CottonInfo **Information** *when you need it*

the Mungindi grower

23rd December 2020

Crop Check – Mungindi

AREA	Mungindi
Crop Stage	• 9-16 Nodes, squaring • Around 15% of area late plant, cotyledon to 1 true leaf *"After a slow start, since the hot week, cotton starting to fire"*
Irrigation	• 60 % of cotton in area had 1st in crop irrigation • Rain and showers have delayed irrigation for some
Insects/Beneficial	• Haven't had any thrip pressure • Massive heli egg lay, but not seeing any escapes • Mirids have come in since cooler change with an increase last week • Grasshoppers – some minor damage • Beneficials in low numbers
Weeds	• Residual program working well, grasses not coming through
Disease	• Black root rot – particularly in early plant • Alternaria, Rhyzoctonia

The CottonInfo Crop Check is a summary of cotton crop information gathered from a number of local consultants. It should be noted that the information is just a snap shot in time. It does not claim to be a thorough report for each valley, just a summary of comments received.

Thanks to the consultants involved.

Day Degrees 15th Oct 2020 – 22nd Dec 2020 – Mungindi

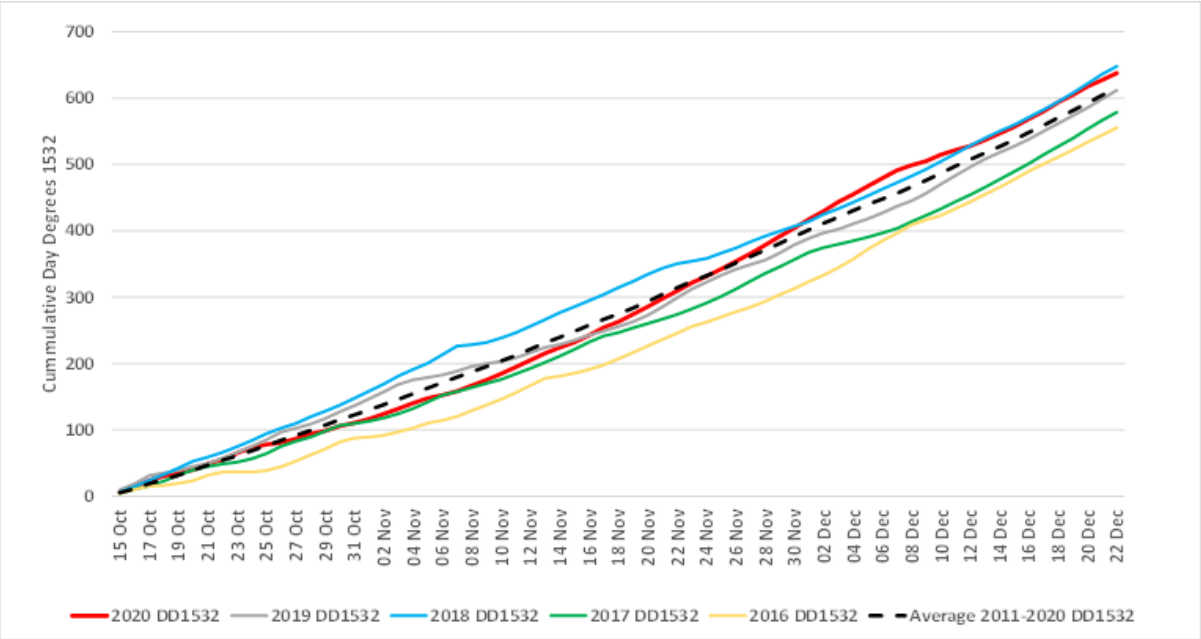

Figure 1: Accumulated Day Degrees 2020, 2019, 2018 & 10-year average (2010-2019) DD 1532 (Mungindi)
Source: https://www.csd.net.au/ddc

Table 1: Day Degrees seasonal comparison 15/10/20 – 22/12/2020 (Mungindi)

