



**Information** when you need it



# Darling Downs

**December 2022**

## **Welcome to the December Edition**

Another Christmas is upon us. It seems like not that long ago I was typing the Christmas edition for 2021 and wishing everyone the best of health for 2022. Again, the year has presented itself with many challenges and obstacles for us to navigate. May 2023 be filled with laughter and good health to you all.



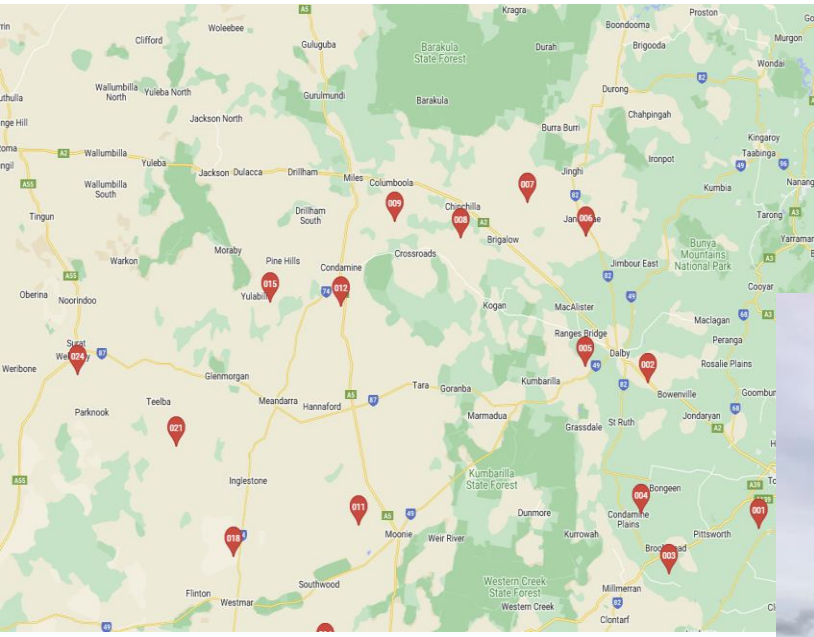
## WAND System

WAND (Weather and Networked Data) is a new technology that provides real time weather data about the presence or absence of hazardous temperature inversions. This will take the guess work out of when you can and can't spray and potentially open more spraying hours with greater certainty. 100 inversion towers (10 m high, Profiling Automatic Weathers Stations (PAWS)) are currently being installed across the eastern Australian grain and cotton regions. The data is provided by the WAND app to your phone, ipad or desktop. If a hazardous inversion is present, you cannot spray. However, if a hazardous inversion is absent you can consider spraying so long as and all other label recommendations are being met, ie wind speed, nozzles, application speed, boom height etc.



*Best Practice*





A short video about the WAND system is available [here](#)

**WAND is available to all farmers and spray contractors for free. To access the WAND app go to [GoannaAg WAND website](#) .**

GRDC recently held a very good **webinar**: GRDC Grains Research Update, online – The new inversion tower network and reducing spray drift risk. The recording is available [here](#). The WAND system presentation by Gordon Cummings starts at 33 minutes.

### What the research found?

Graeme Tepper's GRDC and CRDC funded research over the past 10 years has found the importance of measuring vertical wind turbulence as opposed to vertical temperature differences.

