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Australia's GRDC develops real-time data analytic WAND system to aid cotton growers with crop sprayingÂ

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A world-first, Australian-developed Weather and Networked Data (WAND) system to minimize spray drift in real-time and limit the damage it causes to food and fiber crops and the environment. In Australiaâ??s QLD and NSW, more than 2,400 grain and cotton growers and spray contractors have adopted the novel technology. Around 60% of growers who have accessed WAND have made a change in their spray application.

Spray drift has long been recognised as a significant, multimillion-dollar problem for agriculture. This is highlighted by the recently published Cotton Research and Development Corporation (CRDC) Grower Survey 2023, which reported a staggering one in two cotton growers being impacted by spray drift, with a devastating impact â?? on average â?? 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 Grains Research and Development Corporation (GRDC) and CRDC â?? with the support of commercial partner, Goanna Ag â?? WAND is a much-needed solution to a problem shared by all

primary producers, both across Australia and around the world.

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.

Jay Jalota, CEO of Goanna Ag, said â??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.

CRDCâ??s Susan Maas says â??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 growersâ?.

Gordon Cumming, Manager of Chemical Regulation at GRDC, said â??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 Australiaâ??s cotton and grains industries.â?