	2020	2019	2018	2017	2016	10 year mean
Base 12	1024.3	1016.4	1005.3	905.7	928.8	1024.3
DD1532	638	612	648	578.9	555.3	638
Cold shock days (≤ 11°C)	3	9	1	3	13	3
Days above 36°C	30	34	22	15	23	30
Nights above 25°C	4	6	3	3	2	4
Days above 40°C	13	13	7	7	6	13
Total rainfall (mm)	83.6	49.8	105.6	109.2	95	83.6
Total radiation (MJ/m2)	1602.6	1749	1684	1636.2	1697.4	1602.6
Average temperature (°C)	26.8	26.5	26.5	25.1	25.1	26.8

https://www.csd.net.au/ddc

IPM top tips from CottonInfo and Paul Grundy (QDAF)

1. Keep an eye out for fall armyworm.

With fall armyworm (FAW) detections throughout QLD and well into NSW, many agronomists are taking a closer look at the caterpillars they come across in different crops.

Importantly, please note that FAW have not been detected in in any cotton crops (either Bollgard® 3 or unsprayed non-Bt cotton refuges) grown over the last 7 months in Northern Australia.

2. Be prepared for increased pest activity.
Pest activity has been relatively subdued in recent seasons due to reduced cotton acreage and a very dry surrounding landscape. Although the cotton area for 2020-21 is still well down on previous seasons in many valleys, increased rainfall will see major changes in the surrounding landscape that will in turn influence pest populations that will affect crops now and in future seasons. Many common pests such as mirids, *Helicovpera* spp. and plant feeding shield bugs are likely to benefit from a greener landscape.

Another group of pests to be on the lookout for with increased rainfall are aphids. Both cotton and green peach aphids have been infrequent for many years but, with rapid lifecycles and increased host abundance in the broader landscape, opportunity exists for rapid population build-up that could spill over into cotton crops. Fortunately, aphids have many natural enemies that commonly occur in cotton crops. Ladybirds, hover flies, lacewings and parasitic wasps can all exert effective and timely biological control.

3. Maintain good farm hygiene.
If you have not caught up with feral ratoon and volunteer cotton removal in and around your farm, today is the best day to start getting things ready for better seasons ahead with the prospect of replenishing storages.

Key areas to inspect include tail drains, supply channels, roadways and fallow fields in and around your farm. A survey of perennial feral cotton plants taken in 2013 found that 63 per cent of plants sampled in Central QLD along farm roadways, supply channels, drainage and fence lines were infected with Cotton Bunchy Top Virus (CBTV). A similar pattern was found in the St George irrigation area and Darling Downs with 29 per cent and 53 per cent of feral growing cotton plants found to be infected with CBTV.

4. Be mindful of insecticide resistance.
Resistance levels for many pests have subsided during recent seasons due to the drought-related reduction in cropping and changes in insecticide stewardship. Reduced resistance levels are a positive for the industry but as cropped area increases there are some trends to be aware of. Resistance surveillance in major insect pests of cotton, Lisa Bird NSW DPI

Silverleaf whitefly monitoring

Richard Sequeira will be in **Mungindi on Thursday 14th January** to meet up with interested consultants and growers to run through the new SLW sampling method and decision Support Tool.

This season the industry is promoting a new sampling method for monitoring SLW populations. The first major outbreak of silverleaf whitefly (SLW) in Australia occurred in 2001-02 in central Queensland. With a green bridge across some of our regions it will be key to monitor for SLW populations early this season.

The original SLW threshold matrix developed in central Queensland recommended looking for SLW adults on leaves about 4-5 nodes below the terminal. Reports from the cotton industry over the last few years indicating significant inter-regional variability in population dynamics, along with other considerations such as the relatively high mobility of adults, has led to a review of the matrix. A CRDC project by QDAF and CSIRO has re-examined sampling methods and validated population dynamics across regions and has developed a new decision support tool (DST) that focusses on monitoring nymphs in the lower canopy.

