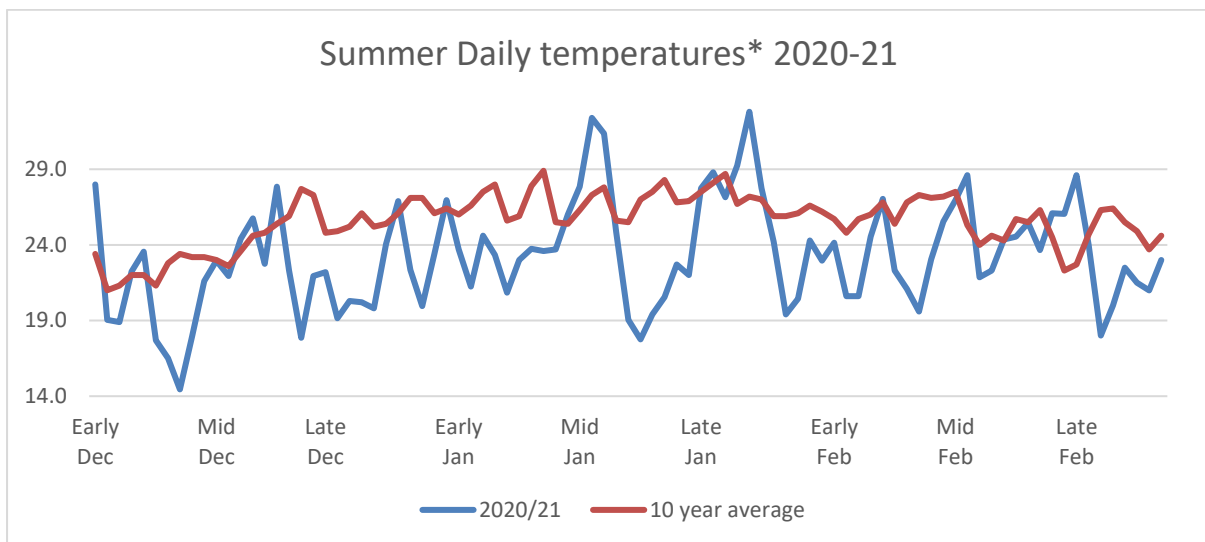




# the cotton tale

22nd February 2021

## Timing the final irrigation



\*Average of Maximum and minimum daily temperatures

A cooler season brings up a different set of factors to consider in timing the final irrigation. Many crops look like getting their last irrigation in the first week of March. Rain events in March can complicate this as the next step is timing of the start of defoliation. A lot of crops will need to be left to mature upper bolls so defoliation will need to be timed when the crop is ready and fully mature.

The last effective flower was around the 10<sup>th</sup> - 14<sup>th</sup> February so this flower needs around 60 to 65 days (mid-April) to accumulate enough day degrees to mature.



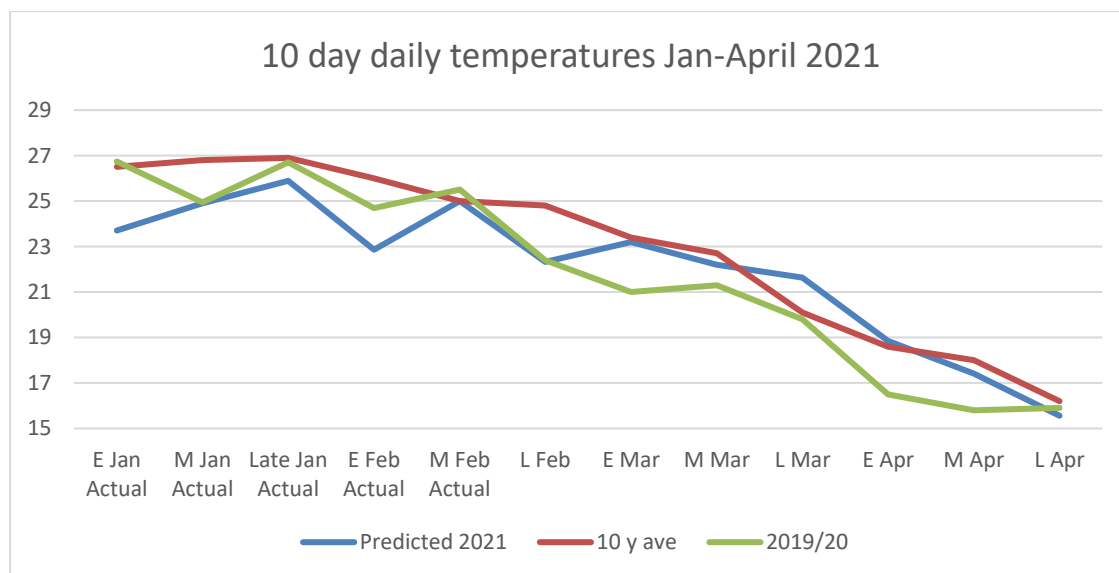
A great summary of how to assess maturity is available in last week's Facts on Friday from the CSD website (available to CSD members).

