



ARC TRAINING CENTRE FOR FUTURE CROPS DEVELOPMENT

NEWSLETTER

CEO UPDATE

The past quarter has been marked by strong momentum across the Centre, with students, researchers and partners achieving significant milestones in research, training, industry engagement and outreach. Highlights included the Training Centre showcase at Australian Crop Breeders Week, strong participation at **major industry and scientific conferences** including AGIC, ABTS, Seed Business, SMBE and ECB2026, and valuable **industry placements** with KWS in France and Germany. We congratulate our students and researchers on numerous achievements, including **thesis submissions** from Chris Wenzl, Ebtihal Mohamed and James Nix, **awards to Zuzana Plšková, Ola Amoo, Ciara Danes, Ben Kurya and Jamie Piroe**, and new **Centre publications**. A major development for the Centre recently has been the launch of the new GRDC-funded "Development of Next-Generation Breeding Technologies" which will help accelerate the adoption of gene editing and advanced breeding technologies in Australian wheat and barley improvement. Across the broader grains sector, significant policy and industry developments included the **EU's adoption of a new regulatory framework for gene-edited crops**, GRDC's release of its **Gene Technology Investment Decision Framework**, AGT being appointed to lead the national lentil breeding program, and ABARES forecasting a smaller 2026-27 Australian winter crop. The Centre also continued its commitment to future workforce development through activities including the ACT Government Food, Fibre and Future STEM Conference, Adelaide University Open Day, industry visits to Narrabri, community outreach events, and ongoing **training programs** designed to prepare our researchers for leadership roles across the grains innovation system.

We look forward to seeing everyone at our **Annual Meeting and Final Showcase in Canberra this year on 2-3 December**. University Centre members will meet on 1 December for collaboration and training. We are developing a really exciting program! Happy Spring everyone and thanks to Zuzana for capturing this beautiful image of the river at Wagga Wagga on the last day of Winter (above).

Things to note

- **Annual Meeting 2-3 December** will be in Canberra
- University only day before Annual meeting: 1 December
- Manuscript preparation and submission guideline for students (Uni Sharepoint)
- Project Value Add Agility applications due 11 September
- ARC Final NCGP paper on new schemes released July 2026





PEOPLE



WELCOME TO A FEW NEW ADDITIONS!

It may be a bit early to officially join the Centre... but let's see.

A huge **congratulations to Joanna Melonek, Nay Chi Khin and Pigumal Demotte** on their new family additions.

Joanna welcomed baby Alex, Nay Chi welcomed baby Nyra this month and Pigumal welcomed baby Vihein a few months ago. Wishing your families all the best from the Centre.

Thank you to Dr Elizabeth Dennis who has recently joined ANU as a Visiting Fellow and is supporting some of the Training Centre initiatives this year

Dr Elizabeth Dennis is an eminent plant molecular biologist who joined the CSIRO Division of Plant Industry in 1972 as a Research Scientist rising to the position of Chief Research Scientist in 1991 and CSIRO Fellow in 2001. Amongst many remarkable research highlights Liz's work with industry has research output such as:

- developed plant promoters which respond to anaerobic conditions and give high-level expression. This work was funded by Agrigenetics Corporation and resulted in patents which have been granted in the USA.
- developed a monocot promoter with high-levels of expression for use in cereal transformation. This was supported by Wheat Industry Research Council Funding and has also been patented.
- developed genetically engineered eucalypts for plantations which was supported by a GIRD grant in collaboration with APM, ANM, North Eucalypt Technologies, Kimberly Clarke and CSIRO Forestry.
- investigated the use of ribozymes to develop a system for male sterility in research funded by Gene Shears Pty Ltd.



Thank you to **Allison Pearson**, GRDC who has been our Manager for the Centre for the past few years. Congratulations Allison on your new role at GRDC of Senior Procurement Officer. Thank you for your support of the Centre over the years. Your engagement at our meetings, forums and with the students has been consistent throughout this period and that support is appreciated.

A number of Training Centre students are supported by additional GRDC Grains Research Scholarships (GRS). These are a great opportunity for students to build their networks and have their own milestones and reporting requirements.



Welcome to **Camilla Hill**, who is taking on the role of **Manager, Oilseeds** at GRDC. Camilla has a PhD in Crop Genetics and Biochemistry from University of Melbourne and in previous roles Camilla has used new breeding technologies for genetic improvements in grains. Camilla has been with GRDC for four years in the Genetic Technologies portfolio. Camilla, we look forward to working with you!



AWARDS AND RECOGNITION

Congratulations to **Zuzana Plšková** on being awarded an **APPN Postgraduate Internship Award (PIA)** valued at **\$8,220** to support her research.

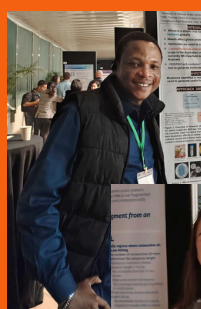
"I was awarded the APPN Postgraduate Internship Award for which I'm very grateful. My project aims to understand how the SAL1-PAP signalling pathway, known to function in drought stress responses of wheat, might influence drought stress resilience at different wheat developmental stages that are highly sensitive to drought. I'll be using the APPN growth capsule, handheld LI-600, leaf-level-hyperspec, and thermal imaging on wheat SAL mutants to provide insights on the functions of different wheat SALs and their contribution to drought tolerance." - Zuzana Plšková



Congratulations to **Ben Kurya** on receiving **TWO** awards at **ABTS 2026**

*"I'm grateful to have received two awards at the Australian Barley Technical Symposium (ABTS) 2026 in Geelong from 17-29 August— the **Student Travel Award** and the **ABTS Poster Award for Best Presentation**."* - Ben Kurya

Well done Ben!



Congratulations to **Ola Amoo** and **Ciara Danes** on receiving **ACB GRDC Sponsored Awards** to attend **Breeders Week**.

The selection panels were impressed with the quality of submissions and commitment to a career in the Australian grains industry. The award included complimentary registration to the event including a poster at the poster session.

Congratulations to **Jamie Piroe**

Awarded a fellowship by the ARC Laureate Fellowship Initiative for the Planetary Health Equity Hothouse

*"I am very grateful to have been awarded a fellowship by the ARC Laureate Fellowship Initiative for the Planetary Health Equity Hothouse this November! The Planetary Health Equity Hothouse is an **interdisciplinary research initiative at ANU** that explores how governance systems can be transformed to address the interconnected challenges of climate change, social inequality, and poor health, with the goal of advancing equitable health within a stable Earth system. During this fellowship, I will participate in the **two-week Future Leaders Program at the ANU School of Regulation and Global Governance**, which will bring together PhD students, early career researchers, and professionals from around the world. Through workshops, masterclasses, writing sessions, and interdisciplinary conversations, I will have the opportunity to further develop my thinking around systems thinking, governance, food systems transformation, and planetary health equity, while learning from people working across different disciplines and sectors. I am especially excited to explore how these perspectives can **strengthen my PhD research on imagined futures of the Australian wheat industry and the role of biotechnology within these futures**, and to connect with like-minded people from all over the world!"*

- Jamie Piroe

For more information, check out: <https://hothouse.anu.edu.au/>



Sponsorship by the AgriFood Innovation Institute to attend Crawford Fund Annual Conference

*"In addition to the above, I would like to thank the **ANU AgriFood Innovation Institute** for awarding me a sponsorship to attend the Crawford Fund Annual Conference on Food Security which took place in the impressive Great Hall of the Parliament building. Listening to such inspiring speakers has really boosted my motivation and developed my broader thinking on food systems transformation and food security, which are key concepts in my PhD research."*

- Jamie Piroe





STUDENT MILESTONES

Congratulations to **Chris Wenzl** who submitted their thesis on July 9!

