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

Darling Downs

November 2020

Welcome to the November Edition

What is your attitude towards Area-wide weed management?

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

Research is currently being undertaken by the CSIRO and the University of Wollongong, to learn more about the attitudes of growers, agronomists, public land managers, industry representatives and government staff to area-wide management of weeds. This research is currently being undertaken on the Darling Downs and they are seeking people to partake in a telephone interview.

The interview will take about 30 minutes and questions will be asked about your experiences in managing weeds. They would like to understand more about your views on, and experiences of, area-wide weed management.

If you would like more information or are interested in being part of the research, please contact:

Name: Dr Sonia Graham
Email: sgraham@uow.edu.au
Phone: 0415 883 774

DALBY AIRPORT

Download

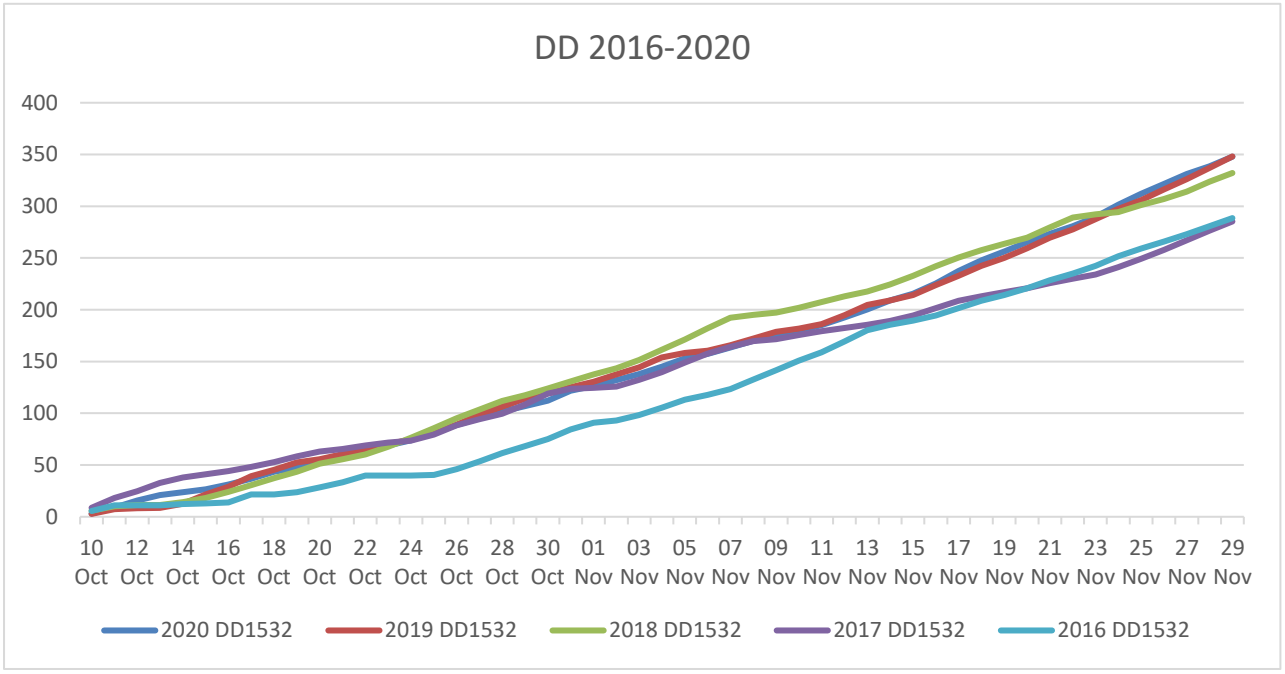
Date range: 10 October, 2020 to 29 November, 2020 (51 days).

