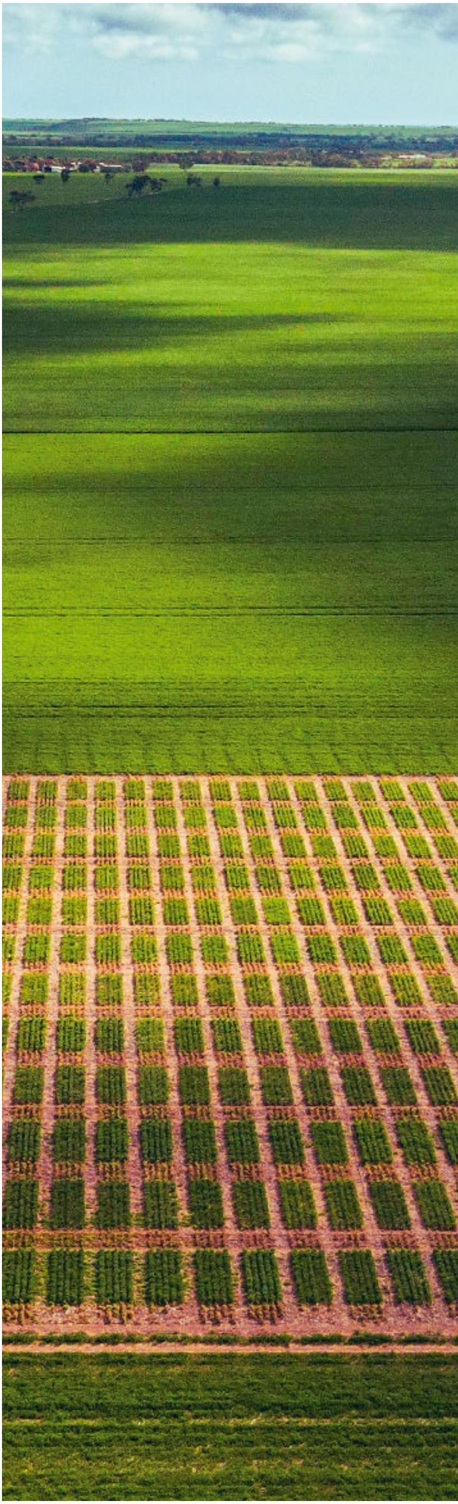

The SAGIT Snapshot

SA grain growers funding research solutions

2025

The South Australian Grain Industry Trust ...

SA grain growers funding research solutions

YOUR support keeps SAGIT going

The South Australian Grain Industry Trust Fund (SAGIT) was established in 1991 to administer the voluntary research levy contributed by SA grain growers. SAGIT is funded by a voluntary contribution of 0.12 per cent of the farm gate value of all grain delivered by SA grain growers. Without your support, there would be no SAGIT.

SAGIT is directed by, and accountable to, growers

SAGIT has a board of four grower trustees and a trustee appointed by the South Australian Minister for Agriculture. An open call is held annually and the trustees take into consideration issues affecting SA grain production and innovative ideas to progress the industry. Trustees receive specialist agronomic and scientific advice to ensure their funding decisions are informed and credible.

An annual report on how levy funds are spent is available to growers and provided to Grain Producers SA and the South Australian Minister for Agriculture.

SAGIT is unique - No other state has a research fund supported by growers for state-based, grains industry research. We are the envy of other states!

Key project dates

August 2025	Trustee visits to projects.
31 August 2025	Final reports and financial statements (Form A) due.
September 2025	Trustee visits to projects continue. Final reports reviewed.
November 2025	Call for applications for next round of funding.
1 January 2026	Current project invoices to be submitted 14 days prior to the payment date.
30 January 2026	Project applications due.
13 February 2026	Progress reports (ALL projects) due.

Trustees

Dr Andrew Barr
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arhebarr@baonline.com.au

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SAGIT extends its thanks to former trustee Ted Langley, who was involved in the project funding allocation for 2024-25. We wish Ted all the best as he retires from SAGIT following nine years as trustee.

SAGIT Management

Malcolm Buckby
PROJECT MANAGER
0417 722 231
admin@sagit.com.au

Dr Jenny Davidson
SCIENTIFIC OFFICER
0429 695 505
fjdavidson@hotkey.net.au

March 2026	Applications assessed by SAGIT. Applicants notified of results of applications by the end of March.
1 July 2026	First payment*. Applicants must submit invoice 14 days prior to payment date.
November 2026	Call for applications for next round of funding.
1 January 2027	Second payment. Applicants must submit invoice 14 days prior to payment date.

**Contract and payment can be earlier than 1 July.*
Please contact SAGIT management if this is required.

Investment Index

✓ = new investments starting in 2025 totalling $2.46 million

Code	Organisation	Supervisor	Project title	New	Co-funding	Pg
ACR4725	Agricultural Consulting and Research	Stefan Schmitt	Novel strategies for controlling hard-seeded vetch in lentils	✓		8
AEG0325	Australian Export Grains Innovation Centre	Siem Siah	A new high-value noodle market for SA growers – Phase II	✓	GRDC	8
AEP0525	AIR EP	Amanda Cook	Ken Schaefer internship in applied grains research	✓	SA Drought Hub	8
AEX0425	Ag Excellence Alliance	Mark Stanley	Production of 2026, 2027 and 2028 Farm Gross Margin/Risk Guide for SA	✓	GRDC	9
AGC4025	AgCommunicators	Belinda Cay	Lead Agriculture Teacher of South Australia	✓	SA Sheep Industry Fund	9
AGX2225	AgXtra	Richard Porter	Upper SE and Mallee lentil herbicide safety and variety performance	✓	GRDC	9
AGX2525	AgXtra	Richard Porter	Wheat powdery mildew management strategies for the Upper South East	✓		10
AIA1925	Ag Institute Australia	Craig Davis	Student Compendium – supporting the next generation, 2026-28	✓		10
ASO5225	Agronomy Solutions	Sean Mason	Evaluating commercial products to enhance phosphorus fertiliser efficiency	✓		10
ASO5624	Agronomy Solutions	Sean Mason	Unravelling crop yield response to application of organic amendments on different soil types			11
CAS5724	Central Ag Solutions	Sam Holmes	Appropriate fertiliser strategies for on-row lentil sowing in saline soils		GRDC	11
DGA1225	Southern Australia Durum Growers Association	John Green	Crown rot resistance in a durum variety	✓		11
ELD3925	Elders	Adam Hancock	Agronomic strategies enhancing utilisation of insoluble phosphorus sources through amendments	✓		14
FFS2725	Frontier Farming Systems	Jason Brand	Maximising economic value of metribuzin tolerant lentils across cropping rotations	✓		14
GGG6624	Global Grain Genetics	Larn McMurray	Lentils for sustainable rotations on low-rainfall highly alkaline calcareous soils			14
HAR5025	Hart Field-Site Group	Rebekah Allen	Regional internship in applied grains research	✓	SA Drought Hub	15