Chris' thesis is titled **"Envisioning and Negotiating Plural Food Futures: Sustainabilities, Food Values, and Evaluations of Gene Technologies in Australian Agriculture"**

Their three substantive chapters are papers, either already published or under review:

Chapter 1: Problematic use of sustainability claims in recent scientific literature on crop gene technologies: toward improving practices and communication published in [The Plant Journal](#)

Chapter 2: Plural Sustainabilities in Everyday Food Talk: How lived experiences shape Australians' understandings of ethical responsibilities under review in Food Ethics

Chapter 3: Food Values in Motion: How Australian Plant-Based Eaters Evaluate Gene Editing and Genetic Modification as Sustainable Food Interventions under review in Food, Culture and Society

"Chris is a true example of what it means to set a deadline and work hard to achieve your goals. Congratulations again!" - Emily Buddle



See the abstract from Chris's thesis [here](#).



Congratulations to **James Nix** on submission of his thesis titled **"Elucidating the role of PGR5 and PGRL1 in the regulation of C4 photosynthesis"**, in June 2026!

"Regulation of C4 photosynthesis is an elaborate process that requires cell-specific specialisation of the light reactions to match the distinct metabolic energy demands of mesophyll and bundle sheath cells. This balance is further complicated under fluctuating light conditions which require rapid changes in energy production and photoprotection, yet how C4 plants achieve this has remained poorly defined."

The findings in this thesis refine the mechanistic understanding of how PGR5 and PGRL1 (Proton Gradient Regulation proteins) act in C4 photosynthesis and identify new directions and priority targets for engineering improved electron transfer in C4 crops under the fluctuating light of field environments.

[See here for the full abstract.](#)

Congratulations to **Ebtihal Mohamed** for submitting her PhD Thesis, titled: **"Developing Brassica carinata as a biodiesel crop"** on 30 August!

"Super grateful to Ebtihal's industry partner supervisors and supporting team members: NSW DPI (Harsh Raman), CSIRO (Xue-Rong), Nufarm (Jason McAllister, Dr Nelson Gororo, Dr Antonio Leonforte, Riley Sayle, Ashley Lynch and Peter Flett) and for their wonderful support for Ebtihal's research, and panel members Julian Greenwood, Spencer Whitney, Tony Millar." - Caitlin Byrt

[See the full abstract here.](#)



ACT Government Public Schools Student Conference

On June 30, the **AgriFood Innovation Institute** welcomed ACT public high school students to The Australian National University as part of the ACT Government Biotechnology: Food, Fibre, Future Student Conference 2026.

Thanks to **Kai, Jamie, Mary, Asma, Sadia and Alex Jose** for participating in this event.

Check out some highlights posted by AFII [here](#).

OUTREACH





IMAGE: ZUZANA PLŠKOVÁ

OUTREACH

Canberra Show Part 2 @ ANU

A huge thank you to everyone involved in our recent community outreach activity where we invited members of the public from the Canberra Show who submitted photos of their germinated plants they had taken home from the show. A special thanks to **Derek Collinge** who put all the groundwork down to make this happen. Also to our wonderful students who volunteered their time and also Ellie Jordan from APPN. I have heard that our lot had a lot of fun and we had great feedback on the day from the people who came in. Also lots of great questions from kids and parents.

You never know when you've inspired someone else to learn more about science and agriculture but I could see we did that day!



IMAGES: LAUREN DUFALL

Adelaide Uni Open Day and Waite Campus Orientation Day were held in August with members of the Future Crops Centre involved

At Adelaide Uni Open Day, Stuart Roy, Bettina Berger and Qiwei Shen were out and about speaking with the community about our various research initiatives. Stuart Roy as Program Director also welcomed first year undergraduates to Waite campus for the orientation day.



Delegation from Argentina

Kai Chan participated in this event coordinated by the AgriFood Innovation Institute on Monday 17 August. The Argentinian delegation comprised of government representatives and also growers. Kai shared an overview of the Centre and contributed to broader discussions around what we're doing in Australia in terms of enhancing crop productivity, particularly in the context of environmental stress.



The **Australian Plant Breeding Academy** (a joint venture between AU and AGT) organised a panel and networking event for undergraduates, HDR students and ECRs to learn a bit more about prebreeding/breeding, careers and opportunities in the sector. Matt Tucker was one of the panelists, and also **Tristan Coram (AGT)**

Adelaide University Agricultural Students Association (AUASA)

By Alex Seward

*"Last week, **Nyssa, Qiwei and I** were able to represent the Training Centre at the Growing the Future event organized by the Adelaide University Agricultural Students Association (AUASA). It was a great opportunity to chat to undergraduate students about the possibilities of further research, as well as giving us a chance to discuss our research with many representatives of the agricultural industry here in SA."*



IMAGE: STUART ROY

INDUSTRY ENGAGEMENT

In July a group of us ventured up to Narrabri to visit some of the **Cotton Industry (CSD and ACRI), the USyd Plant Breeding Institute (PBI) and the GRDC Farm Business Updates.**

It was a great chance to learn about a different industry, the challenges they face, how cotton, wheat and canola are run in rotations and the challenges that farming businesses have from global context of export markets, cost of inputs through to on farm decisions around crop, variety, timing, machinery etc. + an opportunity to engage with local growers (and practice our communication).

Shout out to Tim Green from AFII for helping set up the visits and joining us on the trip!

A big thank you to our hosts at CSD, ACRI and USyD PBI for their time to show us the facilities, share their research and give us valuable insights into the various research and industries.

By Sadia Majeed

"The Narrabri industry visit was a fantastic opportunity to step outside the university and gain a better understanding of Australian agriculture and the many career opportunities within the industry. One of the highlights was visiting Cotton Seed Distributors (CSD), Australia's sole supplier of commercial cotton planting seed, where we learned how high-quality cotton seed is produced, processed and prepared for growers. It was fascinating to see the highly automated seed processing and delinting facility and learn about the technology and quality control behind producing seed for the Australian cotton industry. Attending the GRDC Farm Business Update gave me valuable insight into the real-world challenges faced by growers. Learning how global grain markets, fluctuating fertiliser and chemical prices, climate variability and major investment decisions all influence farm profitability helped me better appreciate the complexity of farming today and reinforced the importance of research that delivers practical benefits for growers."