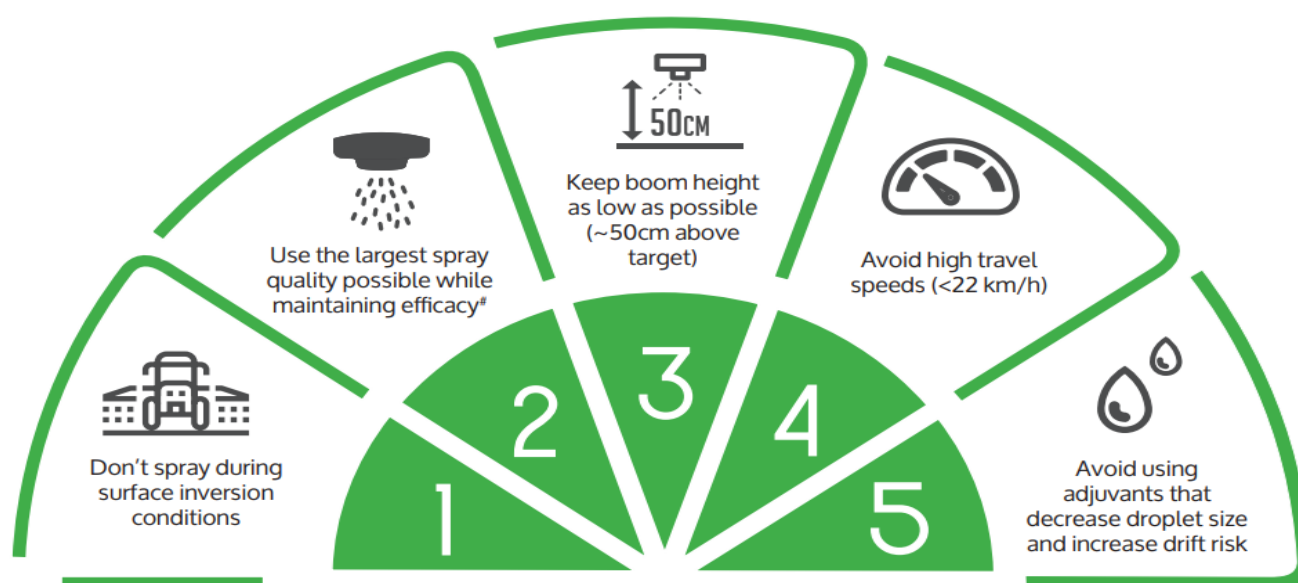
- Hazardous inversions occur when the atmosphere is strongly stable and the intensity of turbulence is so weak that drift is not dispersed vertically.
- Recognised monitoring systems have sensors to measure the intensity of vertical turbulence.

Further information on the research:

- [GRDC Hazardous Inversion Fact Sheet](#)
- [GRDC Spray Drift Hazard warning system](#)

The WAND system only detects hazardous inversions you still need to follow the 5 commandments during all spray operations.

## Five commandments according to SOS



# Observe label directions for minimum and maximum droplet size. Water rates may need to be modified with increased droplet sizes

### Map crops on SataCrop to prevent 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 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:

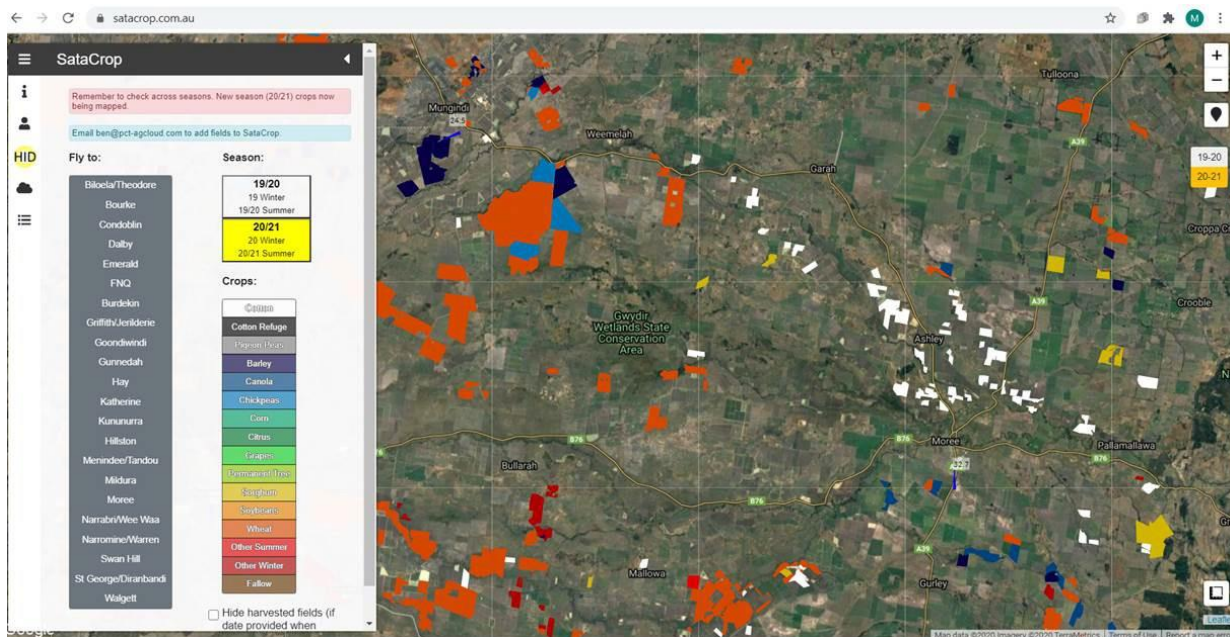
1. Reading and following spray label instructions. Ensuring you are up to date with the APVMA label changes to 2,4-D products.
2. Check the current and forecast conditions before spraying. Do not spray when there is a surface temperature inversion.