Code	Organisation	Supervisor	Project title	New	Co-funding	Pg
MFM1125	MacKillop Farm Management Group	Sally Klose	Mixed farming intern – Limestone Coast	✓	SA Drought Hub	15
MFM2123	MacKillop Farm Management Group	Sally Klose	MacKillop Farm Management Group Annual Trial Results Book 2023-2025			16
MSF7124	Mallee Sustainable Farming	Jenny Garonne	SA Mallee regional internship in farming systems and applied grains research and extension	✓	SA Drought Hub	16
NEW0225	Brougham Ag Consulting	Michael Brougham	Capeweed control and weed management strategies in lentils	✓		16
NEW5125	Pinion Advisory	Jana Freebairn	Assessing nitrogen management strategies to improve crop emissions intensity	✓		17
NEW0224	Next Level Agronomy	Chris Davey	Optimising lentil yields through rotation in transient salinity soils			17
SAR2025	SARDI	Brianna Guidera	Developing carbon sequestration rules of thumb for farmers and advisors	✓	SARDI	17
SAR4125	SARDI	Dylan Bruce	Novel frost risk mitigation strategies for lentils	✓	GRDC	20
SAR0624	SARDI	Sarah Ewers	Convenient, delicious and nutritious value-added foods from Australian pulses			20
SAR2424	SARDI	Nicole Baty	Eyre Peninsula Farming Systems Summary 2024-2026			20
SAR3324	SARDI	Nicole Thompson	Grains pathology internship			21
SAR5124	SARDI	Brendan Kupke	Drought preparedness using barley architecture and phenology for biomass production			21
SAR1023	SARDI	Melissa McCallum	SA Crop Variety Sowing Guide publication			21
SPA1625	Society of Precision Agriculture Australia	Angelique McAvoy	The SPAA 2025 Precision Ag Expo	✓		22
TCO5325	Trengove Consulting	Sam Trengove	Assessing the role of grain protein maps in improving nitrogen (N) fertiliser response across variable environments and crop rotations	✓		22
TCO6024	Trengove Consulting	Sam Trengove	Making the most of phosphorus (P) fertiliser inputs: Managing spatial variability and long-term strategies		GRDC	22
UAD1025	University of Adelaide	Glenn McDonald	Risk assessment and mitigation associated with dry sowing	✓	SA Drought Hub	23

Code	Organisation	Supervisor	Project title	New	Co-funding	Pg
UAD2625	University of Adelaide	Kate Muirhead	Capacity building for managing exotic snails in South Australian grain crops	✓		23
UAD3325	University of Adelaide	Scott Boden	Improving barley genetic diversity for enhanced drought resilience	✓		23
UAD1424	University of Adelaide / SARDI	Maarten van Helden	Multi-scale monitoring of pests and beneficial insects in canola cropping			26
UAD2624	University of Adelaide / SARDI	Blake Gontar	Increasing pulse yields: focus paddocks to identify and manage soilborne constraints			26
UAD1223	University of Adelaide / SARDI	Lachlan Lake	Pairing pulses for improved yield, protein, agronomy, and profit			26
UNF1724	Upper North Farming Systems	Jade Rose	Strategies for mitigating frost damage in the Upper North Region		GRDC	27

Growing futures: connecting students to careers in agriculture

Grounded in experience: new soil guide grows from farmer questions

Growing futures: connecting students to careers in agriculture

Have you heard?

SAGIT is now bringing research insights and results to you via a podcast!

Head to https://sagit.com.au/podcasts/ or subscribe wherever you listen to podcasts.

SAGIT INVESTMENTS
Research Projects

✓ **indicates new project starting in 2025-26**

ACR4725: Novel strategies for controlling hard-seeded vetch in lentils

Agricultural Consulting and Research | $52,500 | 1/7/2025 – 30/6/2027 | ✓

This project will evaluate alternative herbicide strategies for controlling hard-seeded vetch in lentil crops. Field trials over two seasons will assess pre- and post-emergent applications and herbicide stacking to improve control. The results will provide practical recommendations to growers, supporting the profitability and expansion of South Australia's pulse industry.

Stefan Schmitt, 0418 524 754, stefan@agconsultingandresearch.com.au

AEG0325: A new high-value noodle market for SA growers – Phase II

GRDC CO-INVESTMENT

Australian Export Grains Innovation Centre | $338,624 | 1/7/2025 – 30/6/2028 | ✓

The aim of this initiative is to establish a new high-value hard noodle wheat market in South Australia. This project seeks to enhance returns for growers by boosting and stabilising the demand for suitable Australian Hard (AH) wheat varieties intended for premium noodles targeting Asian markets. This project is a co-investment, with GRDC providing 50% of the total funding.

Siem Siah, 02 8025 3200, siem.siah@aegic.org.au

AEP0525: Ken Schaefer internship in applied grains research

SA DROUGHT HUB CO-INVESTMENT

AIR EP | $150,000 | 1/7/2025 – 30/6/2027 | ✓

The aim of this project is to improve the capacity of grains research, development and extension in the Eyre Peninsula region through the employment of an annual intern within local research organisations in 2026. This project will also further develop applied research skills of recent graduates so they will be able to make an improved contribution to the grains RD&E industry in SA. This internship has been named in honour of inaugural SAGIT Chair Ken Schaefer and recognises his contribution to agriculture on the EP. This project is a co-investment, with the SA Drought Hub providing $50,000 of the total funding.