By Jamie Piroe

"My main takeaways were that seed companies act as translators between research and farming. They bridge scientific discoveries with growers' needs, ensuring innovations are commercially viable and fit within real farming systems. More general take away based on the farm updates as well: it became even more evident that plant breeding is about managing uncertainty. Breeders must anticipate future climate conditions, pest pressures, market demands, and policy changes years before varieties reach farmers."

By Cara Huang

"My biggest takeaway was seeing the scale of research and development across the cotton industry. Before this trip, I hadn't fully appreciated how many different organisations and roles contribute to bringing research into practice. Visiting these sites gave me a much clearer picture of the career opportunities available in industry after completing a PhD, and it was inspiring to see how research can make a real impact on Australian agriculture."

By Mary Ma

"It is a great opportunity to see how the cotton seed industry works, the lines on processing cotton seeds from start to end are fascinating. Also a good chance to listen to different industry people about their career pathways (plus Lauren and Tim's career pathways), this gives me a much clearer picture on shaping my own way."

[For a full write up from our students on the trip click here.](#)



By Joanna Melonek

On the early morning of 25 March, navigating the rather complex traffic situation on the Commonwealth Avenue Bridge, I made my way to the Australian Parliament House to attend the 'Science Meets Parliament (SMP) 2026' event. As stated on the [Science & Technology Australia](#) website 'Science Meets Parliament features a comprehensive training program designed to strengthen relationships between federal parliamentarians and professionals in science and technology. It plays a vital role in integrating STEM expertise into national service'. This is therefore not exactly the type of meeting I am used to attending as a researcher, but I gladly accepted the challenge!

Jonanna Melonek (PS) with Dr Sajitha Biju (UniMelb) in the Marble Foyer, Parliament House. Photo credit: SMP26 staff member.

Overall, my participation in SMP 2026 was a great experience and I highly recommend it. It felt good to be in the 'Heart of Democracy' and to be reminded, by the discreet sound of a bell, that important decisions were being voted on in the Parliament House as we were having the meeting there. My take-home message from the meeting is to **be comfortable being uncomfortable and don't be afraid to try new things from time to time.**

I would like to thank to the Australian Society of Plant Scientists for the opportunity to attend the meeting and Science & Technology Australia for organising the event.

Read more: <https://futurecropcentre.edu.au/science-meets-parliament-2026/>

[A longer version of my report](#) has been published in the April edition of Phytogen.

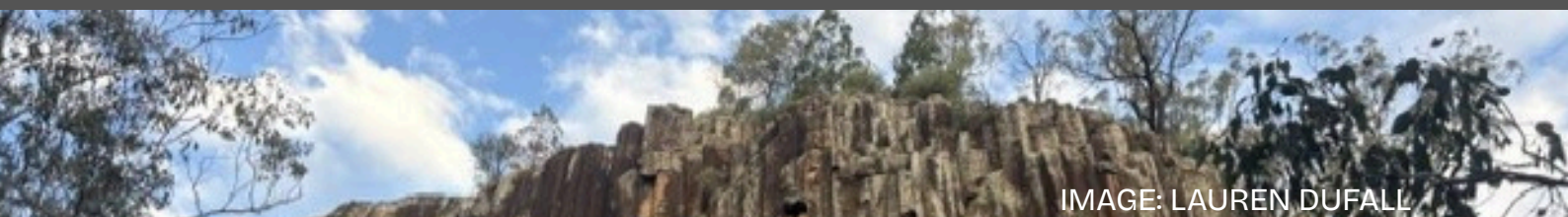


IMAGE: LAUREN DUFALL

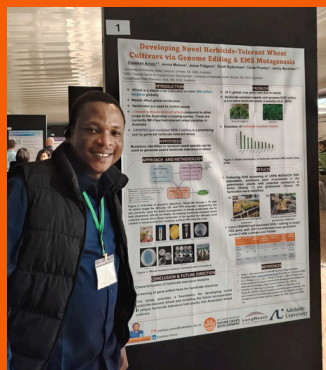


CONFERENCES

Read highlights from our students below!

This year the Australian Crop Breeders (ACB) Breeders week meetings were held in the Gold Coast from 4-6 August. A group from the training centre participated in the open sessions on the 5th of August including **presentations from Mary Ma, Tony Millar, Florence Danila, Matt Tucker and Harsh Raman**. That evening a number of our students presented at the sundowner poster session. Congratulations to Ola, Ciara, Mary, Piyumal, Zuzana, Asma and Jamie on your excellent posters and your engagement with the conference audience that evening.

On the 6th of August the Training Centre was invited to give a showcase of centre research including presentations from **Tony, Stu, Emily, Ola, Zuzana and Piyumal**. As part of the session, we discussed with the audience the challenges and opportunities for future crops and new breeding technologies, and the needs for future capacity and skills across our industry. Thank you to all of the audience participants who contributed to this discussion which continued over a networking session. A big thank you to **Narelle Moore**, ACB and her team for their organisation of an excellent conference and support of the Future Crops Training Centre session.



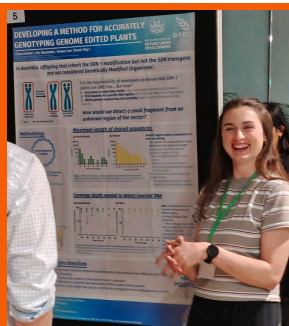
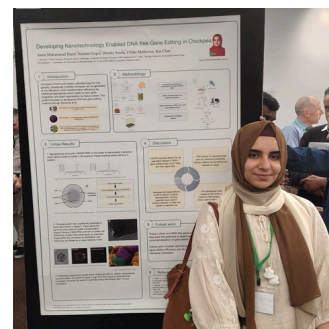
Ola Amoo - A valuable week of learning, connection and reflection at Breeders Week 2026

I recently had the opportunity to attend Breeders Week 2026 on the Gold Coast, which brought together researchers, breeders, industry professionals, and students working across crop improvement and agricultural innovation.

I was grateful for the opportunity to present my PhD research, "Developing Novel Herbicide-Tolerant Wheat Cultivars Through Genome Editing and EMS Mutagenesis," during the event. Presenting my work to an audience with diverse expertise in plant breeding and crop improvement provided a valuable opportunity to communicate my research, receive feedback and discuss how my work could contribute to future wheat breeding.