Given the small size of nymphs, a phone sampling app is currently under development in another CRDC project by QDAF and USQ. The phone app will potentially automate detection and categorisation of nymph on leaves and circumvent the need for manual checking. However, in the interim, the DST is available to crop managers for this season (2020-21) as an excel workbook; it includes a data entry and visualisation worksheets. The DST is available on the CottonInfo Website https://www.cottoninfo.com.au/silverleaf-whitefly-decision-support-tool.

Relatively straightforward to use, the new tool requires the crop accumulated Day Degrees (DD; base 12) at the time of sampling and a count of the proportion of healthy (red eyed) nymphs on each leaf at the 11th nodal position. The ability to also identify predation, parasitism or other mortality is not necessary for making spray decisions but would assist crop managers determine the impact of various natural enemies and contribute to making more effective whitefly management decisions.

The interim DST's excel chart gives the user a real-time visualisation of the whitefly population density in relation to the risk of lint contamination, and the need (or not) for spraying.

An example is given below on Figure 2. At around 1475 Day Degrees (orange arrow), a substantial jump in the density of total nymphs (black dot) would indicate a population heading along a trajectory that would result in high risk of severe lint contamination in the absence of mortality but the much lower density of corresponding healthy nymphs (red dot) signifies around 60% mortality. The progression of red dots over the season indicated very high natural mortality of whitefly which largely neutralised the lint contamination threat after cracked boll thereby helping to avoid intervention with chemical insecticides.

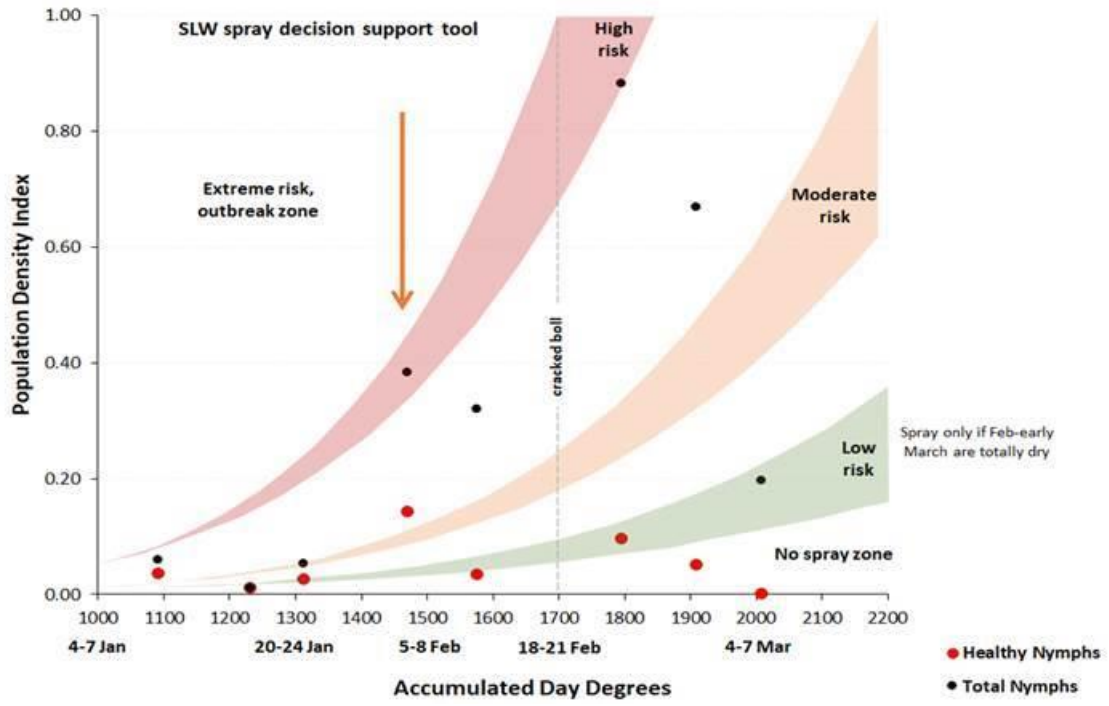

Figure 2: The use of the interim whitefly DST to visualise actual data from a crop sampled in NSW in 2019.
(Source: https://thebeatsheet.com.au/a-new-approach-to-silverleaf-whitefly-sampling/)