Amanda Cook, 0427 270 154, amanda.cook@sa.gov.au

AEX0425: Production of 2026, 2027 and 2028 Farm Gross Margin/Risk Guide for SA

GRDC CO-INVESTMENT

Ag Excellence Alliance | $167,100 | 1/7/2025 – 30/6/2028

This project aims to produce an updated Farm Gross Margin/Risk Guide to improve business acumen of crop and livestock producers in SA. The guide will increase crop and livestock producers' capacity to assess the relative profitability and risk of enterprises as part of their farm business planning process, leading to improved farm planning, decision making and providing more profitable and sustainable businesses. This project is a co-investment, with GRDC providing 50% of the total funding.

Mark Stanley, 0427 831 151, mark@regionalconnections.com.au

AGC4025: Lead Agriculture Teacher of South Australia

SA SHEEP INDUSTRY FUND CO-INVESTMENT

AgCommunicators | $210,640 | 1/7/2025 – 30/9/2026

The Lead Ag Teacher role supports schools to more effectively teach and implement agriculture throughout their curriculum. The program is delivered by AgCommunicators consultant Sue Pratt, an experienced agriculture teacher and past President of the Agricultural Teachers Association of SA (ATASA). The program provides support to teachers to help them confidently deliver high quality, engaging food and fibre content. This project is a co-investment, with the SA Sheep Industry Fund providing 50% of the total funding.

Belinda Cay, 0423 295 576, belinda.cay@agcommunicators.com.au

AGX2225: Upper South East and Mallee lentil herbicide safety and variety performance

GRDC CO-INVESTMENT

AgXtra | $157,820 | 1/7/2025 – 30/6/2027

This project will evaluate and compare the safety of various herbicide treatments and use-patterns on lentils on typical Upper South East (SE) and Murray Mallee soils. The aim is to determine the viability of lentils as a legume rotation option in cereal-canola dominant cropping systems, and soil types where faba bean and lupin rotations are limited by profitability, marketability and scalability. The research will also investigate the yield comparison between lentil varieties at Malinong to address the lack of NVT data relevant to the Upper SE. This project is a co-investment, with GRDC providing 50% of the total funding.

Richard Porter, 0413 027 670, rporter@agxtra.com.au

AGX2525: Wheat powdery mildew management strategies for the Upper South East

AgXtra | $47,680 | 1/7/2025 – 30/6/2026

This project will investigate the effectiveness of existing and emerging wheat powdery mildew (WPM) control options across a range of varieties with diverse susceptibility ratings for growers and agronomists affected by powdery mildew in SA. It will investigate the agronomic efficacy and economic effectiveness of control options in each wheat variety to create new information on emerging powdery mildew. The project will also extend existing knowledge from current WPM SAGIT projects and newly generated findings to growers.

Richard Porter, 0413 027 670, rporter@agxtra.com.au

AIA1925: Student Compendium – supporting the next generation, 2026-28

Ag Institute of Australia | $58,200 | 1/7/2025 – 30/6/2028

This project aims to support interns to develop and produce the next three versions of the Student Compendium (2026, 2027 and 2028); connect students to primary industries, and industry to students while assisting the next generation to find opportunities to broaden career horizons; and create an innovative, unique resource as a "call everyone to action" on all the SA Blueprints, particularly the SA Grains Industry Blueprint.

Craig Davis, 0447 541 654, craig.davis.nominees@outlook.com

ASO5225: Evaluating commercial products to enhance phosphorus fertiliser efficiency

Agronomy Solutions | $168,895 | 1/7/2025 – 30/6/2027

This project addresses one of SAGIT's issues of significance, a critical evaluation of products claimed to improve the efficacy of phosphorus fertilisers. This will be done by focusing on improving Phosphorus Use Efficiency (PUE) on moderate to highly calcareous soils that are present on Eyre Peninsula, Yorke Peninsula, Mid-North and the Upper South East broadacre cropping regions.

Sean Mason, 0422 066 635, sean@agronomysolutions.com.au

ASO5624: Unravelling crop yield response to application of organic amendments on different soil types

Agronomy Solutions | $125,225 | 1/7/2024 – 30/6/2027

This project aims to assess the impact of organic amendments on soil condition and crop response on three contrasting soil types. Through this process, the aim is to provide growers with recommendations on 'target soils' where organic amendment applications can provide maximum benefit. Researchers will endeavour to define suitable frequency and application rates of organic amendments in combination with inorganic fertiliser.

Sean Mason, 0422 066 635, sean@agronomysolutions.com.au

CAS5724: Appropriate fertiliser strategies for on-row lentil sowing in saline soils

GRDC CO-INVESTMENT

Central Ag Solutions | $123,760 | 1/7/2024 – 30/6/2026

This project aims to determine the residual benefit of on-row and off-row sowing and appropriate fertiliser strategies for sensitive lentil crops in phosphorus deficient and moderately saline calcareous soil types of Yorke Peninsula. Research will investigate management techniques of utilising residual phosphorous in a cereal phase along with phosphorous placement at seeding to optimise lentil grain yields and economic returns. This project is a co-investment, with GRDC providing 50% of the total funding.

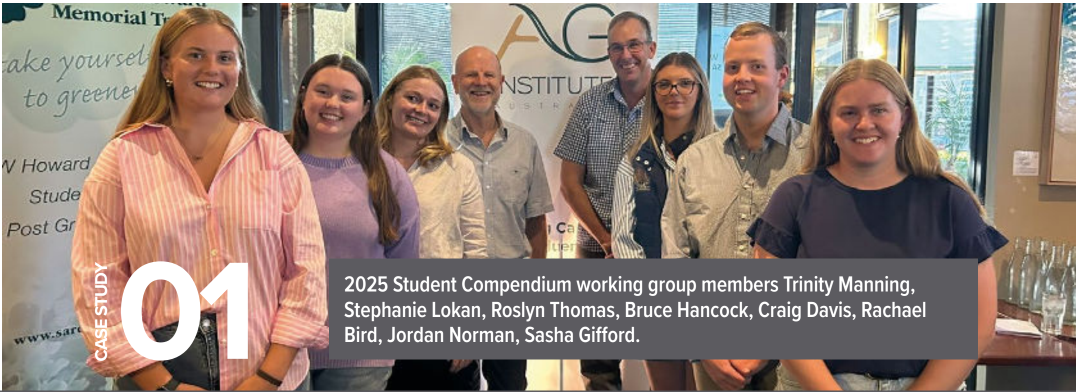
Sam Holmes, 0427 700 219, sam@centralagsolutions.com.au

DGA1225: Crown rot resistance in a durum variety

Southern Australia Durum Growers Association | $114,000 | 1/7/2025 – 30/6/2028 | ✓

This project aims to develop agronomically reliable durum wheat lines resistant to crown rot which will be released to growers through AGT. The effect of crown rot resistance in durum lines developed by SARDI will be evaluated and demonstrated to growers through the use of inoculated field trials. This project also aims to provide growers with greater reliability of achieving the premiums available for durum production in all areas.