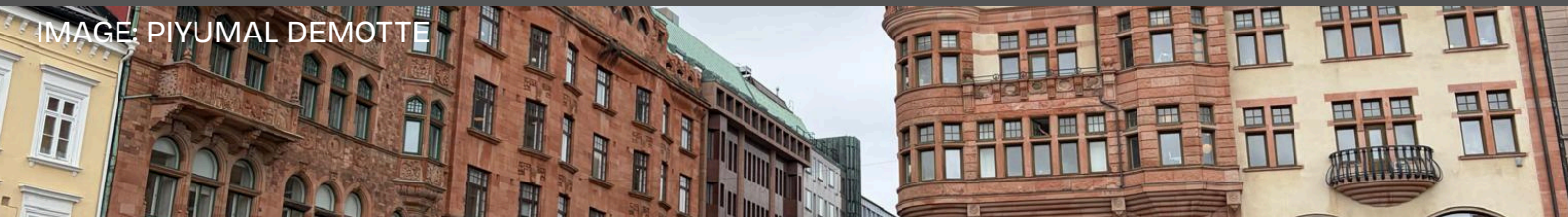
Read more on Ola's fantastic writeup of this conference on his LinkedIn: [Post](#) | [LinkedIn](#)

Asma Zia - I had the opportunity to attend ACB Breeders Week this year. The meeting focused on improving biotic and abiotic stress in various crops such as rice, wheat, barley, canola and pulses. I attended the pulses session on 1st day. Major talks focused on improvement of Ascochyta blight resistance in Chickpea, refining seed quality for export as well as drought and cold resistance. Other crops like cowpea soybean and mung bean were also discussed. I presented my poster "nanotechnology enabled DNA free gene editing in chickpea" on 2nd day. This session was engaging and I enjoyed explaining my work and got feedback. The talks from various industries/organisations were also informative such as Grain Trade Australia discussed the GE and GMO regulations in Australia and how they might change over years.

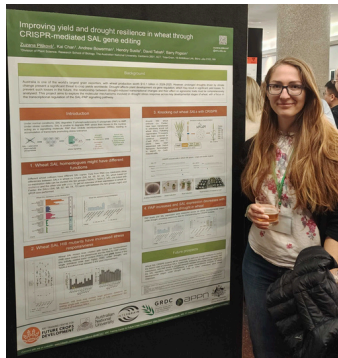


Ciara Danes - I really enjoyed attending the ACB meeting and found it a great opportunity to hear about the range of research happening across the industry and to meet people working in a variety of crops. It was a great opportunity to discuss my work with people from different areas of the industry and get their perspective on its relevance and potential applications. It was also really nice to meet many of the Training Centre's industry partners and put faces to some of the organisations we work with.

IMAGE: PIYUMAL DEMOTTE



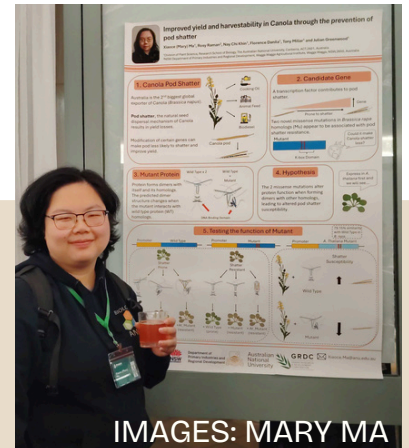
CONFERENCES



Zuzana Plšková - During the poster session, almost everyone I spoke to asked me where I found the genes I'm working on, and whether I'm going to test my wheat mutants in the field. The fieldwork question was not unexpected, since most people in the room have been involved in field trials at some point. However, with the increasing availability of wheat genome data, I hope more people will take advantage of these resources to identify homeologues from other species to identify and test candidate genes, and explore how they relate to QTLs they already know.



Mary Ma - We joined the ACB meetings at the Gold Coast. It was good to not only see what other research questions are being discussed and solved in the canola field, but also to explore other parts of the agricultural industry world outside of the lab. It was precious for me to know what the related industry is focusing on, and how trade policy and the market are shaped. Trading is not just about what we grow but also how we sell it. I personally enjoyed the poster session the most, it was good practice for my communication skills and a treasured moment to receive feedback from industry fellows. Those cross-sector communications expanded my view and gave me a clearer idea of what job position I want to seek after my PhD journey.



IMAGES: MARY MA



Piyumal Demotte - Coming from a computational background, the most valuable part of ACB meeting was seeing the full breeding pipeline represented in one room: the breeders and data generators who supply the field trial and genotype data that genomic prediction models depend on, the teams building new phenotyping technologies, and the people running breeding programs day to day.

Hearing how prediction is actually deployed, and where it still falls short gave me a much clearer sense of which methodological problems are worth solving. With strong industry representation across the program, it was also a rare opportunity as a student to meet potential collaborators and end users directly, and I'd strongly encourage other students working in this space to attend.

Jamie Piroe - The Australian Crop Breeders Week was very interesting and engaging. The main purpose of my visit was to network and connect with, amongst others, breeders who could potentially participate in my PhD research. During my poster presentation, I received a lot of interest from different attendees, including breeders who were keen to learn more about my research. This was highly valuable for my PhD and I am looking forward to all the meetings and connections that have come as a result of attending Crop Breeders Week!

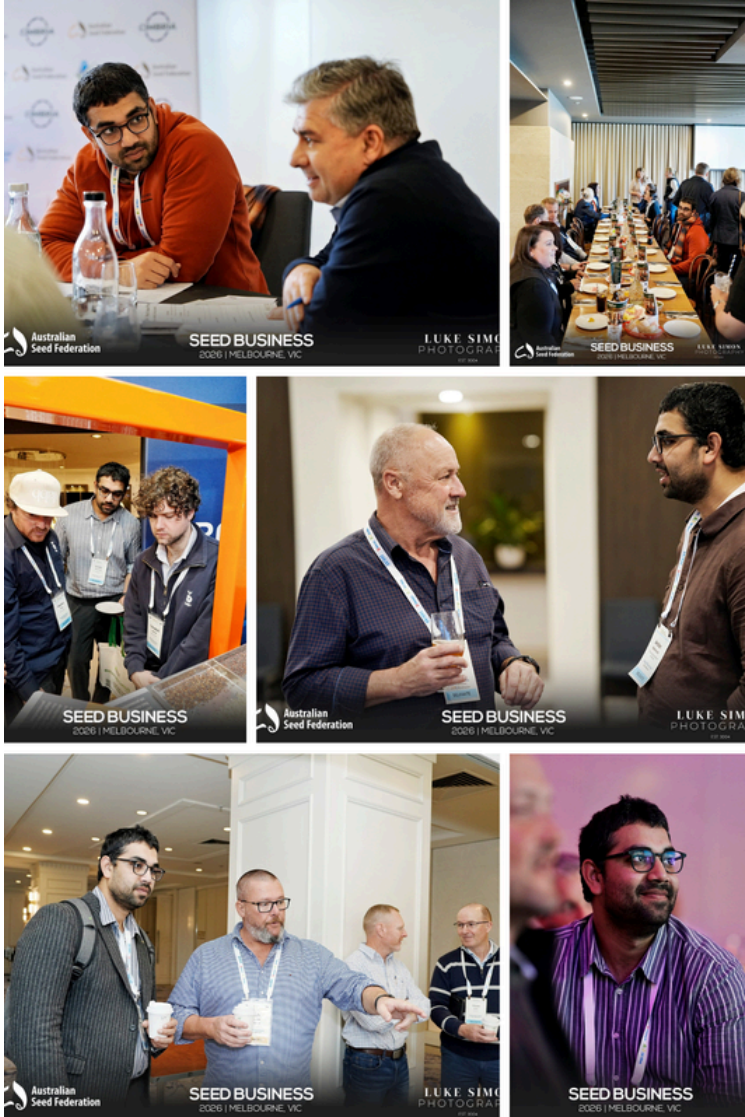


Piyumal Demotte

In late June I travelled to **Copenhagen for SMBE 2026**, the annual meeting of the **Society for Molecular Biology and Evolution**, held from 28 June to 2 July. I presented my PhD research on phylogenetics, which develops Bayesian and machine learning approaches for reconstructing evolutionary relationships and estimating when lineages diverged. Methods like these underpin much of modern comparative genomics: knowing how species and gene families are related, and on what timescale they diversified, is what allows traits and genes identified in one species to be interpreted in another including in crops. The meeting brought together researchers across evolutionary, population and applied genomics, and it was a useful opportunity to discuss where computational tools in this space are heading and how they can better serve applied breeding and crop improvement.