Summary | Seasonal comparison

	2020	2019	2018	2017	2016	10 year mean
Base 12	574.7	603.1 ▲	540.8 ▼	488.9 ▼	521.0 ▼	558.8 ▼
DD1532*	347.9	348.1 ▲	332.2 ▼	285.3 ▼	288.6 ▼	335.6 ▼
Cold shock days (≤ 11°C)	8	12 ▲	4 ▼	9 ▲	14 ▲	7.9 ▼
Days above 36°C	8	9 ▲	3 ▼	0 ▼	1 ▼	4.5 ▼
Nights above 25°C	0	0	0	0	0	0.0
Days above 40°C	0	0	0	0	0	0.1 ▲
Total rainfall (mm)	51.8	11.4 ▼	158.8 ▲	100.9 ▲	66.2 ▲	66.3 ▲
Total radiation (MJ/m^2)	1179.5	1253.6 ▲	1143.4 ▼	1084.9 ▼	1227.0 ▲	1083.6 ▼
Average temperature (°C)	23.1	23.3 ▲	22.5 ▼	21.3 ▼	21.5 ▼	22.7 ▼

* Experimental calculation.

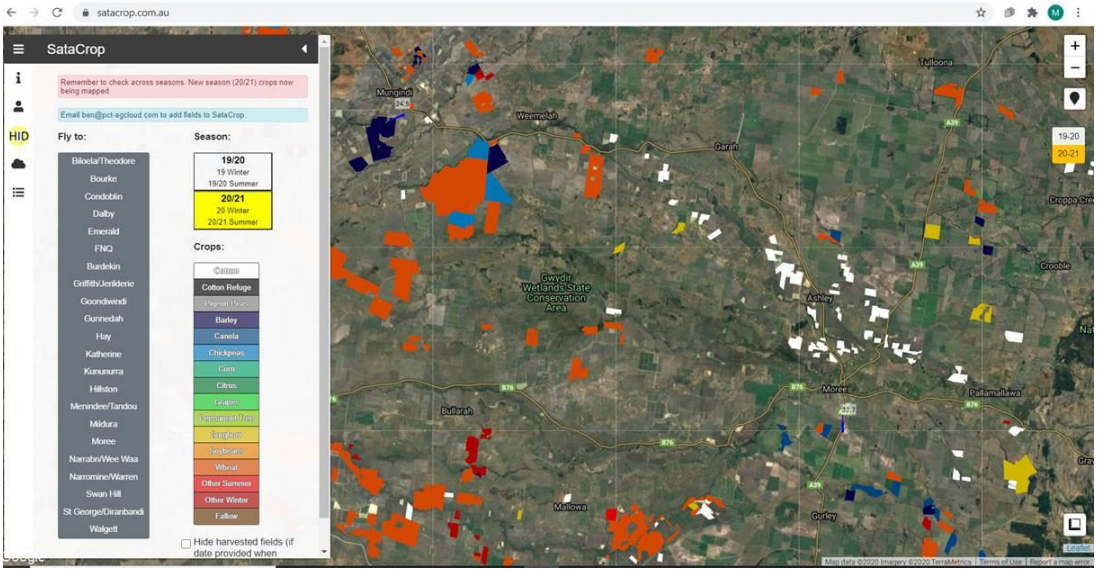
Climate observations and data are obtained via the State of Queensland SILO patched point dataset.



Satacrop - https://satacrop.com.au/

Reminder for everyone to ensure you are updating SataCrop with all crops, not only cotton. It is so important this map gets completed so ALL susceptible crops are marked out easily for spray applicators and farmers to see.

To gain access to the SataCrop website for editing purposes, you will need to email Ben Boughton at PCT-agcloud on ben@pct-agcloud.com



Plant health top tips - November: Communicate your biosecurity requirements

If it can move, it can carry pests, weeds, and diseases. For this reason, it is important to communicate your biosecurity requirements to all people entering farms. Never assume people know the biosecurity measures you have in place for your farm.

If there are any growers that have a documented Farm Biosecurity plan – could you please get in contact with myself. CottonInfo are interested in getting in touch with a grower for a case-study.

https://cottoninfo.com.au/blog/plant-health-top-tips-august-time-start-pre-season-planning-consider-your-ipm-strategies

