

2026 RESEARCH PROGRAM

GRIFFITH RESEARCH FARM

Beelbangera

- Canola Variety Evaluation Trials (Conv/CL; Glyphosate & TT)
- HBS Dryland Wheat, Barley & Oat Variety Trials
- Ag Grow Fertiliser Placement in Canola, Wheat & Lentils Trials
- Ag Grow Lentil & Field Pea Nutrition Trials
- GRDC RiskWi\$e - Nitrogen Systems Trial (N theme)
- GRDC RiskWi\$e – P Response Trial (Theme 2)
- GRDC Lime Legacy Trial
- LongReach Plant Breeders Dryland Wheat Trial
- LongReach Plant Breeders Acid Tolerant Trial
- GRDC Pulse Agronomy Trials – Species comparison, P Response & Pulse Species x Sowing Time
- GRDC Stripe Rust Grain Adopt Trials- Stripe rust management strategy & variety performance
- GRDC Lentil NGN Project - Lentil variety x TOS trial & Lentil pre-emergent crop safety trial

HILLSTON IRRIGATED SITE

Co-operator - Graeme Horneman "Wilga Glenn"

- HBS Irrigated Wheat & Barley Variety Trials
- LongReach Plant Breeders Irrigated Wheat Trial

BARELLAN SITE

Co-operator – Jeff Savage "Mayfield"

- GRDC Pulse Legacy Trial

2026 TRIALS

Canola Variety Evaluation Trials

Funded by Ag Grow Agronomy, Advanta Seeds, AGT, BASF, Cargill, Nuseed, Nutrien Ag Solutions, Pioneer Seeds and RAGT

These trials aim to compare the performance of potential canola varieties with existing canola varieties commonly grown on dryland in Southern NSW. The trials consist of a Clearfield - IMI Tolerant/Conventional trial, a Glyphosate trial and a Triazine Tolerant (TT) trial. Each trial will be managed according to their herbicide technology, where appropriate. These trials complement existing NVT trials.

It is a collaboration with seed companies - Advanta Seeds, AGT, BASF, Cargill, Nuseed, Nutrien Ag Solutions, Pioneer Seeds and RAGT.

Hart Bros Seeds Variety Dryland & Irrigated Variety Trials

Collaborating with Hart Bros Seeds, funded by Ag Grow Agronomy and HBS

Two sites (dryland and irrigation) established in 2025, comparing the performance of potential wheat, barley and oat varieties with existing varieties commonly grown in SNSW under local irrigated and dryland conditions. The trials are focussing on varietal suitability in terms of yield, grain quality, plant height, lodging, structure and acid soil tolerance. These trials complement existing NVT trials.

The dryland site at Beelbangera features separate wheat, barley and oat variety trials. Whilst the irrigated site at Hillston has separate wheat and barley variety trials.

LongReach Plant Breeders Dryland & Irrigated Wheat Trials

Collaborating with LongReach Plant Breeders, funded by LongReach

These trials compare the performance of wheat lines for yield, grain quality, agronomic attributes and disease reaction for all major production environments in Australia. This information will be used to make selection decisions for progression through the breeding program and commercial release.

In addition, at Beelbangera, there will be a trial focussing on acid tolerant wheat varieties.





GRDC National Risk Management Initiative (RiskWi\$e): NSW Action Research Group (ARG) – 2023 to 2028

NSW ARG is led by CSU, with the project funded by GRDC.

The national RiskWi\$e initiative is a long term GRDC funded project, aimed at improving decision making for grain growers by helping them to better understand and manage risk.

There is a catalogue of resources already available to farmers. Click on the link below for more information.

<https://research.csiro.au/riskwise/>

Theme 1: Nitrogen Management Systems Trial - Zone 3

Grower engagement by Ag Grow Agronomy identified N as their number 1 issue and their biggest expense. This has provided direction for theme 1 of the project. 2026 is the fourth year of the Griffith N systems trial, set up to test the performance of different nitrogen management strategies over the long-term. This site is one of 10 throughout NSW

Nitrogen application strategies in the trial will test N management decisions that inform risk-reward, in terms of productivity (yield, protein), profitability (gross margin, risk) and sustainability (soil organic matter, carbon footprint, N losses). The strategies are a combination of N banking treatments, tactical seasonal approaches, replacement strategies and benchmark treatments such as grower practice and Nil.

