CottonInfo Information when you need it

the cotton thread

Border Rivers, St George and Dirranbandi

October 2021

Cotton crops are emerging in the Balonne and MacIntyre Valleys

2021/22 Season kicks off

Cotton crops are emerging across the Balonne and MacIntyre in what has been a bit of mixed start in terms of weather. Both regions are running close to the 10-year average (based on a 10 October start date) in terms of day degrees (MacIntyre slightly down), cold shocks, heat days, average temperature and radiation (MacIntyre slightly above). There are some rainfall variations compared to the 10-year average, but the short time frame and storm like nature of events means farms may vary significantly from the source of information (the airports). The average has been achieved in a seesaw manner with both cold and hot periods. Day degree accumulation (1532 system) is indicative of this and is presented in below table.

Day Degree Accummulation (1532)			
	16-22 Oct	23-29 Oct	% change
St George	39.6	62.5	158%
Goondiwindi	28.8	53.8	187%

The earlier period had 3 cold shock days (St George) and 4 cold shock days (Goondiwindi) while the latter had 3 heat (+36°C) days, one above 40°C, for St George and two for Goondiwindi.

Dams in both the Balonne and MacIntyre regions remain at good levels with Beardmore (Balonne) 60%, Glenlyon (MacIntyre) 75% and Pindari (MacIntyre) 100%. The river systems in both regions are showing minor flows at present. The BOM streamflow forecasts covering the MacIntyre for October to December suggest potential flows above the historical average.

The recent CottonInfo Moisture Manager shows models are suggesting normal to above median rainfall in the summer period and cooler than normal conditions for Southern QLD.

Source	Temp Forecast	Precipitation outlook				
		Emerald	Sth Q'ld	N-NSW	C-NSW	S-NSW
ACCESS-S	Warmer nights	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ
UK Met	Cooler	Above normal NDJ	Normal	Above normal NDJ	Above normal NDJ	Above normal NDJ
IRI NMME	Cooler	Above normal NDJ	Normal	Normal	Normal	Above normal NDJ
ECMWF	Cooler	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ
CMCC	Normal	Normal	Normal	Normal	Normal	Normal
JMA	Cooler	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ	Above normal NDJ

The border rivers region is primed for a big cotton season with water and strong prices (+$600/bale) making cotton an attractive option. The Balonne River system has not had the large flows that supported the increased plant area of last season and the flow event earlier in the year only enabled minor extraction for flood harvest irrigators. It is likely to be well down in area from last crop but still well ahead of the sub-2000ha areas of the prior seasons.

Production estimates are around 20,000ha for the Balonne (St George, Dirranbandi and Thallon) and 80,000ha along the border rivers (Texas to Mungindi).

Increased plant areas across the industry are predicted and growers are encouraged to liaise with their suppliers to forecast expected product requirements for the season.

Irrigation Head Ditch Talks

With an increased area of irrigated cotton, there are like to be some new staff throwing siphons and some others who have not done it for a season or two. CottonInfo will be running Head ditch talks again this season.

These are an informal Irrigation training session covering the fundamentals of siphon placement and timing to ensure discussion aimed at improving water application efficiency. The session will involve a practical head ditch demonstration of factors that influence flow rate, infiltration, runoff and head of water and their impact on application efficiency. It includes a Siphon Flow meter to show the impact of siphon placement on flow rate and irrigation uniformity.

30-60 mins on a head ditch on your farm with your staff. Interested?
Contact me – details at end of this newsletter.

Irrigation Toolbox Series

This is a great resource for your staff toolbox talks. The kit includes:

- Irrigation Checklist: A one-page checklist for irrigators to tick off in preparation for irrigating. Developed by irrigators for irrigators!

- Irrigation Record Sheet: This field sheet allows irrigators to keep track of what is happening to the water at a field level. Providing start and stop times for each set provides important information on runtimes and allows irrigators to record comments for their supervisor/manager

- For those that like more detail, the Detailed irrigation record sheet is for those irrigators who are pulling siphons from individual furrows once the water has run through. It allows quick identification of furrows and includes necessary detail so when there is a change of shift, irrigators know exactly where they are up to.

Irrigation Factsheets from CottonInfo:

- Furrow Irrigation – Facts and Fiction: Often what one might perceive, is not fact when it comes to surface irrigation. Jim Purcell lists the facts.

- Key factors to consider when improving furrow irrigation: There are simple management practices that can improve the efficiency of an irrigation event.

- Siphon size – Size does matter: Siphon pipe diameter has a significant influence on flowrate. It is therefore important to know what siphon you are using as metric and imperial siphons specify diameter differently. Internal diameter can also vary as wall thickness can vary between manufacturers. A 2 ½ inch siphon is NOT the same as a 63mm siphon!

