the latest CRDC Spotlight magazine

For more details on these, click here.

Cotton Australia News

- Farmers unite in push for chemical reductions in farming
- Enthusiastic response for Australian cotton from Pakistani cotton industry
- Volatility real but a window of opportunity for Australian Cotton
- NT Government Promotes Benefits Of Cotton In The Top End
- Advocacy helps with big win for growers in Dawson Valley
- Geography Teachers learn more about Cotton

For more information on these, click here.

What's On:

10 November:	Nutrition for a Wet Start webinar, details TBA
21 November:	Cotton Catch Up and Green N, St George
22 November:	Soil Health and Nutrition workshop, St George
Early December:	Bug Checker Training workshop, Goondiwindi

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