



SMALL GRANT REPORT

CRDC ID:	DDCGI 11657
Project Title:	Grassroots Grant: Darling Downs Cotton Grower Inc weather station upgrade
Start Date:	01/05/2025
End Date:	31/12/2025
Principal Researcher:	Daniel Skerman
Organisation:	Darling Downs Cotton Growers Incorporated

Project Summary

The purpose of this project was to upgrade the remaining 9 of the 22 DDCGI weather stations that were fitted with early-model 4G modems which have proven to be faulty and unreliable since installation approximately 3–4 years ago. These intermittent failures resulted in data dropouts and reduced confidence in the network during critical spray decision-making periods.

The DDCGI weather station network has been operating since 1993–1996 and provides free, localised weather data to cotton and grain growers across the Darling Downs. Following the successful replacement of 13 stations under a previous grant, it became clear that the ongoing issues at the remaining sites were due to modem reliability rather than mobile network coverage.

This project replaced the remaining faulty modems with the same proven modem configuration used across the rest of the network, creating a consistent, reliable platform across all stations. As a result, the network can continue to deliver accurate, real-time weather data to support safe and effective spray application practices and minimise the risk of off-target drift.

Outcomes & Impact for Industry

The project delivered the following outcomes for industry:

- **Improved Network Reliability:** Replacing unreliable modems has significantly reduced data dropouts and restored confidence in the weather station network.
- **Consistent Technology Across the Network:** All stations now operate on the same modem platform, simplifying troubleshooting, maintenance and future upgrades.
- **Enhanced Spray Decision Support:** Reliable access to temperature, relative humidity, Delta T, rainfall, wind speed and direction supports better spray timing and improved chemical efficacy.
- **Ongoing Free Access:** The network remains freely accessible to cotton, grain and

mixed farming enterprises, supporting whole-of-district best practice spray management.
M&E Outcomes: Number of outcomes achieved.
0
People Connections
The project did not involve direct engagement events; however, growers were kept informed through existing DDCGI communication channels. Updates and reminders reinforced the availability and value of the weather station network, particularly during high-risk spray periods.
M&E People: Number of connections achieved.
0
Learnings
Key Learnings: Equipment Reliability is Critical: Even modern technology can vary significantly in performance. Standardising equipment across the network greatly improves reliability and maintainability. Consistency Reduces Risk: Operating a single modem platform across all stations reduces downtime, troubleshooting time and reliance on external technical support. Ongoing Communication is Important: Regular reminders help ensure growers continue to actively use the network rather than assume data issues are weather- or coverage-related. Future actions will focus on continued promotion of the network, proactive maintenance, and monitoring for emerging connectivity or hardware issues.
M&E Learnings: Number of learnings and planned actions for the project.
0
Do you have recommendations for CRDC (eg RD&E gaps?)
Access costs for proprietary weather data platforms may limit adoption. The DDCGI weather station network demonstrates the value of free, open-access data in supporting best practice spray management. Continued support for shared infrastructure and open data systems would deliver broad industry and community benefit.