John Green, 0427 101 482, john.green_1@bigpond.com



2025 Student Compendium working group members Trinity Manning, Stephanie Lokan, Roslyn Thomas, Bruce Hancock, Craig Davis, Rachael Bird, Jordan Norman, Sasha Gifford.

Growing futures: connecting students to careers in agriculture

Developing the careers of professionals in agricultural research, extension, teaching and farming is crucial to the future of agriculture in South Australia.

And one way SAGIT supports this is through the publication of the annual Student Compendium, produced in collaboration by the SA Division of the Ag Institute of Australia, the Adelaide University Agricultural Students Association (AUASA) and industry partners.

At its core, the compendium is a collection of opportunities for students studying primary industries and natural resource management.

But its purpose extends beyond that of a catalogue of employment opportunities.

The intention is to highlight the opportunities available in agriculture, to build a strong and capable primary industries sector that has access to an inspired and skilled workforce, and to show students clear and meaningful pathways into the ag industry and promote positive primary industries careers.

The Student Compendium is an annual collation of graduate programs, internships, training, competitions, conferences, associations, awards and scholarships for high school and vocational training students and tertiary agricultural, animal, veterinary and agribusiness undergraduates. The publication assists the next generation of South Australian students to find opportunities to connect them with industry and broaden career horizons.

Initially created to address the ‘Capacity Building’ pillars of the South Australian Agricultural Industry Blueprints, the fifth edition of the South Australian Compendium was published in 2025.

The idea has taken hold nationally, with WA and NSW each publishing versions and a Queensland/Northern Territory edition published for the first time in 2025.

AIA SA Student Compendium Working Group Co-Lead and Chartered Agriculturalist Bruce Hancock, said the idea for the compendium had started from his own experience of mentoring high school and tertiary students and early career professionals over the years.

“The initiative aims to foster passion for South Australian agriculture in the next generation of leaders by promoting further learning and development,” he said.

2025 SAGIT-funded Student Compendium interns, Jordan Norman, Rachael Bird, Stephanie Lokan, Sasha Gifford with SAGIT's Malcolm Buckby and Jenny Davidson.

"Our focus is on supporting the development of students and early career professionals in having an enjoyable, productive and rewarding educational experience, while laying a solid career foundation.

"The compendium has grown enormously over the years and it now features 459 entries across 160 pages and more than 60 sponsors."

Mr Hancock said he was particularly proud of the team of interns who compile the annual publication.

"An important aspect of the compendium project is the engagement of students as interns to update and extend the Student Compendium annually," he said.

"These students are gaining practical experience in communications, publications, building networks through 'cold-calling' and extension while completing their agricultural degrees, with those skills useful in many careers in agriculture."

Students are encouraged to use the Student Compendium as a 'one-stop shop' to assist their professional development by sourcing opportunities that align with their interests and goals.

The Student Compendium also has an important role among professionals and businesses in the agricultural industry; to act as a 'call to action' and discussion piece to encourage the promotion of careers in agriculture.

This is critical to attracting students into primary industry and natural resource management careers while providing opportunities for learning and development to build the skills of the next generation.

The 2023-25 AIA (SA) and AUASA Student Compendium project has been supported by SAGIT, with the Project Officer intern position funded by the Yitpi Foundation.

The publication also has financial support from the SA Sheep Industry Fund, SA Cattle Industry Fund, Primary Industries Education Foundation Australia, the Show Society Foundation and many other industry sponsors. SAGIT has funded a further three years of the project from 2026 to 2028.

Download an electronic copy of the Compendium at:
aginstitute.com.au/student-compendium/sa-student-compendium/

AIA1122 Student Compendium – supporting the next generation, 2023-25.
AIA1925 Student Compendium – supporting the next generation, 2026-28.

ELD3925: Agronomic strategies enhancing utilisation of insoluble phosphorus sources through amendments

Elders $54,056 1/7/2025 – 30/6/2026 ✓

The aim of this project is to assess selected amendments or additives to monoammonium phosphate to reduce the precipitation of soluble phosphorus in calcareous, alkaline and high phosphorus buffering index soils in SA's Lower South East.

Adam Hancock, 0427 475 254, adam.hancock@elders.com.au

FFS2725: Maximising economic value of metribuzin tolerant lentils across cropping rotations

Frontier Farming Systems $309,800 1/7/2025 – 30/6/2028 ✓

This project will evaluate the profitability and sustainability of cropping systems using lentils with the new metribuzin (MET) tolerance trait in combination with the imidazolinone (IMI) tolerance trait compared to those using the IMI trait alone. Lentil expansion areas of the SA southern Mallee and Eyre Peninsula will be the focus where problem weeds from historic farming systems and herbicide residues on coarse textured, low organic matter soils are constraints to production.

Jason Brand, 0409 357 076, jason@frontierfarming.com.au

GGG6624: Lentils for sustainable rotations on low-rainfall highly alkaline calcareous soils

Global Grain Genetics $297,241 1/7/2024 – 30/6/2027

This project will improve the sustainability of SA's diverse and expansive low rainfall cropping areas by expanding lentil production, as a legume break crop for cereals, on highly alkaline calcareous soils in these regions. It will build on the recent successful research, extension and expansion of lentil through the low rainfall Mallee type areas across South Australia, by targeting constraints to profitable production with a focus on the Upper Eyre Peninsula (UEP).