Seed Business

CONFERENCES



By Arslan Mahmood

From 18th to 20th August, I attended Seed Business 2026. I found the event extremely useful, informative and resourceful. On the first day, I attended a leadership forum led by Georgia Stormont, Founder and CEO of Selling in the Paddock. She delivered training focused on understanding growers' and farmers' personalities and building trust with them. Georgia works with agricultural companies to develop commercially confident sales teams. The session was an extensive three-hour workshop that provided valuable training in leadership, communication and sales. One of the concepts I found particularly valuable was the DISC (Dominance, Influence, Conscientiousness and Steadiness) framework. It offered a great understanding of how people tend to communicate, respond, make decisions and interact with others. Through this leadership forum, I improved my communication skills by learning how to recognise different personality types and respond to them more effectively. On 19th August, I attended various presentations delivered by representatives from various companies and organizations including Alicia Garden (CEO, Agsafe), Fiona Chambers (CEO, When Bee Foundation), Stephen Annells (CEO, Fertilizer Australia), John Manning (Sorted Seed Technologies), Narelle Moore (CEO, Australian Crop Breeders), Tim Ross (Operations Manager, Grain Trade Australia) and Rosemary Richards (Chair, Australian Oilseeds Federation, AOF). The main aim of the presentations was to update ASF members (farmers and growers) on current technologies, the facilities and support available to them, and the opportunities within the seed and grain industry. The event also featured exhibition booths from different companies showcasing their machinery, mainly seed-sorting machines that use optical and AI technologies. Overall, I enjoyed attending Seed Business 2026 and would strongly recommend that students and ECRs participate in Seed Business. Such events provide valuable opportunities to build professional networks and connections with industry representatives, growers and farmers. I would like to sincerely thank Katherine Delbridge, CEO of ASF, for providing me with this sponsored opportunity. I would also like to thank David Jensen, General Manager of Enza Zaden, for sponsoring students to attend this wonderful event.

[Click here](#) for the full write up on the conference by Arslan.



The Australian Barley Industry – Pivoting to the future

17 - 20 August 2026 | Geelong, Victoria

By Ben Kurya

It was a rewarding opportunity to share part of my PhD research, engage with researchers and industry professionals across the Australian barley community, and learn from the excellent research being undertaken across the sector.

These recognitions are particularly encouraging as I progress through the final stages of my PhD. Research is rarely an individual journey, and I am sincerely grateful to my supervisors, colleagues, collaborators and everyone who has contributed to and supported my work along the way.

I leave ABTS 2026 inspired by the conversations, new connections and shared commitment to advancing barley research and crop improvement.

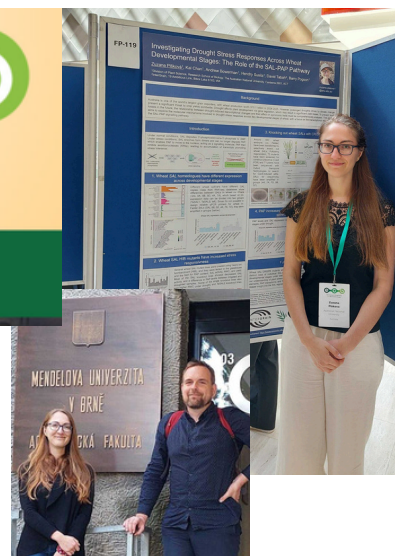
Thank you to the Training and our wonderful research committee for the mentorship and training I am also hoping to submit my thesis before the end of the year.



CONFERENCES

By Zuzana Plšková

In June, I had the opportunity to attend and present at **ECB2026 in Antwerp**, where I shared my PhD research. It was a great experience to learn about the latest advances in plant science and gain valuable feedback on my work, and it was encouraging to see the growing emphasis on applied research in the last couple of years, particularly the use of **CRISPR and AI in the development of new crop varieties**. Also huge thanks to my undergrad lab at **Mendel University in Brno (Czechia)** which allowed me to present my work to undergrad students, and huge thanks to the **Laboratory of Growth Regulators at Palacký University in Olomouc (Czechia)** - they were the **first to run an official GM barley field trial in the EU**, and they kindly showed me their labs and the current GM field trial set up right next to the university. They're also testing a '**GM compost**' - composting the GM field material after autoclaving it instead of incineration. It was very interesting to see the differences in GM regulations in Czechia vs Australia, for example, the required safety zones around the GM crops are much smaller in Czechia.



By Reshma Roy

"A big thank you to the Future Crops Centre for making it possible for me and [@Lucy Darragh](#) to attend AGIC 2026!

It was a fantastic few days of engaging with researchers, growers, breeders, and industry leaders from across the grains sector. I had the opportunity to present our *Brassica carinata* research, while Lucy contributed to an insightful panel discussion. We also had a wonderful time at the AGIC Gala Dinner, which was a great opportunity to connect with industry leaders in a more informal setting.

The conference featured incredible speakers and thought-provoking panel discussions, and we gained valuable insights into the Australian grains industry, including current market trends, emerging opportunities, and the future direction of the sector.

Thank you again to the Future Crops Centre for providing with this valuable opportunity! Such a rewarding experience."

By Lucy Darragh

"It was a great few days, and I'm also truly grateful to the Centre for making opportunities like this possible.

It was a privilege to contribute to the biotechnology innovation, regulation and the grain supply chain panel discussion and to share perspectives from my research on broadening conversations around agricultural biotechnology. One of the themes I explored was how innovation is shaped not only by science and regulation, but also by governance, relationships and the many interactions that occur across the wider innovation ecosystem.

During the conference, one of the highlights for me was being able to talk with people across the sector about the incredible breadth of research happening within the Future Crops Centre. There was genuine interest in the work of our fellow students and colleagues, and it was wonderful to be able to share a little about everyone's projects and the fantastic work being conducted across the Centre."