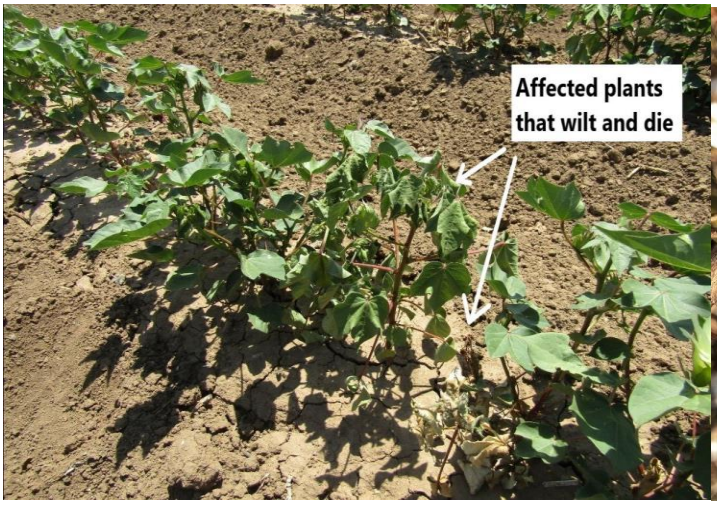
Reoccurring wilt: Possible new cotton disease

QLD DAF pathologists are currently investigating a likely new pathogen as the potential cause of dying plants reported in Central QLD, Gwydir, and Namoi cotton fields.

Over the past couple of seasons, this pathogen has presented on multiple farms in the Central QLD region with reoccurring patches of dying plants leading to a report. The same pathogen under investigation was isolated in NSW from dead plants sampled from the Namoi and Gwydir valleys.

Known endemic diseases have been ruled out. Symptoms have similarities to the high priority exotic disease Texas Root Rot, and this has been ruled out as the causal pathogen, along with other industry high priority exotic diseases.

While a formal identification is pending, indicators suggest it has potential to be an important disease. Further work is ongoing to link whether this pathogen in Central QLD, the Gwydir and the Namoi is the cause of dying plants in each valley. **Further information and details from the investigation will be provided to industry as it becomes available.**



Have you seen fields with the following symptoms?

- The odd plant or patches of plants that wilted and suddenly died with dead leaves usually remaining on the plant.
- Reoccurring patches of dying plants getting larger over past seasons with no explanation for plant death i.e. seasonal conditions.

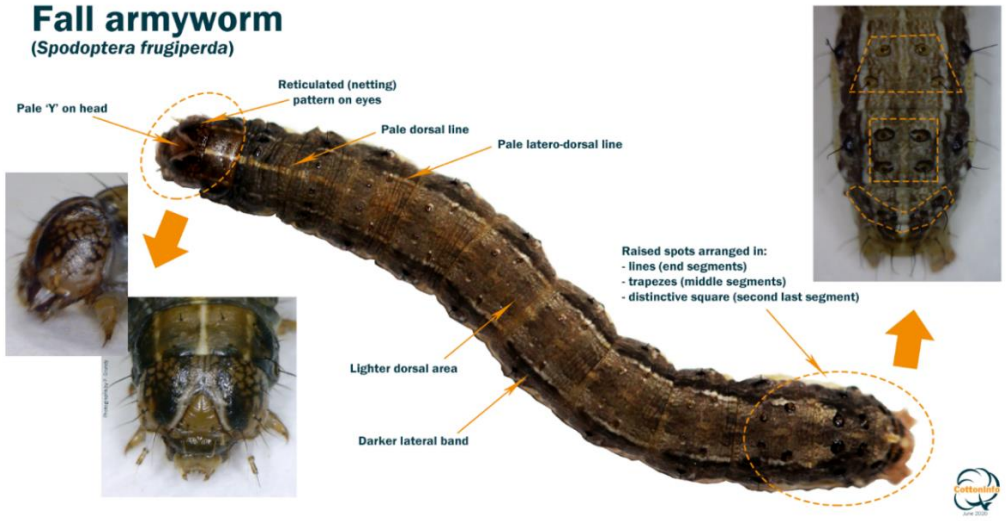
- Dying plants can be amongst healthy plants.
- Bronzing of leaves and petioles.
- Reddening of the roots and root decay i.e. if plants are pulled out of the soil, the taproot snaps due to root decay.
- May see reddening of the vascular tissue.
- Stem canker/lesions may be present.

