Sydney Institute of Agriculture

Georgika

An online newsletter for those interested in academic aspects of the Agriculture sector

THE UNIVERSITY OF SYDNEY

Edition 12, April 2024

From the Director
Brent Kaiser

Welcome to this edition of Georgika, our first in 2024. SIA researchers have been busy since our last newsletter; we hope you enjoy reading the updates below.

Throughout 2023 the University enhanced the Bachelor of Agricultural Science for students commencing in semester 1, 2024. With just shy of 50 students coming into the degree program, we see a resounding 'yes' to the degree and to the University of Sydney as a great place for Agricultural studies in Australia. I'd like to thank those involved in developing the new degree and ensuring its progress within the competitive degree space at the University of Sydney. I think there is no better degree in the marketplace for an agricultural education than that delivered here at the University of Sydney. Combine this with the significant job opportunities across the sector, choosing agriculture at the University of Sydney should really be a fait accompli for students across NSW!

Late 2023, a Memorandum of Understanding (MOU) was signed between the University of Sydney and the School of Advanced Agricultural Sciences at Peking University, China. This research partnership will enable students, postdocs and academics to work together on projects of mutual interest across the broad areas of crop genetics and breeding; animal husbandry, food and nutrition; agricultural and development economics; digital agriculture and natural resources and

conservation. Over time, we hope the partnership will result in a PKU/USyd co-funded joint postdoc program and joint degree programs (PhD and UG) between the two universities.

On 8 March we held the annual RD Watt Lecture, which commemorates the first lecture delivered to University of Sydney agriculture students in March 1911 by Australia's first Professor and Dean of Agriculture, Sir Robert Dickie Watt. This year's theme was Development Agriculture: Nurturing International Partnerships. Hosted by Professor Daniel Tan, the lecture was well attended by 200 guests who enjoyed listening to our four alumni speakers. The recording is available if you missed the lecture.

SIA researchers and students were very busy assisting at the University displays at the Camden Show (15-16 March) and Sydney Royal Easter Show (22 March to 2 April). Working across both events, the team promoted our new Bachelor of Agricultural Science degree, related research, and provided fun, interactive workshops and activities for show visitors. We will also feature a display at the upcoming Narrabri Show, 3-5 May. The photos at the end of this newsletter highlight the wonderful displays and support from the teams.

Planning is well underway for the 2024 SIA Research Showcase to be held on 3 July. This year's theme is the all-encompassing topic of Sustainable Food Systems. Community interest in sustainable food systems is growing every day with the increasing threats of climate change, global food inequity, population growth and the cost-of-living pressures that threaten our current food systems. We aim to fill the program with talks that highlight the complexity of the food system, the research we do in sustainable food and fibre production, and the social context by which food security is being considered today and in the future. More details to come next month when registration opens.

Events

Save the date for the 2024 Sydney Institute of Agriculture - Research Showcase

Theme: Sustainable Food Systems

Date: Wednesday 3 July, 9am to 4.30pm

Venue: University of Sydney, Camperdown

Registration will open in May.

To register your interest early, please contact us at sia.information@sydney.edu.au

Theme Leader Updates

Plant Breeding and Production

Richard Trethowan

Plant Physiology and Phenomics Research in Narrabri
William (Tam) Salter

Our plant physiology and plant phenomics program in Narrabri is going from strength to strength, with diverse industry aligned projects on heat and drought tolerance of wheat in full swing and new projects focused on the development pf novel high throughput phenomics and precision agriculture techniques kicking off in the next few months. In addition, we are growing as a group with new PhD student Edward Chaplin having started his candidature late last year and several new postdoctoral and technical positions on the horizon.

William Salter, Fiona Fogarty and Edward Chaplin in Narrabri

Acrossthe 2024 wheat season in Narrabri, Ed collected over 5000 microscopy images ofwheat leaves in the field using a handheld microscope, with coupledmeasurements of stomatal conductance measured with a porometer. He is now training computer vision models to automatedly extract phenotypic trait datafrom the images.