Larn McMurray, 0466 113 848, lmcmurray@globalgraingenetics.com

HAR5025: Regional internship in applied grains research

SA DROUGHT HUB
SA DROUGHT HUB CO-INVESTMENT

Hart Field-Site Group | $90,120 | 1/7/2025 – 30/6/2027

This project aims to continue Hart's current regional internship program in applied research and extension, relevant to the needs of the southern grains industry. The program will allow for the long-term succession of new graduates into the industry by creating awareness of field applied roles, leading to greater research capacity across the South Australian grains industry. This project is a co-investment, with the SA Drought Hub providing $50,000 of the total funding.

Rebekah Allen, 0428 782 470, rebekah@hartfieldsite.org.au

MFM1125: Mixed farming intern – Limestone Coast

SA DROUGHT HUB
SA DROUGHT HUB CO-INVESTMENT

MacKillop Farm Management Group | $100,000 | 1/7/2025 – 30/6/2027

This project will employ an intern to build the human capacity of the grain-livestock industry, particularly in the areas of research, development, and extension and drought resilience in the Limestone Coast (south east SA). This project is a co-investment, with the SA Drought Hub providing 50% of the total funding.

Sally Klose, 0427 829 143, ceo@mackillopgroup.com.au

MFM2123: MacKillop Farm Management Group Annual Trial Results Book 2023-2025

MacKillop Farm Management Group | $30,000 | 1/7/2023 – 30/6/2026

To fund compilation of MacKillop Farm Management Group Annual Trials Results book for trials undertaken in 2023, 2024 and 2025. The book will be available in March the following year. MFMG's Annual Trial Results Book brings together trial, demonstration and other project results from the Limestone Coast together in one publication, for the benefit of members and the agricultural community.

Sally Klose, 0427 829 143, ceo@mackillopgroup.com.au

MSF7124: SA Mallee regional internship in farming systems and applied grains research and extension

SA DROUGHT HUB
SA DROUGHT HUB CO-INVESTMENT

Mallee Sustainable Farming | $119,960 | 1/1/2025 – 30/3/2026 | ✓

The intern will gain hands-on experience of regional research and develop an understanding of the challenges of farming in a low rainfall zone. Through mentoring by an MSF farmer member, the intern will gain insight into the practicalities of farming in the Mallee, its challenges and rewards. The intern will work on projects that have been prioritised by MSF and local farmers, such as crop rotations, amelioration, soil variability, weed management, soil moisture and risk management and business development. This project was funded through an out-of-session application in October 2024 and is a co-investment, with the SA Drought Hub providing 50% of the total funding.

Jenny Garonne, 0430 347 522, jenny@msfp.org.au

NEW0225: Capeweed control and weed management strategies in lentils

Brougham Ag Consulting | $37,740 | 1/7/2025 – 30/6/2026 | ✓

Broadleaf weeds in lentils are a major contributor to yield loss. On lighter soils with a history of pasture, capeweed proliferates. Lentils are expanding into these areas. Combined with early sowing, capeweed has had a large impact on lentil grain yield. This project aims to find solutions to capeweed and other common broadleaf weeds in lentil production systems.

Michael Brougham, 0427 727 466, michaelbrougham.ag.co@gmail.com

NEW5125: Assessing nitrogen management strategies to improve crop emissions intensity

Pinion Advisory $185,387 1/7/2025 – 30/6/2027 ✓

This project aims to demonstrate how commercially available nitrogen management strategies can help to improve on-farm emissions intensity through local replicated plot trials, along with assessing the productivity and economic impacts.

Jana Freebairn, 0455 086 800, jfreebairn@pinionadvisory.com

NEW0224: Optimising lentil yields through rotation in transient salinity soils

Next Level Agronomy $53,900 1/7/2024 – 30/6/2027

This project aims to make transient saline soils more productive again for growing lentils through the use of a chemical fallow phase of the rotation. The fallow allows both soil moisture to be conserved through stubble load, helping for lentil establishment, and will also aim to reduce the area of saline affected soil for the following crops.

Chris Davey, 0428 466 675, c.d@nextlevelagronomy.com.au

SAR2025: Developing carbon sequestration rules of thumb for farmers and advisors

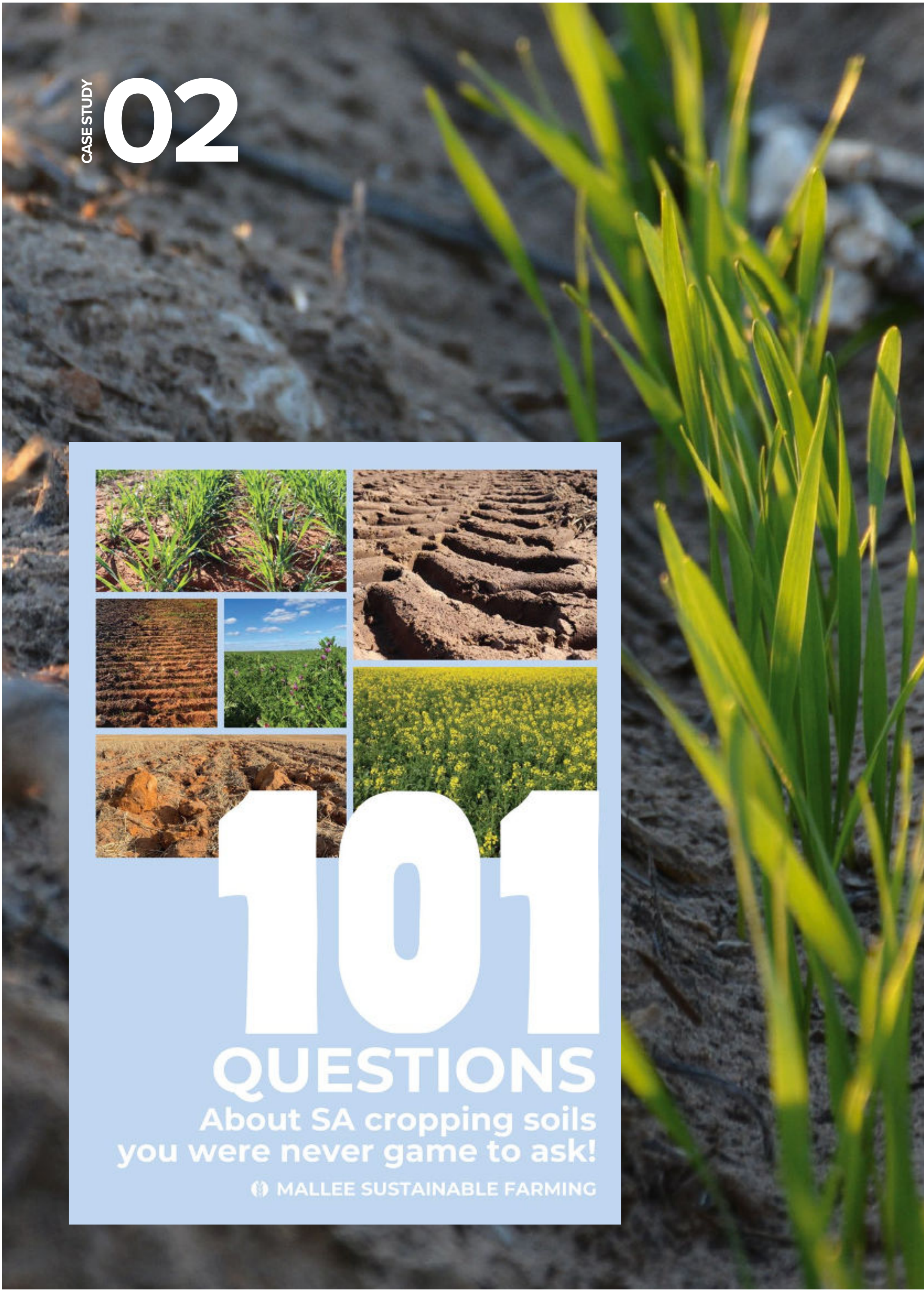
Government of South Australia
Department of Primary Industries and Regions
SARDI
SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE
SARDI CO-INVESTMENT