For a recording of a webinar on the DST and sampling guidelines based on the rates of growth of large SLW nymphs in the lower canopy. Click Here Presented by Richard Sequeira (QDAF).
You can also contact Richard directly if you require any further information, M 0407 059 066 E richard.sequeira@daf.qld.gov.au

What are the researchers up to in our district?

Paul Grundy's Retention Trials

To better understand the where and when for managing retention, research is re-examining the relationship between early season retention and the growth, yield and lint quality of irrigated Bollgard® 3 cotton. In these experiments, squares are removed from fruiting branches (FB) 1-5 pre-flowering, FB 6-10 just after first flower, or both (FB 1-10; removed at two separate occasions) from plants within treatment plots. A summary of results from the 2019/20 trials was provided in a recent CottonInfo e-news. This research is continuing this season with local sites at "Korolea", Goondiwindi and "Norwood", Moree. Paul Grundy and the QDAF crew, pictured below were recently at "Norwood" to 'damage' any fruit on the FB 1-5.
CottonInfo Regional Extension Officers are also running a complementary trial in their regions. I'm running mine at "Tarrawatta", thanks to Mick Freeman for hosting this trial, I pegged it out last week, with the first damage to occur between Christmas and New Year.

QDAF staff “swarming in like Mirids” and damaging early fruit

The QDAF research team lead by Paul Grundy L-R Leisa Bradburn, Paul Grundy, Jamie Hopkinson and Jacob Balzer

Mick Freeman & Guy Holcombe “Tarrawatta” will host the CottonInfo Retention Trial at Mungindi/Talwood

Hiz Jamali’s Canopy Temperature Trials

In limited water cotton systems, growers may only have enough water for a single in-crop irrigation. The aim of this research is to develop strategies for optimizing irrigation scheduling in limited water situations by utilizing the canopy temperature data. Detailed trials are being conducted at the Australian Cotton Research Institute (ACRI) to investigate the effect of different irrigation strategies on yield and quality in limited water systems. Current research at ACRI is focusing on further refining the timing of a single in-season irrigation by applying the single in-season irrigation at different times within the peak flowering period.

To complement the work at ACRI Hiz Jamali, Research Scientist, CSIRO is working with growers in the Namoi and Gwydir Valleys to gather more CTS information from cotton crops grown with limited

water. A more detailed trial is being conducted at ‘Battery Hill’ near Gunnedah where Peter Lennox is investigating four irrigation strategies.
The growers are using different strategies when managing irrigations in limited water situations. The objective of this focus group is to share the knowledge between growers and researchers with the aim to develop strategies for managing irrigation in limited water cotton systems.
Jason Seigmeier, “Cleveland” and Andrew O’Connor “Strathguyle” are both collecting CTS data for Hiz this season.


Dr Hiz Jamali (far right) with Tracey May, CSIRO and Trial Co-operator Peter Lennox, Gunnedah


Canopy Temperature Sensor similar to this have been installed at ‘Cleveland’

Your help needed: your thoughts on regional wellbeing

Please we need some more Cotton Growers to participate in this survey.

- All in the cotton industry are encouraged to have their say on wellbeing through a shortened version of the University of Canberra Regional Wellbeing Survey
- In October, the Regional Wellbeing Survey was conducted; however, not enough people from the cotton industry completed it for the data to be statistically meaningful.
- The survey is important and we need people in the industry to complete it because the results and data will inform our industry’s sustainability targets for wellbeing.
- To encourage more cotton growers and industry members to have their say, the specific questions for the cotton industry have been compiled into a shorter survey, which all in the industry are encouraged to complete as soon as possible.