By Rita Tam

Last month, I travelled to Cairns for the **International Conference on Mycorrhiza** (and to escape the cold Canberra for a few days!). Mycorrhizal fungi form partnerships with plant roots to help plants access nutrients and cope with environmental stresses, but there is still so much we don't know about this hidden world beneath our feet. As someone who works on plant pathogenic fungi, this was a particularly unique and valuable experience for me. My supervisor **Benjamin Schwessinger** and I were invited to host a Nanopore sequencing workshop and give invited talks. I spoke about my PhD research on wheat root pathogens, but to connect my work more closely with the mycorrhizal community, I focused on how pangenome graph frameworks can help us understand heterokaryotism, i.e. the presence of genetically distinct nuclei within a single cell, which can have very distinct evolutionary implications from conventional ploidy. Some mycorrhizal fungi take this to an astonishing level, with thousands of nuclei in a single cell, which I found mind-blowing. The conference brought together researchers from ecology (including post-fire ecology, which was eye-opening), genomics, mycology, agriculture and soil science. My favourite session was a panel discussion on the **major challenges currently faced by the field, including how to better promote mycorrhizal fungi and translate their potential into agriculture**. Researchers also highlighted the importance of soil science, as soil conditions can strongly shape these plant-fungus partnerships. Therefore bringing soil science and mycorrhizal research closer together will be key for the field moving forward.

It was also really special to see **Professor Celeste Linde**, our former Associate Director HDR at RSB, deliver her last plenary speech before she went Emeritus. It was a lovely moment, although bittersweet. Wishing her all the best for this next chapter! Overall, I'm really grateful to have been part of ICOM2026. It was a great opportunity to step outside my usual research field, make new connections and meet so many interesting people. I came away feeling very content and inspired by the experience."

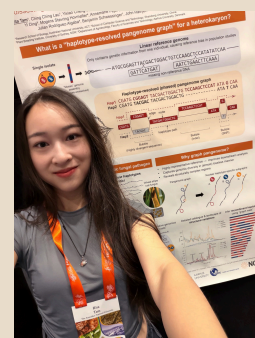


IMAGE: STUART ROY

PLACEMENTS

In June and July our **Centre Partner and breeding company KWS** hosted two Centre students **Ciara Danes and Alex Seward** for short placement visits.

We are very grateful for the efforts of our **Partner Investigator Jacob Lage, KWS** – for his consistent commitment to the partnership with the Centre since our development in 2020. We hope for a few more of a Centre students to be able to take advantage of this incredibly valuable and unique opportunity to visit a world leading breeding and seed company specialising in Sugarbeet, Corn, Cereals, Oilseeds and Protein Plants, Special Crops and Organic Seed and Vegetables.

By Ciara Danes

During my placement with KWS Momont in northern France, I gained valuable insight into the practical application of wheat breeding within a commercial breeding program. Working alongside the breeding team, I observed how new wheat varieties are developed, from early breeding populations through to field evaluation and seed production. The placement provided an opportunity to see the scale of commercial breeding and the importance of integrating field observations with research to support crop improvement.

The experience strengthened both my technical knowledge and my understanding of career pathways in plant breeding. I developed practical skills in crop phenotyping and field assessment while learning about the collaborative work required to deliver improved wheat varieties for growers. The placement also highlighted the close connection between industry and research, demonstrating how innovation and applied science contribute to the development of more productive and resilient cropping systems.



IMAGE: CIARA DANES

By Alex Seward

During my internship at the KWS research station in Wetze, central Germany, I worked with Prati and Monika from the wheat research team to gain firsthand experience in commercial plant breeding and hybrid wheat development. The placement introduced me to the foundations of hybrid breeding, the importance of genetic diversity, and the technologies such as the blue aleurone (Bla) system that are at the forefront of hybrid seed production. I also participated in field assessments of key flowering and reproductive traits, such as flowering time and anther extrusion, which are critical for successful cross-pollination.

Visiting multiple research and breeding sites provided valuable insight into large-scale breeding and seed processing technologies, as well as the progression of wheat breeding from early-generation lines through to elite cultivars.

The internship significantly strengthened my practical field skills and broadened my understanding of the commercial plant breeding pipeline.

Working alongside experienced breeders enhanced my ability to identify both desirable and undesirable plant characteristics, and gave me a greater appreciation of the strict quality standards required before new varieties reach growers. I also gained a better understanding of the balance between scientific innovation and commercial considerations within industry.

Overall, the experience provided fantastic insight into the scale of commercial breeding processes, and reinforced the importance of genetic diversity, with hybrid breeding playing a pivotal role in safeguarding the future of crop production.



IMAGES: ALEX SEWARD

IMAGES: STUART ROY



Alex Seward is completing a placement with LongReach Plant Breeders and recently visited some LPB trial sites

“Always good to get out of the office and check how material you have passed on to breeders is doing compared to their elite crosses. Three sites round SA visited today before lunch.”



- Stuart Roy

CULTURE AND DIVERSITY

Wear It Purple Day | Friday 28 August 2026

Wear It Purple Day is a day dedicated to supporting, celebrating and empowering LGBTQIA+ young people. The day aims to foster safe, inclusive and accepting environments where everyone can be themselves and feel a sense of belonging. [Wear It Purple Day 2026 — WEAR IT PURPLE](#)

This year's theme, "Colours of Courage", celebrates the many ways courage is shown every day, from living authentically and supporting others, to speaking up for inclusion and creating positive change.

If you would like - wear something purple on Friday to show your support and help promote a culture of respect, inclusion and belonging for all.

"Know that your people are out there, even if you haven't found them yet, and you'll find strength, inspiration and amazing friends in that politically fierce, caring and quirky community of queer, trans, and neurodivergent folk," they say.

A lovely message of hope for Pride month this month from ANU researcher Assoc. Professor Katie Sutton (she/they). Katie Sutton is bringing to life the overlooked histories of queer, gender-diverse and neurodivergent people.

Read the full article here: [A beacon of hope: Katie Sutton is illuminating the past and future of LGBTQIA+ history.](#)



50 Years of Deadly



For five decades, **NAIDOC Week** has celebrated the voices of our communities — steady, unapologetic, and proud. Each year, its themes have called for truth, celebrated culture, honoured resistance, and reminded the nation of who we are.

Fifty Years of Deadly marks a milestone. It's a tribute to the people who built this movement. the Elders who stood firm, the organisers who made space, the artists who turned resistance into expression, and the communities who keep showing up, year after year.

NAIDOC has always been more than a week — it's a platform, a protest, a celebration, and a statement of survival. This moment is about looking back at the stories, the marches, the languages, the art, the leadership. At the strength it took to get here. It's about recognising how far we've come, not by chance, but because generations of people refused to be silenced.

It's also about the here and now, who we are today. Grounded in culture. Strong in our identity. Leading change across every field, from health and education to media, business, and the arts. We're telling our own stories, in our own way, on our own terms.

And it's about the future. The next 50 years. The young ones growing up proud. The return of language. The return to Country. The fight for justice continuing with new tools, new voices, and the same fire.

Fifty Years of Deadly is a marker, not just of time passed, but of the momentum still building. It's proof of what our people build when culture leads and community comes first. NAIDOC belongs to mob. It always has.

We honour what came before by continuing the work.

This is our story. This is our celebration. This is our future.

Still deadly. Always.