Ed has been working across two large collaborative projects on heat and drought tolerance of wheat, funded by the Grains Research Development Corporation (GRDC) and The International Maize and Wheat Improvement Center (CIMMYT), respectively. These projects, both now in their second year, seek to better understand the physiological underpinnings of abiotic stress tolerance in Australian wheat populations developed by colleagues Prof. Richard Trethowan and Dr. Rebecca Thistlethwaite at The University of Sydney across the past decade. Ed's work within these projects focuses on the stomata, the small pores on the plant surface responsible for the exchange of carbon dioxide and water with the atmosphere. He is using handheld microscopes and custom trained deep learning models to capture the anatomical properties of these pores in the field. Alongside this, he is also taking coupled gas exchange measurements using new high throughput tools to measure rates of carbon uptake and water loss. He is then going to link these to canopy scale traits captured with drones, yield related traits, grain quality traits and genetics to identify future targets for plant breeding. These novel methods are higher throughput than conventional techniques, allowing physiological traits to be evaluated at scale across an unprecedented number of genotypes. A greater understanding of these traits has the potential to deliver stepwise changes in productivity. We will also work closely with collaborators at the University of Sydney, Australian National University, University of Western Australia, The University of New England, InterGrain and overseas partners in the UK and Mexico to ensure our research has far reaching impact.

In 2024, we will be starting new research programs investigating heat tolerance of chickpea and photosynthetic nitrogen use efficiency of wheat using hyperspectral reflectance, funded by the GRDC and UK Research and Innovation EO4Agroclimate program. Hyperspectral reflectance data coupled with AI assisted data pipelines offer us the ability to estimate physiological traits at a much higher throughput than conventional physiology tools, such as gas exchange systems, and have been proven to work reliably at the leaf level for traits including photosynthetic capacity, leaf nitrogen content and leaf thickness. These ambitious projects will interrogate whether similar approaches can be used to reliably estimate these traits at the canopy and field scales using proximal and remotely sensed hyperspectral imagery. If successful, there are likely benefits to those working in both research and industry. For plant breeders, the long-heralded potential of physiological traits as breeding targets could be realised by providing a means to assess these complex processes rapidly at relevant scales. For growers, hyperspectral techniques, or bespoke multispectral sensors derived from insights in this work, could present the opportunity to monitor plant nitrogen status in near real time, enabling timely management decisions and precisely applied fertiliser inputs.

Australian cereal rust control program
[Laura Ziems](#)

Members of the Australian cereal rust control program (ACRCP) based at the University of Sydney Plant Breeding Institute, Cobbitty: Dr Mumta Chettri, Dr Karanjeet Sandhu, Dr Laura Ziems, A/Prof Peng Zhang, Dr Davinder Singh, Dr Yi Ding and Dr Jianping Zhang, attended the ACRCP consultative committee in Adelaide on Tuesday the 5th of March as a part of Breeders week held by Australian Crop Breeders Ltd. Three projects: Continued monitoring of cereal rust pathogens in Australia (cereal rust survey and surveillance), Optimising genetic control of wheat rusts through high value resistance gene combinations (wheat rust genetics) and Optimising genetic control of wheat rusts through improved phenotyping (high throughput phenotyping) were presented to and discussed with crop breeders, researchers, funding bodies and state DPI representatives. Progress made in the cereal rust surveys, wheat rust genetics and high throughput phenotyping projects was communicated. The industry showed great interest in our work.

Of particular interest to the audience was the work coming from the cereal rust surveys and surveillance team lead by Prof Robert Park and Dr Mumta Chettri. New variants of the Barley Grass Stripe Rust (BGYR) pathogen Puccinia striiformis f. sp. pseudohordei (Psph) characterized by increased virulence on several Australian barley varieties and some wheat lines and their insensitivity to DMI fungicides raised concerns about the potential impact on the barley and wheat industries.

<div align="right">

Read further about Plant Breeding and Production

</div>

Digital Agriculture
Tom Bishop

Australian Plant Phenomics Facility

Late last year the University of Sydney signed a contract to officially become a node of the Plant Phenomics Facility which is a NCRIS facility. This is a great win for Agriculture at the University of Sydney. It is part of an expansion of APPF to have nodes in all mainland states in Australia. As you can imagine by the name the focus is characterisation of the form and function of plants using sensing and analytics.

Our Node Director is Dr William (Tam) Salter who is based in Narrabri where the node will be headquartered with a range of sensors, robots and vehicles being purchased to be available for researchers to access. The Sydney Informatics Hub will provide analytical support for the node with a particular focus on developing pipelines to process and analyse raw sensor data to enable predictions of plant traits.

I would also like to acknowledge the efforts of Professors Brent Kaiser and Richard Trethowan who have been engaging with the APPF for a number of years to make the node a reality.

Further details about the [new structure of APPF](#)

Questions: [William (Tam) Salter](#)

AI and Foundational Models

I have travelled a bit this year to events such as Evoke Ag, workshops by SmartSat CRC, Australian Plant Phenomics Facility and the Terrestrial Ecosystems Network. There are a lot of interesting things happening in Digital Agriculture and one topic that kept coming up was AI and in particular foundational models and how they could be deployed for agricultural contexts.