SARDI $58,581 1/7/2025 – 30/6/2027 ✓

This project will investigate the effect spatial factors and sampling methodology have on soil carbon measurements. The results will be used to develop a "Rules of Thumb" for South Australian farmers and advisors who are considering entering into the carbon market. These rules of thumb will help to decide on the best soil carbon sampling strategy suited to individual farming systems and situations. This project is a co-investment with SARDI providing $20,000 of the total funding.

Brianna Guidera, 0434 850 516, brianna.guidera@sa.gov.au

CASE STUDY 02



Grounded in experience: new soil guide grows from farmer questions

Farmer input was key to delivering a useful guide to South Australian cropping soils through the SAGIT-funded project, "*Enhancing farmer knowledge of soil function to improve management outcomes*".

Led by Mallee Sustainable Farming (MSF), the project has produced a highly engaging and easy-to-read publication titled *101 questions about SA cropping soils you were never game to ask*.

After a call-out on social media for questions, the answers were compiled by MSF and reviewed by leading grains industry scientists and experts to provide evidence-based insights in plain English.

The aim of the e-book is to help farmers identify and understand subsoil constraints and soil water dynamics and, in turn make informed decisions to help them manage emerging soil related issues unique to SA cropping environments.

MSF Managing Director Jenny Garonne said the project aimed to provide the "why" behind the decisions SA farmers need to make.

"The complexities of soil management in South Australia's cropping zones can be overwhelming, with countless variables affecting soil function, crop production and overall farm management," she said.

"Through these curated questions, we've addressed key concerns and some misconceptions about soils.

"Our goal is to provide clear, plain English explanations that not only debunk myths but also enhance confidence in soil management strategies."

The e-book seeks to address misunderstandings among farmers and advisers and illustrate how recommended practices can effectively tackle specific agricultural production constraints.

MSF hopes to enhance understanding of soil management by equipping farmers with deeper insights into the 'why' behind necessary management decisions tailored to the specific characteristics of South Australian soils, including aspects of soil biology, subsoil constraints and soil nutrition dynamics.

The e-book features 11 chapters / topics including calcareous soil, acidity, dispersion, compaction and tillage, sandy soils, soil biology, water repellence, water / soil water and drought, Mallee seeps and dry saline land, carbon and soil organic matter and nutrients.

"We appreciate there is a lot of information farmers need to consider and whether farmers are grappling with subsoil constraints, curious about soil biology, or seeking ways to manage water repellence, these Q&As offer practical, evidence-based insights," Ms Garonne said.

The resource has initially been made available online as an e-book, with hard copies also distributed. The Q&As have also been widely featured across social media and blog posts.

The content is published through MSF's Soils Connect Facebook group, which is open to join for an interactive experience.

They have also been added to the Soils Connect website, which offers practical resources, expert insights, and real-world solutions tailored to farming in the southern region.

Soils Connect website: soilsconnect.com.au/soil-faqs/
Soils Connect Facebook group: facebook.com/groups/soilsconnect

MSF0823 Enhancing farmer knowledge of soil function to improve management outcomes.

SAR4125: Novel frost risk mitigation strategies for lentils

GRDC CO-INVESTMENT

SARDI $156,869 1/7/2025 – 30/6/2027 ✓

This project will provide management strategies that mitigate frost risk for lentil by assessing the ability of lentils to recover following frost events when supplied with frost tolerance promoting products, including hormones to enhance flower recovery and bactericides to act as antimicrobial agents, compared to without these products. This project is a co-investment, with GRDC providing 50% of the total funding.

Dylan Bruce, 0439 571 303, dylan.bruce@sa.gov.au

SAR0624: Convenient, delicious and nutritious value-added foods from Australian pulses

SARDI $136,012 1/7/2024 – 30/6/2026

This project aims to use a range of local pulses to make a range of attractive, delicious, nutritious and convenient pre-cooked food products that have wide appeal. This will include determining the appropriate processing steps for each grain type that would work in a commercial food manufacturing set-up to achieve acceptable grain texture and provide long shelf-life in can and/or pouch formats. The proof-of-concept products will be packaged in a variety of formats and tested with consumers, food manufacturers and food retailers.