- By having your say, you will be playing your part and contributing to our industry's sustainability efforts around wellbeing.
- The first 200 cotton industry members who complete the survey will be given the choice of receiving a $30 gift card, or donating $30 to a charity of their choice.
- Closing date is January 31, 2021.

Have your say now: http://canberrahealth.az1.qualtrics.com/jfe/form/SV_6hwiThc1cncCtq5

Agskilled spray training

Tocal College in conjunction with Spray Safe and Save will provide an accredited Advanced Chemical Spray Application Training course, which consists of a one-day workshop, plus an on-farm or workplace visit to assist in customising spray plans and equipment set-up for each participant. The Advanced Chemical Spray Application Training course is designed for experienced broadacre spray applicators (growers, advisers, employees and spray contractors) and will be delivered by well-known specialist Craig Day from Spray Safe and Save.

Places are limited and registrations are required 25 days prior to the course start date.

The workshop event will cover: weather; drift reduction strategies and technologies; how to recognise and avoid inversions; chemical label requirements; record keeping including spray plans; practical strategies for mixing and applying chemicals; workplace health and safety; practical demonstrations using a variety of nozzles and water rates; water quality; and the effect of adjuvants in the chemical mix.
The workplace visit will cover development of customised spray drift management plans for winter and summer covering machine set-up and nozzles; calibration and testing of spray equipment as per spray plans; operation of equipment to ensure accuracy; general fine-tuning of the machine; time for one-on-one discussion to clarify any issues from the workshop.

2021 training locations in Northern NSW:

- North Star: workshop July 6; workplace visits July 7-9.
- **Mungindi: workshop August 3; workplace visits August 4-6.**
- Wee Waa: workshop August 10; workplace visits August 11-13.

To register or for more information contact Cath Sullivan on 02 6345 5818 or 0437 455 818, or via email craig.day@bigpond.com.

GROW course coming up

The HUGELY popular GROW course is on again! Designed for women to develop skills in time management, planning, communication, management, industrial relations and WHS - all tailored to women in farming businesses (and for our cotton growers, helping you tick off the WHS/HR modules in my BMP).
Delivery will be a mix of online and face to face training over 6 months. The locations for the first round are Moree, Dubbo and Griffith. Kick off will be January 27th BUT registrations close DECEMBER 24th and the Griffith workshop has very limited places left!! ***This course has been made possible through funding from the NSW Government's AgSkilled program.***
https://www.agskilled.org.au/courses/grow

I actually completed this course last year and can highly recommend it. Great content and it helps you tackle some of those demanding administrative farm jobs in a fun environment, with other women working in farm businesses with the same challenges. Lots of great knowledge and experience to share.

Dates for the Diary

- 14th December 2020: AWM (Cotton Catch-up) meeting "Red Mill" 3:30pm
- Thursday 14th January SLWF Monitoring and the New Decision Support Tool.
    - Richard Sequeira will be in **Mungindi** to meet up with interested consultants and growers to run through the new SLW sampling method and decision Support Tool.
    - Time – AM, and venue TBC.
    - Interested? email janelle.montgomery@cottoninfo.net.au or M. 0428640990
- Wednesday & Thursday 13-14: January Cotton pest management course – Narrabri
- Wednesday & Thursday 9-10 February (TBC) Cotton pest management course – Moree
- Wednesday 10th February 2021- Gwydir Valley Irrigators Association Field Day, Keytah
- AgSkilled Spray training with Craig Day. Mungindi: workshop August 3; workplace visits August 4-6.
    - To register or for more information contact Cath Sullivan on 02 6345 5818 or 0437 455 818, or via email craig.day@bigpond.com.

Wishing you all a very Merry Christmas

Regards
Janelle

Janelle Montgomery

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