Extract from Waterpak 3.2 [WATERpak.pdf \(cottoninfo.com.au\)](http://cottoninfo.com.au/WATERpak.pdf)

The prime objective of the last irrigation is to ensure that boll maturity is completed without water stress. At the time of last irrigation all bolls have been set, vegetative growth is limited and the majority of carbohydrates are used to satisfy boll demands. Once a boll reaches 10-14 days old, the abscission layer to cause boll shed cannot form. It is for this reason that boll numbers are not significantly reduced by late water stress, although fibre development can be affected. Crops that come under stress prior to defoliation (60 to 70% open - 4 Nodes Above Cracked Boll), can suffer some yield and fibre quality reduction. The level of reduction obviously increases the longer the stress occurs. End of season water requirements can be determined by estimating the number of days until defoliation and predicting the amount of water likely to be used over this period. By defoliation, plants can be allowed to extract past the normal refill point to around 70% of plant available water content, ensuring a dry soil profile for picking.

### Temperatures through fibre thickening

We are currently in the middle of a critical time for micronaire development. Although temperatures over the fibre lengthening period are down on the average and last season the forecast temperatures through March look to be about average and better than last season (see graph below)



## Roundup ready Extend Spray App



**Photo - Inversion tower at IREC field station**

To support the Roundup Ready Xtend Crop System in the US, Bayer has developed and published the RRXtend Spray App.

The RRXtend Spray App is a convenient and easy-to-use digital tool that provides growers and applicators with location-specific weather forecasts, digital record keeping capabilities, and educational resources related to the XtendiMax<sup>®</sup> with VaporGrip<sup>®</sup> Technology herbicide, used over-the-top of XtendFlex cotton.

The forecast feature helps applicators identify weather conditions and inversion risk as they plan their applications.

The RRXtend Spray App provides location specific, hourly forecasts of temperature, relative humidity, wind and inversion risk; that are developed using publicly available weather data and machine learning (ML) models developed at The Climate Corporation. In the RRXtend Spray App, the inversion risk forecast function indicates the probability (by percentage) of an inversion occurring at a particular location and hour of the day; the forecast function gives applicators an approximate inversion risk reading for the next 100 hours.

In order to train the model for Australia, Bayer require real-time weather station data. Bayer has installed five weather towers across cotton growing regions (currently one at IREC Field station) that measure: temperature at multiple heights, wind speed, relative humidity, solar intensity and rainfall. Data from these towers will be used to test and train the existing model for Australia, with plans to launch an Australian version of the RRXtend Spray App.

## The situation with Mice -What is happening and what can we do about it?

There are regular reports of summer grain crops and some cotton crops being treated with Mouse off as mice numbers build. Some important resources here on being prepared as summer crops finish and winter programs begin. The GRDC webinar with Stephen Henry CSIRO is a great summary of what to expect. The first link is the webinar which runs for about an hour and the second link is the presentation from the webinar.