Large language models such as ChatGPT are examples of these foundational models. The general principle is that they have been trained on large amounts of unlabelled data (e.g. the internet) and can be used for varying downstream tasks, e.g. write jokes or write Python code. They can be further fine-tuned with new labelled data for even better performance on specific tasks such as summarising scientific literature. This is in stark contrast to creating task-specific, dataset-specific, models based on labelled data only.

Where it gets especially exciting (at least for me) is that Foundational models are not restricted to text, with one example being the release of an image segmentation model called Segment Anything by Facebook. Given any image it can segment different features within it. As you can imagine this is a type of foundational model that is readily transferable to different agronomic contexts such as counting fruit on trees, plants in plots, segmenting weed patches across a paddock, or identifying paddock boundaries from satellite images. Traditionally, these tasks would require different models and vast amounts of labelled data, all developed and used independently. In a spatial context IBM and NASA have joined forces to create a foundational model based on Landsat satellite imagery. It can then be fine tuned for varied tasks such as providing spatial predictions of crop type or flood inundation or burnt areas post-wildfire. Details can be found here.

It is all very exciting and it is easy to imagine a future state of a foundational model to predict a range of agriculturally relevant properties that is coupled with a large language model to interpret the predictions and perhaps even offer a management action based on this. It would be a true Digital Agronomist.

Digital Sciences Initiative (DSI) Colloquium

Finally, a quick plug for the DSI Colloquium which is being held on 29 May 2024 on the main campus.

The DSI has a Digital Agriculture Theme led be Professor Salah Sukkarieh and there will be talks and networking opportunities relevant to SIA members.

Read further about Digital Agriculture

Animal Agriculture
Cameron Clark

This update is my last at The University of Sydney as I will be shortly departing to take up the Deputy Director role for the Gulbali Institute at Charles Sturt University (alongside the continuation of my research programme).

Our update for this edition is from Chloe Wilson (an AVBS alumni!) working within the Storm and Flood Industry Recovery Program to deliver improved dairy cattle and feed base resilience alongside myself and Dr Anna Chlingaryan. Chloe is embedded within the Bega Valley dairy industry and is a key reason why our work has impact; engaging with farmers and from this feedback on

opportunity/need setting the project direction. Thanks Chloe!

Chloe Wilson (Technical Officer, [Storm and Flood Recovery Program](#))

Our work in this programme focuses on a key question: *Can we provide more valuable information to our dairy farmers at critical times to minimise the impact of floods?*

As a first step we surveyed NSW Dairy Farmers as to the climate-based decision support resources they use surrounding extreme climate events and the barriers that they faced around the type and timing of the delivery of such information to make effective decisions.

Survey responses (alongside anecdotal evidence) were collected from a range of dairying regions across NSW. The primary tools used for making decisions surrounding extreme climate events were Bureau of Meteorology platforms, Weatherzone and Water Live (now Water Insights), all being utilised on a daily basis. Of these, Water Insights was the tool primarily used leading up to and during extreme climate events. When prompted to suggest areas for tool improvement, data accuracy and accessibility were the key themes offered by respondents across the climate data resources identified in this survey. Confidence in climate data, data reliability/accuracy and timeliness of information were the biggest barriers in terms of being able to make decisions and provide better advice, leading up to and during extreme weather. More than half of farmer respondents stated that with greater confidence in the climate data they receive, they would feel better assisted in the decision-making process for actions concerning both animal and feed base enterprises.

From these findings we are now working with industry stakeholders and farmers based in the Bega Valley (as a first step) to trial an automated SMS system of river level data specific to individual farms delivered in a timely manner, to ensure greater preparedness and proactiveness of farm flood plans going into the next extreme event. Alongside this system, were are linking data from varying river level and flow gauges from across the Bega catchment area to help increase the time that farmers have to respond to river level changes. We are anticipating that our work, whilst now focused in Bega, will be translated across industry. For more information please feel free to reach out to me on chloe.l.wilson@sydney.edu.au.