Keep an eye out for these symptoms this coming season. If you have concerns or plants expressing symptoms, contact your state pathologist:
QLD DAF: Dr Linda Smith 0457 547 617
NSW DPI: Dr Duy Le 0439 941 542 or Dr Karen Kirkby 0428 944 500

We are encouraging growers and consultants to send in any suspected samples for diagnostics to assist with determining the potential extent of the issue across cotton growing regions.

Fall Armyworm Detected

Fall Armyworm moths have been detected on the Darling Downs.



Queensland Department of Agriculture and Fisheries Entomologist and CottonInfo IPM Technical lead, Paul Grundy, has provided the following update:

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

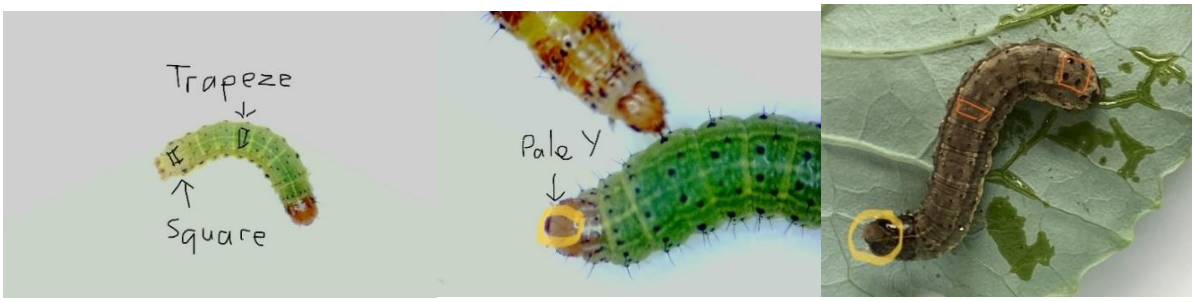
Importantly, please note that FAW have not been detected in in any cotton crops (either Bollgard® 3 or unsprayed non-Bt cotton refuges) grown over the last 7 months in Northern Australia. Host preference field studies conducted by Dr Brian Thistleton and his team at the Department of Primary Industries and Resources in the NT also found no evidence for FAW moth laying eggs in in field grown cotton plots, however their study did show that FAW could feed and develop on conventional cotton when confined within containers in the lab without alternate host choices.

The incursion of FAW in Australia is still very new and therefore it is too early to definitively rule scenarios in and out. However, at this stage field observations and studies suggest that cotton is not a preferred host for egg laying FAW moths. Given that >90 per cent of the crop grown is Bollgard® 3, people are unlikely to encounter this pest on cotton during the coming season. For cotton crop managers the clear message is be alert not alarmed.

If you find or suspect that larvae of this pest are present in your cotton fields (on either Bollgard or non-Bt cotton refuges) please notify your local CottonInfo REO or the industry's IPM Technical Lead (Paul Grundy) so that steps can be taken to verify an identification. This is important as many researchers are currently trying to understand the pest status and host range for FAW. Fall armyworm can be very difficult to distinguish from Helicoverpa spp. when they are small (<15mm) in size, becoming easier to identify as they become larger. Some of the key characteristics are depicted on the larval image below and this YouTube video."

Further Information:
The Beatsheet and GRDC websites host a good range of information and links to other resources for those seeking more information. The Beatsheet also hosts FAW trap count information on their website for a range of locations.

GRDC are hosting a **webinar update on FAW** on **November 12th at 9am** (AEST). Melina Miles from QDAF and Brent Wilson from Nutrien Ag Solutions will make presentations. To register for the webinar, click here.



Photos show some of the key features used to identify FAW.

