

# RESEARCH DIRECTIONS

## Cotton adapting to climate

**Associate Professor Brajesh Singh, Prof David Tissue and Professor Ian Anderson of the Hawkesbury Institute for the Environment, together with Dr Michael Braunack and Dr Michael Bange of CSIRO Plant Industry, have received funding from the Cotton Research & Development Corporation to investigate the ability of the cotton industry to adapt under extreme weather conditions and climate change.**

'In recent times increased extreme weather events, including flooding, drought and prolonged heatwaves have significantly challenged farming in Australia,' says Associate Professor Singh. 'Most recent forecasts predict the frequency and intensity of extreme weather events will increase under future climate conditions. Therefore, the cotton industry needs to identify risks associated with these climate events and develop adaptation strategies to maintain productivity. This project will identify the impacts of extreme events on soil fertility and subsequent consequences for cotton productivity. It will also focus on insights into agronomic management requirements for recovery of soil fertility.'

Predicted future climate scenarios will be used to design experiments at two different sites with distinct soil types. Using the state-of-the-art climate change research facilities at UWS and field studies conducted in Narrabri, NSW, this project will monitor soil fertility, investigating the effects of climate change on cotton yield and quality. Experimental data will be used to inform models that will be able to predict productivity and nutrient cycling under future climatic conditions for the years 2020-2040.



This project will contribute to improved farming system and management programs by advancing the knowledge of cotton growth and agronomy leading to better crop productivity with the capacity to recover from extreme weather events under current and future changing climate conditions. It will also help maintain industry profitability and sustainability, and support growers to reduce greenhouse gas emissions, helping them reduce costs and preparing them for any introduction of more stringent carbon-accounting regulations.

**Project Title:** Cotton Industry adaptation to extreme weather and climate change

**Funding has been set at:** \$525,326

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