Sarah Ewers, 08 8429 2908, sarah.cornish@sa.gov.au

SAR2424: Eyre Peninsula Farming Systems Summary 2024-2026

SARDI $45,000 1/7/2024 – 30/6/2027

This project will provide partial cost for the printing and development of the Eyre Peninsula Farming Systems Summaries 2024, 2025 and 2026, enabling continued distribution of this important summary to all growers, industry representatives, researchers and consultants on EP. The Eyre Peninsula Farming Systems Summary is an annual publication consisting of research results undertaken on EP and other areas of relevance, and their implications to upper EP farming systems.

Nicole Baty, 0456 801 664, nicole.baty@sa.gov.au

SAR3324: Grains pathology internship

SARDI $198,569 1/7/2024 – 30/6/2027

The project will support a Grains Pathology Trainee to be mentored by experienced staff from the grains pathology teams within SARDI Crop Sciences' Plant Health and Diagnostics program. The mentoring will include laboratory and field pathology training provided by SARDI cereal and pulse pathologists, extension of information through written means, such as SARDI's Crop Watch, participation in regional field days, and other industry support for grains pathology diagnostics.

Nicole Thompson, 0459 732 010, nicole.thompson@sa.gov.au

SAR5124: Drought preparedness using barley architecture and phenology for biomass production

SARDI $192,150 1/7/2024 – 30/6/2027

The project aims to better understand the plant characteristics, including phenology and architecture, required to maximise biomass production for barley in grazed, grain and opportunistic grain and grazed scenarios across variable rainfall seasons. A diverse set of elite and novel varieties will be tested by different simulated grazing treatments across low, medium and high rainfall zones of South Australia.

Brendan Kupke, 0429 411 032, brendan.kupke@sa.gov.au

SAR1023: SA Crop Variety Sowing Guide publication

SARDI $131,448 1/7/2023 – 30/6/2026

The aim of this project is to continue producing the annual SA Sowing Guide for growers and advisers. The SA Sowing Guide communicates the most up-to-date information on new and current varieties across a range of crop types. It combines the most recent yield results from the National Variety Trials (NVTs) with the most relevant varieties for SA as well as agronomic and pathology information. The Guide is compiled by SARDI staff, with printing and distribution costs funded by GRDC.

Melissa McCallum, 0448 188 841, melissa.mccallum@sa.gov.au

SPA1625: The SPAA 2025 Precision Ag Expo

Society of Precision Agriculture Australia | $3,000 | 1/1/2025 – 30/6/2026

The 2025 SPAA Precision Ag Expo was held on 27 March 2025 in Wallaroo. This conference-style event brings together growers, researchers, agronomists, precision ag (PA) consultants and the education sector. The 2025 event explored the latest applications of PA developments in relation to soils, seeding, satellites, sensors and other tech, as well as spraying (in terms of targeted weed management).

Angelique McAvoy, 0473 790 109, eo@spaa.com.au

TCO5325: Assessing the role of grain protein maps in improving nitrogen (N) fertiliser response across variable environments and crop rotations

Trengove Consulting | $177,006 | 1/7/2025 – 30/6/2027

Improved nitrogen management is a common goal for many growers, given its importance in optimising yields and the associated costs. Utilising available data sources is central to this improvement and recent development in grain protein sensing has shown potential for targeting N inputs spatially. This project will assess the utility of this data for improving N applications.

Sam Trengove, 0428 262 057, samtrenny34@hotmail.com

TCO6024: Making the most of phosphorus (P) fertiliser inputs: Managing spatial variability and long-term strategies

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION
GRDC CO-INVESTMENT

Trengove Consulting | $312,519 | 1/7/2024 – 30/6/2027

The overall aim of this project is to increase the profitability from phosphorus (P) fertiliser applications and determine sustainable P fertiliser strategies. This project focuses on two key P management areas: improving applications in variable paddocks/landscapes and refining long-term P management strategies on highly P responsive soils. This project will build on the results from SAGIT projects TC219 and TC221. This project is a co-investment, with GRDC providing 50% of the total funding.

Sam Trengove, 0428 262 057, samtrenny34@hotmail.com

UAD1025: Risk assessment and mitigation associated with dry sowing

SA DROUGHT HUB
SA DROUGHT HUB CO-INVESTMENT

University of Adelaide | $83,500 | 1/7/2025 – 30/6/2026 | ✓

Field and pot experiments will be conducted to improve understanding of factors influencing establishment under low soil moisture and to provide guidelines on how to address the risks associated with dry sowing. Field trials will be conducted at three sites in the Mid North to examine the effects of crop type and sowing depth on crop establishment, growth and yield with dry sowing. Pot trials will examine effects of intermittent rainfall on seed survival and establishment in different crops. This project is a co-investment, with the SA Drought Hub providing 50% of the total funding.

Glenn McDonald, 0447 725 285, glenn.mcdonald@adelaide.edu.au

UAD2625: Capacity building for managing exotic snails in South Australian grain crops

University of Adelaide | $186,510 | 1/7/2025 – 30/6/2028 | ✓

This project will build capacity by supporting a University of Adelaide PhD project investigating the genetic diversity and invasion origins of exotic snail lineages infesting Australian grains crops. The project is critical to inform the on-farm management of major pest snails, while simultaneously developing long term capacity for the grains industry, based in SA, in the genetics, diagnostics, ecology, and management of exotic pest snails.

Kate Muirhead, 0409 099 796, kate.muirhead@sa.gov.au

UAD3325: Improving barley genetic diversity for enhanced drought resilience

University of Adelaide | $208,713 | 1/7/2025 – 30/6/2028 | ✓

The project aim is to increase the genetic diversity available to barley breeders to improve complex traits for the benefit of South Australian growers, with a focus on drought resilience. This will include investigating two novel yield component loci from wild barley, which could improve the productivity of barley and its adaptation to warmer and drier environments. Researchers predict this approach will help boost the sustainability of grain production systems.

Scott Boden, 0413 801 112, scott.boden@adelaide.edu.au

CASE STUDY 03

New Asian noodle markets could bring premiums for SA wheat

Hard wheat from South Australian growers could soon be consumed by millions across East Asia as a SAGIT and GRDC funded project looks to open up new noodle wheat markets.

Wheat noodles are a staple food for many Asian populations, especially in East Asia. Traditionally, Asian markets have recognised Australian Prime Hard (APH) and Australian Noodle Wheat (ANW) as superior for noodle making.