Growers can access SataCrop by visiting <https://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>



## CSD & CRDC partner on Disease and Water Research

*Cotton Seed Distributors (CSD) and the Cotton Research and Development Corporation (CRDC) are partnering to support the delivery of integral research to benefit growers.*

*Two substantial initiatives were developed in response to feedback from growers through the cotton industry's extension network, including the CSD team and CottonInfo: a partnership of CRDC, CSD and Cotton Australia.*



*Image: Allan Williams, Ian Taylor, and Peter Graham*

**Read more here:**

[CSD | News and Media | CSD and CRDC partner on disease and water research](#)

## New Magazine by QFF

Great new magazine put out by QFF. Great for anyone with kids, nieces, nephews, or friends contemplating a career in Ag.

<https://www.careerharvest.com.au/qff-careersinag>

## Researcher Profile – Malem McLeod

Name:	Malem McLeod
Position:	Research Officer, Soil and Water R&D North
Research Organisation:	NSW DPI
Research Area: (Soils, nutrition etc)	Soil hydrology, agricultural water productivity
Title of Current Research Project:	DAN2303 Water Productivity Benchmarking in the Australian Cotton Industry (2022-2025))
CRDC funded: Yes/No, if No who?	Yes

### Where are you from? (bit of background about the researcher)

I was born in Indonesia and worked as a lecturer in Soil Science there between 1987 and 1991. In 1993, I completed a Masters in Natural Resources Management from UQ, then did my PhD at UNE (completed in 2003). I also hold an MBA in International Business and Human resources Management from UNE (2011), and a Certificate IV in Training and Assessment.

I moved to Tamworth in 1999 to work in the water and salinity research with DPI. With a strong background in soil physics and understanding of physical based processes of water movement within the crop root-zone, my research focus is to improve soil & water productivity and sustainability of farming systems. I have assessed soil and water productivity of broadacre crops, pasture, and agroforestry systems. Prior to leading the current cotton benchmarking project, I contributed to and lead ACIAR funded projects to improve the productivity of farming systems in the tsunami affected regions of Aceh, Indonesia. I am also currently leading to the water component of sorghum yield optimisation project co-funded by GRDC.

### How have you ended up in cotton research?

I was a team member of the cotton benchmarking project led by David Perovic (DAN2002, 2019 — 2022). I really enjoyed my part, which was to develop a metric for water productivity of rainfed cotton. When David left DPI in May 2022, I took the challenge to complete it and lead the current benchmarking project (DAN2303). During this process, my understanding about the industry and their need to demonstrate good water stewardship, grew. I also witnessed how generous, and collaborative are the Australian cotton growers.

### What excites you about working in the cotton industry?

The resilience of people in the industry is inspiring. They are open to embracing new idea and continue improving their water productivity and improve sustainability indicators.

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

Outside work: I read, listen to music, grow edible plants, cooking what I grow, catching ludericks, and occasionally hike.



### Dates for the Diary

- 7- 8 th Feb 2023      Weed Smart Week, Dalby

#### **Annabel Twine**

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