- Theoretical flow rates for siphons: Three charts of theoretical flow rate (in litres per second) for a given combination of operating head (mm) and siphon internal diameter (ID, mm). Each chart has been designed for a particular siphon length; representative of the most common lengths provided by manufacturers. The chart provides a theoretical flowrate for each combination so irrigators can estimate the volume of water delivered to a field.

Irrigation Videos from CottonInfo

- Irrigating with siphons: How to start a siphon and siphon management on a cotton farm.
- Siphon sizes and flow rates: Siphon diameter and wall thickness both influence flow rate. See how you can use WATERpak to determine the flow rate through your pipes.
- Siphon placement: Where the end of the siphon falls can have a

significant impact on the flow rate through that siphon, and thus how evenly a field is watered. Using a flow meter can demonstrates why.

Nitrogen Practices and Attitudes

Click on above picture for link to survey

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.

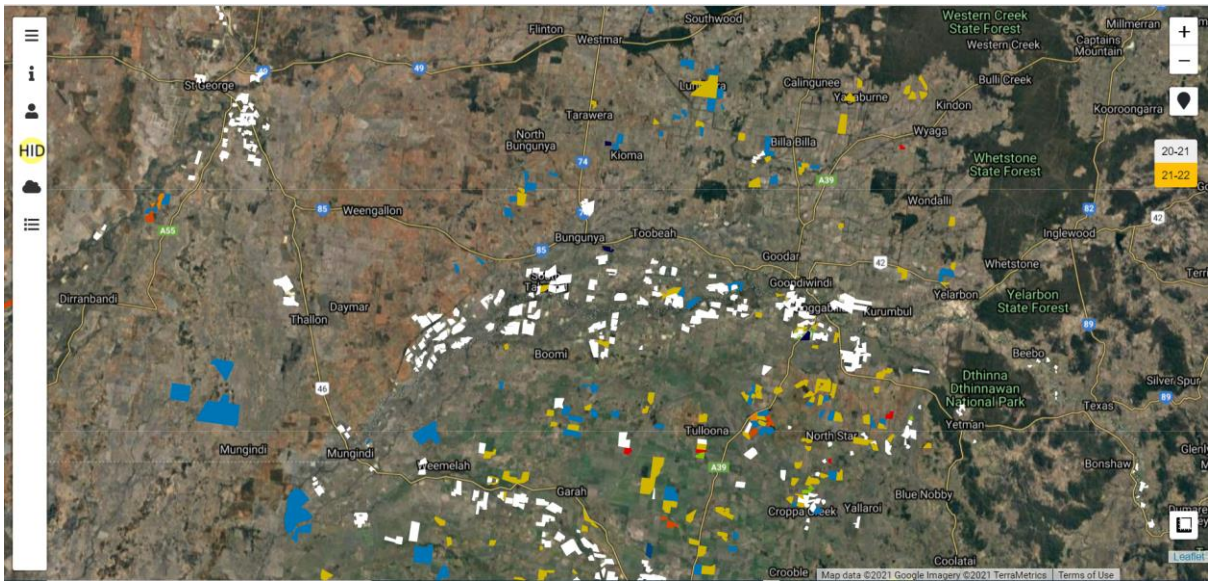
Details for the event will be distributed shortly. Contact me (details at end of newsletter) for further information or to express interest in the workshop.

Cotton 101

Can you tell the difference between a vegetative and a fruiting branch? This short video shows what to look for:
Distinguishing between vegetative and fruiting branches in young crops - YouTube

Meet the Team

Map crops on SataCrop to prevent spray drift damage



All cropping industries are encouraged to play their part in preventing off-target spray drift damage by mapping their fields in SataCrop this season.

SataCrop is an all-of-agriculture online mapping platform for growers to use. Growers simply log-on to SataCrop and map their fields over satellite imagery. Crops are colour coded, which helps inform other growers about where sensitive crops are planted when planning their spraying activities.

If you have used SataCrop previously, all you need to do this season is re-colour code your fields, depending on what you have planted where.

SataCrop can be used to map all crop types, and growers can change the crop type within fields to reflect the different planting seasons.

It is vitally important growers do all they can to prevent off-target spray drift from occurring, and by using SataCrop, you'll be doing your bit to help yourself and your neighbours not be impacted by off-target spray drift.

A new addition to the platform this year is enhanced functionality to allow apiarists to map their hive locations. Growers will be alerted if they are within 10km of the hive location.

By sharing knowledge and being transparent about what crops are planted where, we can collectively help address this issue and ensure our crops remain healthy.

Other spray drift mitigation advice for growers includes:

- Reading and following spray label instructions. Ensuring you are up to date with the APVMA label changes to 2,4-D products.