CSD Ambassador Update – Darling Downs

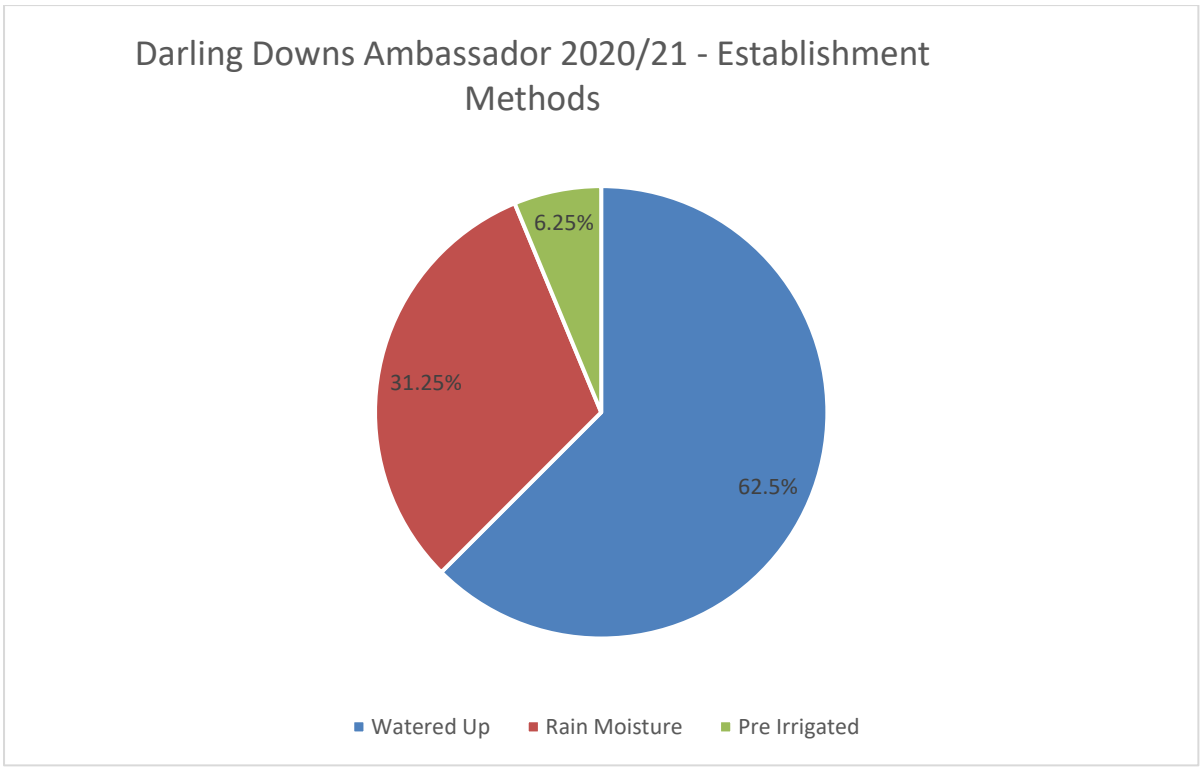
Larissa Holland – CSD Agronomist has provided us with an update on how the CSD Ambassador sites are going to date. season.

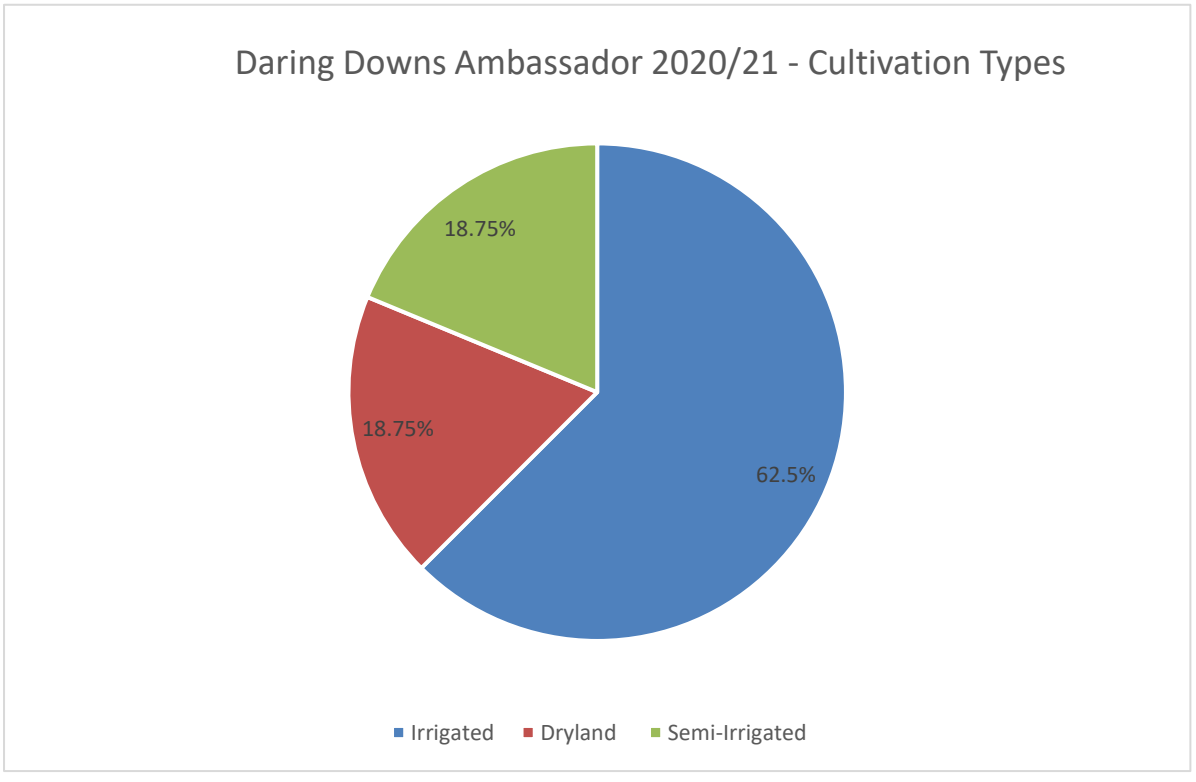
Breakdown on the Darling Downs Establishment – 2020/21 Ambassador Network