The trial will also provide information on whether fertiliser N not used by crops in year of application carries over to subsequent seasons, what the consequences of excessive N fertiliser are for crop productivity, and the effect of different N fertiliser strategies on legume productivity and N fixation.

The Griffith N Systems trial consists of 12 treatments including:

1. **Nil N Control** - Starter fertiliser (e.g. MAP) at sowing only
2. **Grower Practice** - N rate determined by local N decision making process
3. **Low Risk Seasonally Responsive** - using Yield Prophet® *assuming a decile 2-3 season finish*
4. **Moderate Risk Seasonally Responsive** - using Yield Prophet® *assuming a decile 5 season finish*
5. **High Risk Seasonally Responsive** - using Yield Prophet® *assuming a decile 7-8 season finish*
6. **Seasonal Forecast Responsive** - using Yield Prophet® informed by BOM 3-month seasonal forecast
7. **Financially Responsive** - *apply as much N fertiliser as can be purchased with 8% of gross income*
8. **Replacement** – *apply N fertiliser equal to 2024 grain N offtake*
9. **Replacement +30%** - *apply N fertiliser equal to 2024 grain N offtake plus 30%*
10. **Replacement -30%** - *apply N fertiliser equal to 2024 grain N offtake minus 30%*
11. **Manure** – *of known N content applied 2023 and N matched to medium risk each year*
12. **Enhanced fertilisers** – *N fertiliser with coatings to reduce losses, with N matched to medium risk*

The site will be sown to canola as part of the rotation in 2026.

Theme 2: Managing Phosphorus in the Farming System (Enterprise Agronomic Decisions)

Phosphorus savings in Farming Systems – what risk?

The Participatory Action Research (PAR) process identified phosphorus (P) management as a priority amongst growers and advisors in the area. With nitrogen work underway, P is the next largest, unavoidable expense for growers. In the target area (wider Griffith region) many of the soils have Colwell P values >40 mg P/kg soil.

As growers have gradually accumulated P in their soils to above the critical range, they wanted to know where budget forecasts show low or negative profit outcomes, can they reduce P inputs without impacting profits in the year of implementation and in subsequent years.

As a result, Ag Grow Agronomy is testing P saving decisions to inform risk/reward and profit by testing P application methodologies to establish:

- if short term input cost savings can be achieved with little or no risk to profit outcomes and
- if more flexible P input arrangements produce similar results to the set input arrangements

A small plot experiment was established in 2024, setting up initial starting Cowell P values (~40 ~60 and ~90), allowing P saving strategies to be tested from 2025. From 2025 yield and cost outcomes from different P replacement strategies for different starting Colwell P values will be tested. 2026 will be the third year of the trial.



NGN Understanding the long term legacy of lime application in LRZ in South Western NSW in farming systems landscape, 2025-2027.

Collaborating with Jason Condon (CSU), funded by CSU, Ag Grow Agronomy and GRDC

This investment completes a monitoring study that evaluates the long-term performance of various liming strategies on cropping systems that have highly acidic soils. The trial is utilising the existing NGN project AGG2206-001RTX - Lime response on acid, low rainfall, sandy soils of southwestern NSW trial site, which was established in 2022 as the foundation. Liming strategies include different rates of lime, application depths and incorporation methods.

This trial evaluates the long-term benefits of liming, measuring the crop performance and soil characteristics of various liming treatments and cropping rotations over a five-crop sequence. It will also measure long term economic performance of the treatments, ensuring growers are confident of the response before undertaking the expensive strategies on their farming operations.

In 2026 Ag Grow Agronomy is continuing with this trial with canola being sown at the site as part of the rotation.

Pulse Agronomy Trials

Collaborating with Brill Ag, GOA, FAR Australia & Frontier Farming systems, with funding from GRDC

The project is focussed on best practice pulse agronomy and aims to get a better understanding of the adaptability of pulse species to the local environments and how to improve production and close the yield gap of the best adapted pulses. The project is now in its 6th year.