Source: <https://www.naidoc.org.au/about/naidoc-theme>

IMAGE: ZUZANA PLŠKOVÁ

PARTNERS AND INDUSTRY

Partner Forum July 2026

On 20 July, the Centre held a Partner Forum online. Two of our students **Zuzana Plšková** and **Qiwei Shen** gave short research highlights, and **Stuart Roy** gave a summary of our individual Industry Partner meetings held from May-July. Thanks to all partners for the conversations we have had on how the Centre is going, what's been working, what we could improve on and where we might go in the future with this initiative.

There was consensus that we have recruited very **high-quality students**, who have been very active with **industry** partners and **project codesign** which has been valued by our industry partners. Students are integrating what we have learnt in the Centre in the field. There has been **significant progress** across the industry during the term of the Centre – including **regulations** in Australia and globally and **new technologies** coming through the commercialisation pipeline.

DIR 227

Commercial release of wheat genetically modified for increased nicotianamine

OGTR

Public announcement that a DIR application for the commercial release of a GMO wheat has been released:

GRDC Framework Genetic Technologies

GRDC has released its Investment Decision Framework for Gene Technology, which is now available on the GRDC website <https://grdc.com.au/research/partnering-in-rde-investment/investment-decision-framework-for-gene-technology>.

This framework supports GRDC's commitment to innovation by providing a clear and transparent process for assessing emerging gene technologies. It is designed to help ensure investments have the greatest opportunity to deliver benefits for grain growers while appropriately managing regulatory, stewardship and market access considerations. The framework provides a structured approach for evaluating opportunities based on both application (crops, agricultural biologicals, pest animals or enabling technologies) and technology readiness level. This ensures investments are considered appropriately from early-stage discovery through to commercial deployment.



IMAGE: GRDC

NEW INITIATIVE

Home > GRDC investments > Development of next-generation breeding technologies

Development of next-generation breeding technologies

Adelaide University and the ANU Future Crops Training Centre nodes have partnered with Plant SynBio Australia (PSBA) on a new GRDC funded project: Development of next-generation breeding technologies

Australian grain growers need improved wheat and barley varieties that can perform well under changing weather, increasing disease pressure and other production challenges. Gene editing has the potential to help breeders develop useful traits more quickly than conventional breeding alone. However, its wider use in Australian breeding programs has been slowed by technical difficulties, including the challenge of editing elite commercial varieties, as well as complex licensing, regulatory and stewardship requirements. This project is specifically designed to remove these barriers and make gene editing more practical for Australian wheat and barley breeding.

The platform will develop new technologies to deliver non-GMO, gene-edited material in elite backgrounds, with improved traits such as yield and stress tolerance. Beyond delivering new genetics, the project will provide Australian breeders with practical tools, expertise, and regulatory pathways to routinely use next generation breeding technologies. By integrating research, breeding, and industry partnerships across Australia, this investment will accelerate genetic gain, reduce time to market, and support the long-term productivity, resilience, and profitability of Australia's grains industry.

Source: GRDC

National MEDIA RELEASE



July 10, 2026

GRDC announces AGT will lead national lentil breeding program



Australian Government
Australian Research Council

National Competitive Grants Program Policy Review Final Report

The final report:

- reflects extensive consultation with researchers, institutions and stakeholders
- outlines a simpler and more coherent National Competitive Grants Program
- strengthens support for early-career researchers and Aboriginal and Torres Strait Islander researchers and research
- confirms ongoing focus on research excellence, integrity, security, fairness and transparency.

[Read more here.](#)

IMAGE: ZUZANA PLŠKOVÁ

PARTNERS AND INDUSTRY

EU adoption of new regulatory framework

In July 2023, the European Commission proposed new rules that would treat some NGT plants similarly to conventional plants on the basis that they could also occur naturally or be produced by conventional breeding techniques. Following their adoption by the European Parliament and EU Member States, the NGT Regulation (EU) 2026/1388 entered into force on 16 July 2026. Our scientists provided scientific advice to inform their policy initiative. Source: New genomic techniques | EFSA

The EU's previous system largely regulated gene-edited crops the same way as transgenic GMOs, which many researchers and plant breeders argued slowed innovation. The new framework is intended to:

- improve competitiveness of European agriculture,
- accelerate development of crops resilient to drought, heat and disease,
- reduce fertiliser and pesticide use,
- support food security and sustainability goals.

Source: New genomic techniques: Council and Parliament strike deal to boost the competitiveness and sustainability of our food systems - Consilium

ABARES forecasts hefty drops for wheat, barley, canola - Grain Central

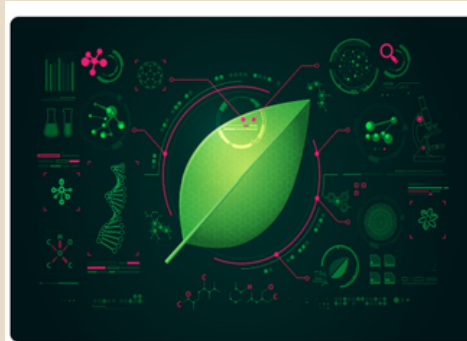
One of the biggest pieces of industry news was ABARES' first forecast for the 2026-27 crop, predicting:

- Winter crop production of 54.5 million tonnes, down 21% on the previous season.
- Wheat production forecast at 26.7Mt.
- Canola production forecast at 6.2Mt.
- Concerns around rainfall, fertiliser costs and seasonal conditions



OPPORTUNITIES

1. The aim of this Voucher Scheme is to enable projects addressing significant scientific challenges using synthetic biology capabilities at NCRIS SynBio and NCRIS Partner facilities.
 2. Applications for a Primary Voucher will include a Lead Provider from one of the NCRIS SynBio facilities and a Partner facility. Primary Vouchers will be awarded to a maximum of \$50,000 and will match the contribution of the applicant.
 3. Applicants may also apply for a Secondary Voucher to incorporate another Partner facility which will bring an added capability to the proposed project. Secondary Vouchers will be awarded to a maximum of \$25,000 and will match the contribution of the applicant.
- [Details here.](#)



NCRIS Synthetic Biology voucher scheme 2026-27 (Round 2)

JUL 3, 2026 | AGRICULTURE AND FOOD, BIODIVERSITY AND ENVIRONMENT, HUMAN HEALTH

CENTRE AGILITY FUNDING

A reminder that the final round of **Project Value Add Fund** application are **due September 11th**.

Project Value Add Funds are aimed at supporting existing projects or initiatives by adding value/impact that would not otherwise be achieved. **Led by Centre ECRs**, up to \$10,000 of funding is available to generate outputs that enhance the quality of the ECR's thesis/publications/ translation/training.

- Could you benefit from training in a specific topic/technique?
- Could an extra experiment elevate your research impact or translation?
- Would winning this grant look good on your CV?
- What do you need to give yourself the best chance of success post-PhD?

Be creative with your ideas!

TRAINING

CENTRE TRAINING

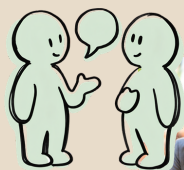
Centre Professional Intensive Courses and other modules

Over the first two years of the Training Centre we ran five **Professional Intensive Courses (PICs)** covering **Regulatory landscapes, Responsible Research Innovation, GMO stewardship, Computational Biology and Science Communication**. These are a core part of our Training Centre offering and are unique to the Centre and available to all our ECRs and partners.