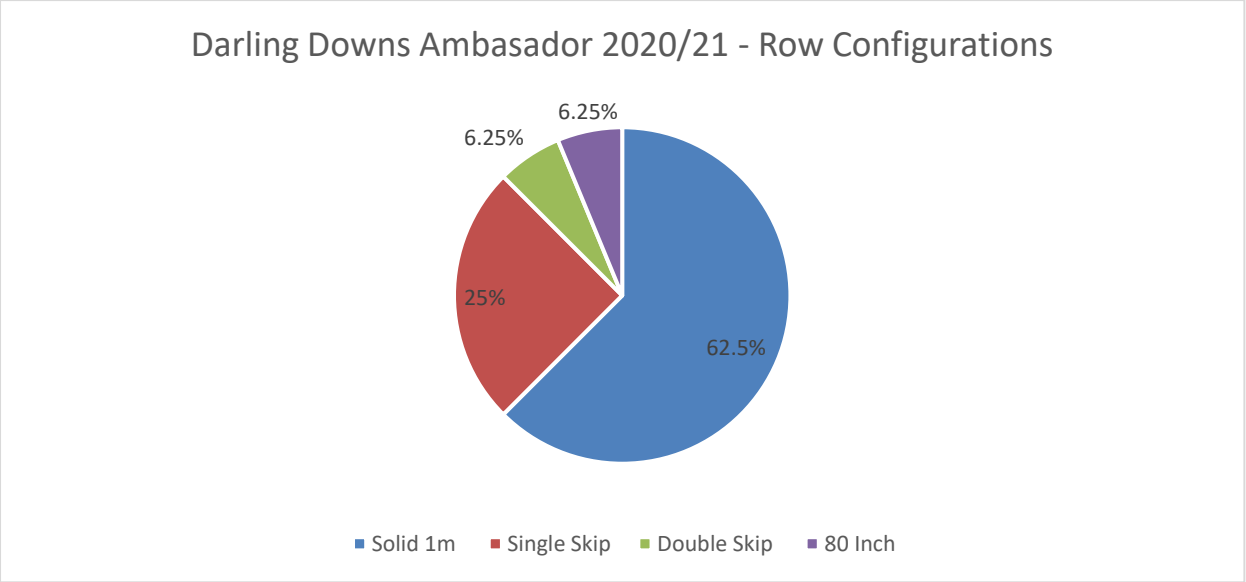
- Rainfall events in October has allowed for some dryland planting to take place.
- Irrigated crops in the Ambassador Network on the Downs were predominantly watered up for establishment.
- Establishment has been a mixed bag this year due to less than ideal weather conditions – irrigated crops had an establishment of 90% on average, while this decreased in dryland and semi-irrigated crops, which were down to 60-70% on average.
- Seed beds are drying down in the hot and windy conditions. Cooler nights have provided some respite for crops.
- High thrip pressure was observed early on in a number of fields, while wireworm activity in the soil has also been observed.
- There is still potential for late cotton to be planted on the Downs, if rain arrives in early December.

