



This project received funding from the Australian Government's Future Drought Fund.

Securing a resilient future for Australian sheep



Climate Resilient Sheep Systems is a national project that will help sheep producers build drought and climate resilience into their enterprise through improved genetics, feedbase systems and landscape management.

Led by Adelaide University and Murdoch University with funding from the Australian Government's Future Drought Fund, the *Drought and Climate Resilient Sheep Farms and Landscapes* project (shortened to 'Climate Resilient Sheep Systems') is bringing together researchers, farmers and industry partners to develop practical solutions to improve long-term resilience and sustainability of both sheep and pasture systems during drought conditions.

Its findings will benefit sheep graziers, mixed farming enterprises and regional NRM and Landscape Boards through breeding; proven pasture and landscape improvement strategies; and actionable on-farm practice change.

The project will run from June 2025 to October 2030, with trials established across New South Wales, South Australia and Western Australia.

Why?

Increasing extremes of heat and drought are a major challenge for

sheep production systems across much of Australia. Heat and drought impact fodder growth, soil stability, water and shade availability and animal welfare – all of which affects livestock performance.

Addressing these challenges requires an integrated approach, from improved sheep genetics to more resilient feedbase systems.

By coordinating national research capacity with local, farmer-led trials, Climate Resilient Sheep Systems can better meet the needs of our famers, flocks and landscapes.

"This project is about understanding the whole system, from soils and plants through to animal performance and genetics."

DR ANDREW THOMPSON, PROJECT LEAD, MURDOCH UNIVERSITY

Project objectives



Objective One

Determine if mixed pasture and browse plantings will achieve the following outcomes for farming systems and landscapes.

1. Create a reliable and nutritious feed supply for sheep during periods of drought.
2. Reduce reliance on preserved fodder sources.
3. Support system diversification without impacting profitability through effective use of both productive and marginal land.
4. Create micro-climates that mitigate the impact of heat, unseasonal rain and drought on sheep and the feedbase.
5. Create a more stable and biodiverse landscape.



Objective Two

Determine if incorporating physical, physiological and behavioural traits which increase the resilience of sheep to drought, heat and climatic uncertainty create more resilient farming systems and landscapes.

“Working closely with farmers and farming systems groups ensures the solutions we develop are practical, relevant and suited to local environments and regional conditions.”

DR WILLIAM VAN WETTERE
PROJECT LEAD
ADELAIDE UNIVERSITY



Objective Three

Identify practical management strategies which improve farm resilience and profitability, and address existing barriers to adoption of mixed pasture and browse plantings.



Structure

Climate Resilient Sheep Systems will bring together researchers, regional extension and communication networks, local farming systems groups and farmers in a collaborative national effort.

Two project leads and controlled research sites

Project leadership and scientific research services for exploring genetics linked to heat tolerance, feed efficiency and drought adaptation in sheep; and measuring the performance of different fodder systems.

Adelaide University,
Roseworthy campus, SA

Murdoch University,
Muresk Institute, Northam WA

26 local implementation and validation trials

On-ground trials designed and run by individual farming systems groups in close collaboration with their members, to reflect regional conditions and sheep farming systems.

Eight in New South Wales

Eight in South Australia

Ten in Western Australia

Regional coordination, communication and extension

Project management, funding, advice and networking from regional drought resilience hubs and industry partners.

Support for on-ground validation project partners

Extension of project updates, findings and practice recommendations to local producers and industry stakeholders

National communication, coordination, integration and information sharing

PARTNERS