Australian Hard (AH) is less recognised for noodles, however, through recent market engagement, the Australian Export Grains Innovation Centre (AEGIC) found that a parcel of AH varieties was highly rated for premium noodles.

Now, this project is looking to position Australia, and particularly SA, as a supplier of high-value noodle wheat to Taiwan, South Korea and Japan, where demand for such products is increasing.

AEGIC senior research scientist and project lead Dr Siem Siah said South Australian growers could capitalise on AH into these markets.

“If we could accumulate a shipment made up of AH varieties, this could attract a price premium,” she said.

“We worked with three major flour manufacturers in South Korea, Japan and Taiwan to test the performance of AH wheat varieties.

“From our research and engagement so far, Taiwan presents an immediate market opportunity for the AH, while South Korea and Japan offer a medium to long-term opportunity.”

Wheat varieties being tested are null-4 A, which means they lack a protein that normally makes amylose starch, resulting in a smoother and chewier texture with better elasticity – ideal traits for noodle production.

APH and specialty wheat class ANW are among the Australian wheat classes segregated based on Asian noodle preference and comprise 6% and 4% of total Australian wheat production.

The production of APH, primarily in northern NSW and Queensland, is relatively low because of the high protein content above 13% it requires. APH is mainly used to produce Japanese ramen and Chinese noodles. ANW is generally produced in WA and used for Japanese and Korean udon noodles.

AH is the largest and most valuable wheat grade produced in SA and is mainly used in domestic bread production. SA exports AH to the Middle East to produce flat and pan breads and, to a lesser extent, noodles.

AEGIC worked with the largest flour mill in Taiwan, which currently uses a blend of American and Canadian wheat for their noodle flour, to assess Australian hard varieties, with promising results.

Taiwan only produces a small amount of wheat domestically, instead relying on imports of up to1.4 million tonnes of wheat consistently.

“Our initial testing showed that noodles made from AH wheat, with AH2 protein levels between 11.5% and 13% and primarily derived from the null-4 A genetic background were preferred for their overall sensory preference, colour and texture,” Dr Siah said.

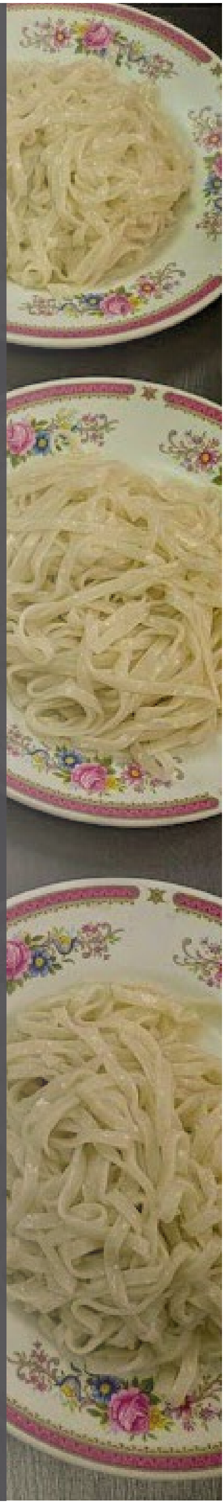
“These noodles had a preferred sensory texture that outperformed those made from American and Canadian wheat, and were comparable to, or more favoured, than those made from APH wheat.”

In 2025, AEGIC has been funded for an additional three-year project to further progress this market development.

This new project will see the project team:

- Continue collaborative laboratory assessments to identify AH wheat varieties that are suitable for noodle products in Taiwan, South Korea, and Japan.
- Conduct scale-up container trials with the Taiwanese and South Korean mills in collaboration.
- Formulate strategies to encourage the adoption of AH wheat for ramen production in Japan, with the goal of establishing a model for exporting AH wheat from SA in bulk shipments to Japan in collaboration with SA growers and suppliers.

AEG4022: Developing a new high value noodle market for South Australian growers. AEG0325: A new high-value noodle market for SA growers – Phase II.



UAD1424: Multi-scale monitoring of pests and beneficial insects in canola cropping

University of Adelaide / SARDI $258,686 1/7/2024 – 30/6/2027

This PhD project will look to develop multi-scale (regional to paddock scale) monitoring methods for canola pests and beneficials, both pre-season and during season. The results will allow for improved risk analysis and decision making for integrated pest management by farmers and agronomists, avoiding over-use of insecticides.

Maarten van Helden, 0481 544 429, maarten.vanhelden@sa.gov.au

UAD2624: Increasing pulse yields: focus paddocks to identify and manage soilborne constraints

University of Adelaide / SARDI $364,225 1/7/2024 – 30/6/2027

This project will assist South Australian growers to increase pulse yields by managing paddock variation associated with soil biotic and abiotic constraints. Data generated will also form the foundation for a decision support model. Focus paddocks will be mapped for pathogen levels and rhizobia as well as physical characteristics including pH, salinity and soil type. These factors will be related to remote sensing imagery and yield maps to determine the drivers of variation.

Blake Gontar, 0430 597 811, blake.gontar@sa.gov.au

UAD1223: Pairing pulses for improved yield, protein, agronomy and profit

University of Adelaide / SARDI $123,263 1/7/2023 – 30/6/2026

This project will be undertaken by SARDI researchers and will investigate if the pairing of faba bean and semi-leafless field pea will benefit both crops by increased seed and protein yield; reduced lodging, disease and harvestability issues; and improved yield and reduced N fertiliser cost of the following wheat crop. This system could increase faba bean representation in more marginal areas and increase yield in drier seasons as field pea is better adapted to drier conditions.

Lachlan Lake, 0418 813 495, lachlan.lake@sa.gov.au

UNF1724: Strategies for mitigating frost damage in the Upper North region

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

GRDC CO-INVESTMENT

Upper North Farming Systems $230,370 1/7/2024 – 30/6/2027

Frost events have been a significant concern in the Upper North region, resulting in substantial crop losses and economic impacts in previous years. The Upper North is susceptible to frost damage at various stages in the growing season, leading to decreased yields. Therefore, a holistic approach applying proven research outcomes over numerous years will be trialled in local validation trials and extended through this project. This project is a co-investment, with GRDC providing 50% of the total funding.

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