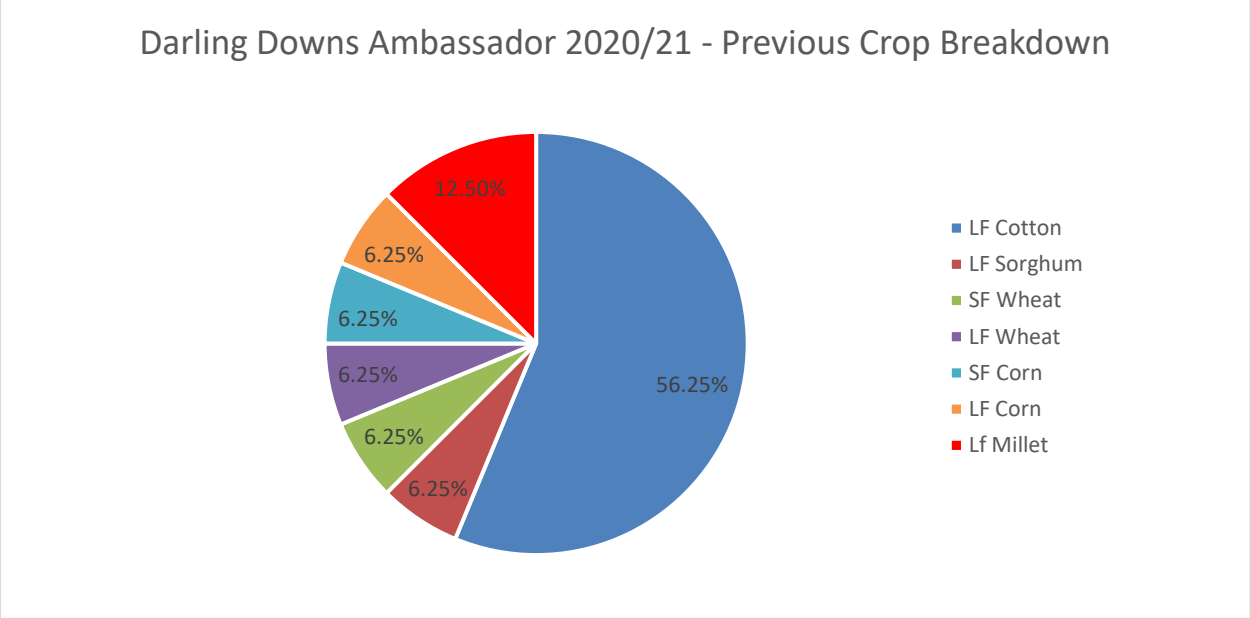
Ambassador Network - Planting and Establishment Overview

	Irrigated Average	Dryland Average	Semi-Irrigated Average
Field Condition Score	1.2	1.0	2.5
Stubble Cover (%)	3.8	8.3	6.0
Planting Depth (cm)	1.7	2.5	2.6
Planting Speed (km/hr)	9.0	8.5	12.0
Soil Temperature (°C)	19.8	21.0	23.0
Seven Day Forecast	79.1	77.3	76.3
Range of Seed Imbibed Dates	12-Oct to 18-Nov	01-Nov to 19-Nov	03-Nov to 19-Nov
Planting rate (seeds/m)	13.7	12.8	14.0
Establishment (plants/m)	12.1	8.0	9.7
Final Establishment (%)	90.1	61.9	69.3
Number of trials	10	3	3


Darling Downs Ambassador 2020/21 - Establishment Methods
6.25%
31.25%
62.5%
Watered Up
Rain Moisture
Pre Irrigated


Daring Downs Ambassador 2020/21 - Cultivation Types
18.75%
18.75%
62.5%
Irrigated
Dryland
Semi-Irrigated





First Irrigation

Timing of first irrigation is critical to setting up a plant structure capable of supporting early fruiting growth. The CottonInfo water team have put together an "Irrigation Toolbox Series" which includes factsheets and videos to help you better understand best practice for an efficient irrigation. A recent CottonInfo e-newsletter "Timing your First Irrigation" focused on this important step in crop management.