<https://grdc.com.au/events/past-events/2021/february/grdc-grains-research-update,-online-mice>

[https://grdc.com.au/\\_data/assets/pdf\\_file/0022/441652/National-Mouse-Webinar-2021.pdf](https://grdc.com.au/_data/assets/pdf_file/0022/441652/National-Mouse-Webinar-2021.pdf)

### Mice facts

- Start breeding when they are six weeks old.
- Litters of six to ten pups every 19 to 21 days
- Breeding starts in spring and can continue through to autumn.
- Mice need food, shelter (and moisture) to thrive.
- If conditions are favourable the rate of increase is dramatic
- **SCARY HISTORICAL VIDEO:**
- **Mouse Plague on the news – Gunnedah 1984**
- <https://www.facebook.com/GemDigitalVideo/videos/1152245128199893>

### KAREN KIRKBY

Some of you may or may not be aware that Karen Kirkby (NSW DPI) was diagnosed with Stage 2 Invasive Lobular Carcinoma, in June. Karen is an extremely valued member of the cotton industry and has done fantastic work especially in the disease space. Her dear friend Allison has vowed to not let her go bald alone and is hoping to raise \$10,000 to shave her head to go towards the costs of Karen's treatment. Please see below for the GoFundMe Link.

[Fundraiser for Karen Kirkby by Allison Davis : Karen Kirkby - Showing Breast Cancer Who's Boss \(gofundme.com\)](#)

Thank you.

## Researcher profile – Jonathon Moore



Jonathon is starting his soil sampling this week and over the next few seasons he will be looking to access a range of soil types for sampling from Balranald to Narrandera.

Contact details:	<a href="mailto:jonathon.moore@sydney.edu.au">jonathon.moore@sydney.edu.au</a> Phone 0427 249 973
Position:	PhD candidate
Research Organisation:	The University of Sydney
Research Area: (Soils, nutrition etc)	Soils
Title of Current Research Project:	Classifying the suitability of Murrumbidgee valley soils for cotton production
CRDC funded: Yes	
Where are you from?	I grew up in Orange, NSW, before moving to Canberra. My interest in agriculture started at a young age, through the many school holidays spent visiting family on farms around Leeton. After completing High School, I moved to Sydney where I studied an Agricultural Science degree at The University of Sydney.
How have you ended up in cotton research?	My path into the cotton industry began through two summers of casual work starting siphons in Northern NSW. CRDC afforded me the chance to attend the 2018 cotton conference where I was inspired by the industry and the overall willingness to embrace new people. This saw me undertake a project in my final university year which examined soil changes following a conversion from rice to

cotton. The continued industry support has encouraged me to remain involved in furthering the understanding of soil-cotton relationships in southern NSW

What excites you about working in the cotton industry?

The cotton industry's willingness to innovate, adapt to change and attract new minds is what excites me most. I have no doubt this will result in further scientific and technological advancements leading to increased efficiencies and, ultimately, an industry with the potential for further growth in the decades ahead.

What do you like to do when you aren't researching?

When I'm not conducting work on my project, I'm a bit of a sports nut, enjoy spending time in the outdoors or catching up with friends. For me, it's hard to beat a weekend spent fishing and camping by the river with a group of mates.

What does your current project work involve? What will be the outcome?

Soil constraints have been identified as one of the major challenges for the long-term profitability of southern NSW cotton growing systems. This project involves the extraction and analysis of soil cores from across the lower-Murrumbidgee valley. Specific soil properties will then be mapped across the region, which extends from Narrandera to Balranald. Ultimately this will improve the cotton industry's understanding of soil type variations while identifying the regional soil properties that impact cotton production. This will be used to determine the suitability of different soil types for cotton production. This suitability classification will then also be mapped across the study area.

## Events coming up (details in attachments)

- Cotton catch ups Thursday 4<sup>th</sup> March Benerembah and Whitton.
- SVCGA Charity Golf day Friday 19<sup>th</sup> March Griffith Golf course.
- Parna and cotton soil management- Soil Science Australia Yanco 29-30 April (More details to follow)

### February question

What is considered the perfect round of golf?



### January Quiz answer

**Bill the barstard, Murrumburrah.**

[Bill the Bastard - Bill the Bastard](#)

## Regards Kieran

### Disclaimer:

General guide only, not comprehensive or specific technical advice. Circumstances vary from farm to farm. To the fullest extent permitted by law, CSD expressly disclaims all liability for any loss or damage arising from reliance upon any information, statement or opinion in this presentation or from any errors or omissions in this document