Our [Training resource page](#) has recordings of many of these PICs as well as various other training resources including:

- Australian Science Media Centre presentation (Annual meeting CBR 2025)
- Statistical support resources
- Journal Article Writing and Peer review (Training Retreat ADL Nov 2025)
- Presentation on Global Grains and Oilseeds Markets GRDC Farm Business Update Narrabri July 2026
- and more...

In addition to these courses, training in other areas including human skills, collaboration, networking, application writing, and project management etc. is offered in many formats across the Centre through activities including student placements, Committee involvement, Annual meetings and Retreats, Science Week events or shows, conferences, Newsletter articles, applications for Agility funds and APPN PIA funds, and more.



Industry engagement and communication – new resource!

Thank you to **Centre Affiliate Rachel Rodney Harris** and Agrifood Innovation Institute Liaison Officer **Tim Green** for delivering a training session that we ran in preparation for the Narrabri cotton industry and GRDC farm business updates event in July.

You can find these on our training resources page and they will be useful for all students for industry engagement and outreach opportunities.

- Making your Science Land: Networking and Communicating with Purpose (Rachael Rodney Harris)
- State of the Industry: Cotton (Tim Green)
- See the recording and slides on our [Future Crops Communication – Training Resources site](#).

RESEARCH

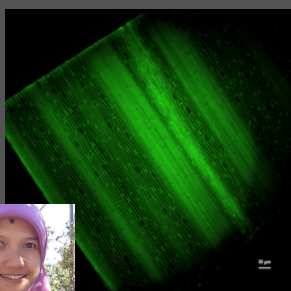
When the soil becomes too acidic! - By Alex Jose

Yellowing and tip burning of the old leaves in chickpea plants grown in acidic field soil. This could be directly due to low pH or indirectly due to associated nutrient imbalances like aluminium and manganese. We still don't know. This shows how the plant suffers in acid soil and why my research is important!



A Hidden Landscape in Barley - by Nyssa

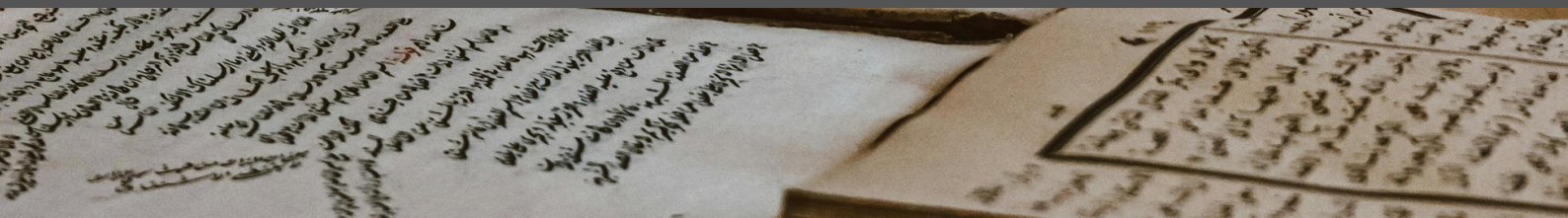
This image shows the epidermis (the outermost layer of cells) of a barley peduncle, captured using optical microscopy as part of my PhD research. The peduncle is the uppermost internode of the plant that supports the barley head. Under the microscope, its surface reveals rows of epidermal cells running along the length of the peduncle, interspersed with specialised structures such as stomata. These orderly patterns are not only beautiful, but they also tell us something about how the peduncle grows. During development, cells divide and elongate, and together these processes determine how long the peduncle becomes.



My research investigates how the barley peduncle elongates during plant development and how this growth can be influenced by plant growth regulators. Using microscopy, I follow the epidermal cells of the peduncle through different stages of barley growth, measuring how their length changes as the peduncle develops. A longer peduncle can arise because more cells are produced, individual cells elongate further, or through a combination of both processes. By examining these microscopic changes over time, I aim to understand the cellular processes that shape the length of the barley peduncle and how plant growth regulators modify them. Understanding how peduncle growth is controlled may help us to better understand barley architecture and how it can be managed or improved for crop production.

Optical microscopy reveals the arrangement of elongated epidermal cells that cover the surface of barley peduncle.





CENTRE ARTICLES

Congratulations to Centre researchers including Centre PhD student **Rebecca Tyrrell** on the publication of their research in **Molecular Plant**.

Molecular Plant

Research article

CellPress
Partner Journal

Translation-dependent retrograde signaling coordinates high-light acclimation in plants

Marten Moore^{1,2,3,*}, Aaron B. Smith¹, Melanie Wegener³, Pravin B. Khambalkar¹, Rebecca V. Tyrrell¹, Brea C. Watts¹, Samuel J. Nix¹, Hong Ting Tsang¹, Muhammad Ansar Farooq^{3,4}, Diep R. Ganguly¹, Robert T. Furbank¹, Maria Ermakova⁵, Barry J. Pogson^{1,6,*} and Karl-Josef Dietz^{3,6}

Home > Genetic Resources and Crop Evolution > Article

Genome-wide molecular diversity analyses identify wild *Cicer* as reservoirs of variations for chickpea improvement

Research article | Open access | Published: 08 July 2026

Volume 73, article number 227 (2026) | [Cite this article](#)



Congratulations to Centre PhD student **Edward Asare**, Innovation Fellow **Nay Chi Khin** supervisor **Ulrike Mathesius** and our collaborators at **DPIRD**. This is Edward's first paper from the Centre. It was accepted in **Genetic Resources and Crop Evolution (GRACE)**

OTHER ARTICLES OF INTEREST

Australia invests in next-generation canola genetics to tackle frost, acid soils and yield constraints

Three GRDC-backed research projects aim to develop more resilient, high-performing canola varieties as global demand for food oils, feed and biofuels continues to rise



Gene identified that could triple wheat yields

GRDC
GROUND COVER

Developmental Cell

Prolonged cold exposure enhances regeneration potential in *Arabidopsis*

Article

In-planta *Agrobacterium*-mediated cereal transformation—InPACT

Nirman Nepal¹, Fariba Rafiei¹, Steve Scofield², Cankui Zhang^{1,3}, and Mohsen Mohammadi^{1*}

¹Department of Agronomy, Purdue University, West Lafayette, IN, United States

²US Department of Agriculture—Agricultural Research Service, West Lafayette, IN, United States

³Center for Plant Biology, Purdue University, West Lafayette, IN, United States

UPCOMING EVENTS

Adelaide Show

5-13 September 2026

Hart Field Day

15th September 2026, South Australia

Crop Life Annual Members Forum

Stuart Roy has been invited to present
14 October 2026

Centre Annual Meeting

2-3 December 2026
Canberra

GRDC Updates

3-4 February 2027
South Australia

International Rapeseed conference

April 18-21 2027, Paris

Are there any conferences coming up that you think your Centre colleagues would like to know about? Let us know [here](#).