- Check the current and forecast conditions before spraying. Do not spray when there is a surface temperature inversion.

Growers can access SataCrop by visiting www.satacrop.com.au

Watch this video to discover how to add and modify fields in SataCrop - https://www.youtube.com/watch?v=ZGcvfpwV33E

For more information on spray drift go to:
https://www.cottoninfo.com.au/index.php/pesticide-input-efficiency
https://grdc.com.au/resources-and-publications/resources/spray-drift
https://cottonaustralia.com.au/spraydrift-and-satacrop

Irrigation Optimisation Trial in St George

This season I am helping with a great trial at Craig Saunders' place. We will evaluate the performance of a new siphon-less irrigation system designed by Glen Lyons (Siphon-less Head Ditch with Tail Water Backup (TWB)). The system will be evaluated in terms of the application efficiency and the distribution uniformity. That is, of the water that's applied, how much stays in the root zone and is available to the plant and how evenly is the soil profile filled across the bays. If you remember the old IrriMATE irrigation performance tools, it's very similar, but IrriMATE was used in siphon systems. We have to adapt for a siphon-less system.

The data captured will enable calculation of key water use efficiency indices for comparison against industry benchmarks. The resultant system performance and water productivity details will enable growers to better evaluate the system and its suitability to their circumstances. USQ have developed SISCO, which is an irrigation model used to help optimise irrigation events. It provides information on how the irrigation might be managed, such as irrigation times and flows rates to achieve an efficient irrigation.

The project will deliver a case study, magazine articles and a video however keep an eye out for updates during the season. A site field walk is in consideration however it not expected that there will be any results available until after the season has finished.

This trial is a collaboration between CottonInfo, local cotton growers Craig Saunders and Lucas Wuersching, researchers from USQ (Malcolm Gillies and Joe Foley), GL Irrigation (Glenn Lyons), Gwydir Valley Irrigators Association (Lou Gall), NSW DPI (Ben Crawley)and Padman Stops (Grant Oswald and Shawn Padman), along with the financial assistance of CRDC.

CottonInfo on Facebook

The CottonInfo team is now on Facebook. You can search for us by typing "CottonInfo", "@CottonInfoAust" or click on the above icon. We look forward to sharing photos and videos from our trials and activity through Facebook, similar to the information we already share though Twitter (@CottonInfoAust).

CottonInfo Blog

More Cotton per Hectare

The 2021 CottonInfo blogs have a theme of Sustainability focus. This month's focus is productivity – more cotton per hectare. The goal is to increase Australian cotton yield and quality within sustainable environmental boundaries. This is to help meet the demand of an increasing world population with declining resource availability. The Target is a 12.5% increase in irrigated cotton yield every 5 years. For more information, follow the link in the above title.

CSD Update

The late October publications of FACTS ON FRIDAY cover the topics of:

- Setting the crop up – early season
- Why NAWF is important at first flower

Once the cotton plant is established, the main focus should be on how the plant looks and grows through the early vegetative phase and into first flower. At first flower, the aim is to have a healthy, actively growing plant which has the desired architecture, framework and leaf area to develop a boll load. The conditions in the three to four weeks post planting play a pivotal role in determining the rate of growth and development of the cotton seedling.

The Nodes Above White Flower (NAWF) is key metric to gauge how a crop is growing at first flower. The carbohydrate supply versus demand relationship is why the NAWF can indicate crop growth or the impact of stress, whether it be active or slowing. Once the NAWF reaches four then the plant has effectively stopped producing new fruiting sites.

CSD members can access this information from the CSD website here.

CRDC news

News from CRDC includes:

- Central QLD planting window research published in international journal
- USQ researcher wins international award for CRDC-supported research
- Partnership delivers benefits for biodiversity in cotton landscapes

For more details on these, click here.

COTTON AUSTRALIA CORNER

Cotton Matters – key points

- One year on: Projects have improved biodiversity in Australian cotton landscapes
- Cotton Australia briefs banks on behalf of growers
- Cotton Jobs Australia working to solve cotton workforce shortage
- Boggabri cotton farmers' biodiversity work showcased on ABC News
- Growers: be spray aware this season
- Cotton education resources on offer for teachers and students
- Latest version of The Australian Farmer digital book available now
- Come along: online climate workshop
- Submit your abstracts and posters for National Landcare Conference

For further information on Cotton Australia website, click here.

What's On:

11 Nov:	CGS Summer Crop Meeting 3pm Australian Hotel, St George
26 Nov:	MacIntyre Valley Awards presentation and Xmas party
30 Nov:	St George CGA AGM 10am AgNVet Conference room.
9 Dec:	Bug Checker Training workshop, 9am Royston, Goondiwindi.

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