Key points include:

- Monitor soil moisture conditions – use a shovel!!!
- Irrigate at around 50% available water WITHIN THE ROOT ZONE
- Check weather forecasts near time of irrigation
- Irrigate at time of hot spell if soil moisture looks limiting
- Do not over irrigate

The newsletter contains further detail and links to a range of other resources including the below Mike Bange Video on the topic (press Ctrl + Click on picture).

Furthermore, see CSD's Facts on Friday from 2019 on the importance of first irrigation here.

Late Plant or Replant Considerations

The CSD Facts On Friday publication from October 27 covered considerations for late plant or replant cotton crops.

The replant calculator assists growers in determining the potential of the current crop versus the potential of a replanted crop.

The Facts on Friday document provides crop management targets for late plant cotton along with the reasoning for those targets. It also discusses important considerations such as variety choice, potential pest and disease issues and challenges in maturing the crop for harvest.

Access to the above replant calculator and publication is restricted to CSD members.

Stay ahead of the pack on climate news!

Each Friday morning, Ag Econ's team of analysts release a region-by-region summary of the coming monthly outlook, detailed analysis of climate conditions, expert commentary from global climatologists, the latest climate research findings, farmer climate stories, weather App reviews, heatwave monitoring and where to access the latest tools and models. The most recent analysis breaks down the science from available guidance and investigates where the current La Niña has been and when is it going to arrive! visit https://www.agecon.com.au/farmer-forecast

New Sampling Method of monitoring Silverleaf Whitefly

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 DAF 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.

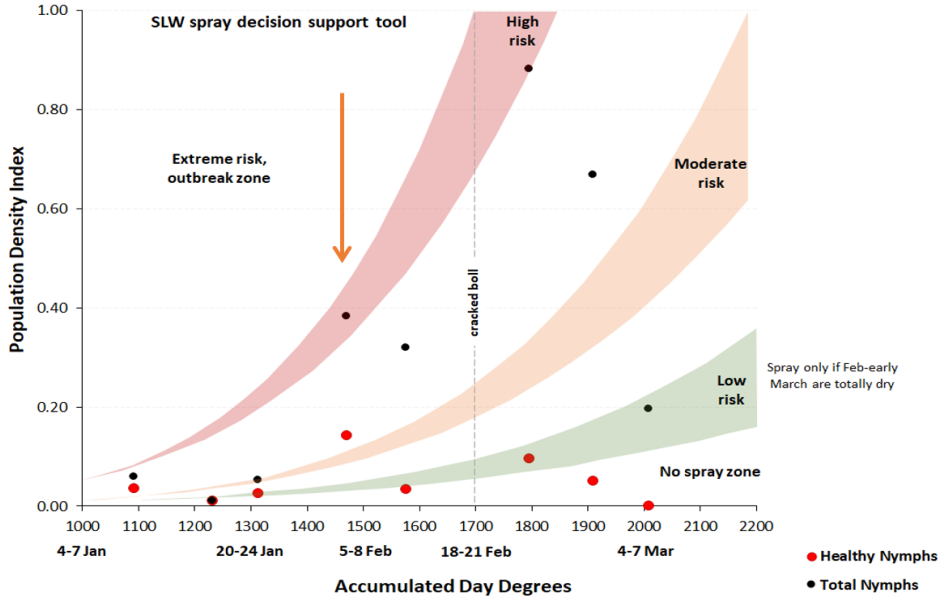
Given the small size of nymphs, a phone sampling app is currently under development in another CRDC project by DAF and USQ. The phone app will potentially automate detection and categorisation of nymph on leaves and circumvent the need for manual checking. However, in the interim, the DST is available to crop managers for this season (2020-21) as an excel workbook; it includes a data entry and visualisation worksheets.

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. 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.

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 (DAF).

You can also contact Richard directly if you require any further information

T 07 4991 0810 **E** richard.sequeira@daf.qld.gov.au **W** www.daf.qld.gov.au **M** 0407 059 066

Dates for the Diary

- Christmas is fast approaching!!!

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