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## **World-first solution to combat spray drift saves growers time, money**

More than 2,400 grain and cotton growers and spray contractors across QLD and NSW have signed on to a world-first, Australian-developed weather data system to help minimise spray drift and limit the damage it causes to food and fibre crops and the environment.

Spray drift has long been recognised as a significant, multimillion-dollar problem for agriculture. This is highlighted by the recently published CRDC Grower Survey, 2023, which reported a staggering one in two cotton growers being impacted by spray drift, with a devastating impact – on average – of over \$250,000 for each impacted grower.

The Weather and Networked Data (WAND) system helps growers understand when they can (and cannot) spray by providing free real-time information and a two-hour nowcast of hazardous surface temperature inversions. Spraying during this natural meteorological phenomenon can carry spray droplets several kilometres from the target area, damaging crops and native vegetation.

The result of six years of collaborative research by the Cotton Research and Development Corporation (CRDC) and Grains Research and Development Corporation (GRDC) – with the support of commercial partner, Goanna Ag – WAND is a much-needed solution to a problem shared by all primary producers, both across Australia and around the world.

### ***Result: 60% of growers who have accessed WAND have made a change in their spray application***

Regulations prohibit growers from spraying when hazardous surface temperature inversions are present. However, until now there has not been any objective means by which to identify them and hazardous inversions can form and dissipate at any time of the night from one to two hours prior to sunset up-until one hour after sunrise.

When combined with additional safe-use requirements like wind direction, maximum wind speed and daytime temperatures (as well as labour availability) the window for compliant spraying can be limited.

“In the absence of evidence of when a hazardous inversion exists, the rule of thumb has been to not spray during the period from two hours before sunset, until two hours after sunrise,” Susan Mass, Senior Innovation Broker at CRDC, said.

“WAND replaces that assumption with real-time data on specifically when a hazardous inversion is present, allowing spraying to continue during periods when hazardous inversions are shown to be absent.

“Early analysis by Goanna from the first year’s data suggests that this ability to continue spraying during the night when hazardous inversions are shown to be absent has on average provided an additional 4 hours of spraying when compared to stopping once a simple temperature inversion has formed. This means if you are working on a spray rig covering 50 hectares per hour, you have the potential to cover an additional 200 hectares per day, assuming other spray parameters were also ok. That is really significant given the time-critical nature of effective weed control.”



## ***24-hour forecasting service set for release***

In addition to the two-hour nowcast currently available to users, WAND is set to release a game-changing 24-hour forecasting service, in time for the 2023/24 growing season.

“From January we are introducing a new 24-hour forecasting feature, this will provide users with significant benefits in terms of spray job planning, staffing and logistical support. Jay Jalota, CEO of Goanna Ag, said.

“They can log in to WAND the day before, check if conditions will be suitable, and then make decisions about whether to send out workers or not. It will save them time, and money.

A second new feature will be the ability to see all historical data, graphically represented back as far as 2 years, rather than the current limitation of only 48 hours.

“To showcase the benefits of these two new premium features, all WAND users will be able to access this data on a trial phase for two months, before being invited to sign up for a WAND subscription, starting at \$100 per year.

“But we don’t want to leave anyone behind, which is why the critical features of WAND – the real-time weather data, the detection of the presence or absence of hazardous inversions, and the ‘nowcast’ prediction within the coming two hours – will continue to be free for all WAND users.”

CRDC’s Susan Maas welcomes the changes such as advertising and added premium features.

“This is a crucially important step forward for WAND as it transitions from being research and development supported by GRDC and CRDC, to a commercialised product delivered by Goanna Ag for the benefit of the grains and cotton industries. Ensuring it is self-sustaining means vital research and development levy funds can be reinvested by GRDC and CRDC in important new projects for growers.”

## ***CRDC and GRDC want all growers to get on board***

2,400 users have signed up since WAND was introduced in December 2022. But with more than 5,000 growers located within the WAND footprint, the RDCs are eager for more growers and spray contractors to access the free service.

“The more users we have, the more spray drift we can minimise, and the more damage we can prevent,” Gordon Cumming, Manager of Chemical Regulation at GRDC, said.

“This type of innovation is exactly why GRDC and CRDC invest in research: to deliver tangible solutions that make a real difference for our growers and their communities.

“WAND is world-leading, available now, and it is free to access simply using your smartphone. We urge growers to take advantage of this huge opportunity, and work with us to reduce the impact of spray drift on Australia’s cotton and grains industries.”

To access WAND, visit the website [www.wand.com.au](http://www.wand.com.au)

See attached fact sheet for more information.

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