The project includes 2 major validation (hub) sites at Ganmain and Parkes, and 5 on farm demonstration (spoke) trial sites. Our site is one of the 5 spoke sites for the project, focussing on on-farm paddock scale strip trials, and/or small demonstration plot trials driven by local grower D&E priorities.

The focus of the Griffith site in 2026 is:

- 1. Species Comparison:** Evaluating the relative performance of major pulse crops (field peas, lupins and vetch).
- 2. P Response Trial:** Evaluating the phosphorus efficiency (P response rate) of lupins and peas.
- 3. Pulse species sowing date comparison:** Comparing the relative performance of major pulse crops across 2 sowing times for optimum crop growth and yield.



Ag Grow Pulse Nutrition Trials

Two pulse nutrition trials were established by Ag Grow Agronomy and Research in 2026, at Beelbangera. These trials were set up to compare the effect on biomass and grain yield of varying nutrition treatments in Lentils and Field Peas.



Ag Grow Fertiliser Placement in Canola, Wheat & Lentil Trials

Three separate phosphorus fertiliser placement trials were established by Ag Grow Agronomy and Research in 2026, at Beelbangera. These trials were set up to evaluate the effect of fertiliser rate and placement on crop safety at sowing.

Identifying the legacy effects on canola and/or wheat following pulse crops

Funded by Ag Grow Agronomy and GRDC

NGN forums at Narromine and Barellan identified that growers are interested in better understanding the legacy effects pulse crops provide for following wheat or canola.

Some of the effects of pulse crops on following wheat or canola include increased soil nitrogen from a net increase in N balance in the legume phase, reduced soil borne disease pressure for following wheat (Take-all and Crown-rot), a reduced grass weed seed bank (mostly ryegrass) and higher soil water status post pulse. Growers in lower rainfall environments are interested in better quantifying these benefits so improved accounting of the pulse contribution can be determined.

This 3-year project aims to help determine the legacy benefits of a pulse crop to the following crop in the rotation and in particular which pulse species leaves the best legacy in terms of nitrogen benefit, disease pressure, water use efficiency as well as crop sequence gross margins.

2026 will be the third year of the project, with canola sown at the site as part of the rotation.

Validating and Refining Stripe Rust Management Strategies in wheat in low rainfall areas of South Western NSW

Funded by Ag Grow Agronomy and GRDC

Growers at the NGN forum held at Lake Cargelligo identified the need to validate fungicide management strategies for wheat varieties with differing rust resistance ratings, including both current and newly released cultivars.

While the disease is widespread across the state, its impact is particularly severe in the low-rainfall regions of SW NSW. In this environment, conditions are warmer earlier, enabling infection to establish earlier than most other cropping areas in NSW. Current management recommendations are largely based on data from higher rainfall zones and may not accurately reflect the economic or agronomic experiences of local farming systems in low rainfall areas of SW NSW.

In 2026 Ag Grow Agronomy established two field trials for management of stripe rust.

- 1. Fungicide strategy:** Comparing stripe rust management strategies including seed/fertiliser treatments and foliar fungicide strategies in wheat varieties with varying stripe rust resistance.
- 2. Wheat variety performance:** Comparing the impact of foliar applied fungicides in controlling stripe rust in current and newly released wheat varieties with differing stripe rust ratings

NGN Establishing Lentils in LRZ in sandy soil regions of Southern NSW

Funded by Ag Grow Agronomy and GRDC

Lentils in LRZ systems of the western plains and central NSW remains constrained by production and market limitations. One of the key constraints include the gap in regionally relevant agronomic knowledge, particularly relating to paddock selection, variety fit and weed management in challenging soil and rainfall environments.

To address these limitations Ag Grow Agronomy established two field trials in 2026, as part of this 3 year GRDC project focussing on:

- 1. Variety x TOS:** lentil variety trial across two times of sowing
- 2. Pre-emergent herbicide crop safety:** assess the impact of various pre-emergent herbicides applied via both tyne and disc seeding systems and across 2 sowing depths.



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