Read further about Animal Agriculture

Urban Agriculture
[Floris Van Ogtrop](#)

At the end of 2023 I spent some time with Jan-Eelco Jansma who is a researcher working in the Field Crops division at The University of Wageningen. The Field Crops division is located in Lelystad on "recently" reclaimed land (1958 - 1968). During the visit I was particularly interested to learn about various urban agriculture activities at Wageningen. This led me to meet Jan-Eelco who took me on a whirlwind tour of a new development called Oosterwold located in the newest city in the Netherlands, Almere (close to Lelystad). The initiative aims to develop a 43 square kilometre area (~15,000 homes) through a process that is participatory and adaptable, emphasizing private initiative over governmental planning. The project encourages a mix of individual and collective initiatives within a green and rural setting, allowing each initiator to build according to their preferences but within a set of principles aimed at maintaining a continuous green landscape. These principles include the development of public roads, green spaces, water buffers, and spaces for urban agriculture. A remarkable feature of Almere-Oosterwold is that 50% of the area is dedicated to urban agriculture, significantly reducing the distance between production and consumption and supporting the city's sustainability goals. It was great to learn from one of the key researchers who is studying the project closely and to learn what has worked and what has not worked (Jansma and Wertheim-Heck 2024) and to think about how the lessons learnt can be applied in Australia. This is particularly important given that some councils are starting to implement policies on urban agriculture and how it is integrated into existing and new development as well as the continued encroachment of Australian cities into arable land.

While in Almere we also visited "Onze" community allotment gardens which is a private initiative where a glasshouse rose grower converted his glasshouse into allotment community gardens that can be rented by members of the community to grow fresh produce: https://onzevolkstuinen.nl/. 'Onze' translates to 'ours' in English which is how the community gardens have been set up. Almere has many parallels with Australian cities in that it is very multicultural. While visiting Onze we spoke to different growers at the facility in Almere and discussed the benefits of the facilities. The allotment farmers were able to grow many crops that would not normally grow outdoors. While there are clear differences with respect to climate, what was interesting was how the farmer was able to move from growing a monoculture crop such as roses to diverse food crops such as bitter gourd, okra, snake beans, and other exotic fruits and vegetables. Production must be in line with organic farming principles. The owner of the glasshouses provided fresh soil, compost, mulch, seedlings and maintained the facilities. What is interesting is that the farmer was able to move from growing an intensive monoculture of roses in a very tight market to supporting a vibrant community of urban farmers and remaining commercially viable through charging a nominal rent on each plot. The concept has expanded to other region and the facility is currently expanding in Almere to accommodate the demand for plots. Seems like a win-win for the farmer and the community.

Jansma, J.E. and Wertheim-Heck, S.C., 2024. A city of gardeners: What happens when policy, planning, and populace co-create the food production of a novel peri-urban area?. Environment and Planning B: Urban Analytics and City Science, 51(3), pp.705-720.

On the way back to Sydney I visited the recently established Sustainable Urban Farming Facility at the National University of Singapore. Singapore currently produces about 4% of its vegetables, 8% of its seafood, and 30% of hen shell eggs locally. These figures highlight the challenge Singapore faces

in meeting its ambitious "30 by 30" goal, which aims to produce 30% of its nutritional needs locally by 2030. The strategy is driven by a mix of innovative urban farming technologies, including vertical farming, hydroponics, and aquaculture, that make efficient use of Singapore's scarce land and water resources. The government has been actively supporting this vision through funding research initiatives such as the Sustainable Urban Farming Facility, offering grants to agri-food tech startups, and facilitating the adoption of high-tech farming solutions. The new sustainable urban farming facility boasts new vertical grow spaces, advanced phenotyping and analytical instruments and they are also closely linked with the department of [Food Science and Technology](#) so there is a nice cross over between intensification of agriculture and food processing, food safety, nutrition and more. I think there is excellent scope to collaborate with researchers at NUS in this space. There are also "ignition" grants that come up regularly specifically for collaboration between NUS and USYD researchers. The research office has indicated funding may become available towards the end of 2024. If you are interested in reaching out to the facility, please contact me and I can put you in touch with various researchers working on urban ag related projects at NUS.

Read further about Urban Agriculture

Quality Food
Tom Roberts

The 2023 SIA HDR excursion was run from 28 to 30 November and represented SIA's first HDR excursion to Griffith and the Murrumbidgee Irrigation Area in southern NSW.

Twenty-seven HDR students with a great range of research interests and seven staff participated. We were fortunate again to have Campbell, our driver and encyclopaedic guide from Eastern Australia Coaches, to take us on the excursion.

HDR students at AWH

University of Sydney wool from Arthursleigh Farm (near Goulburn)

Our first visit was to AWH (originally known as Australian Wool Handlers) in Goulburn, where we were given a tour by Sharyn Gospel of the enormous wool testing facility. We came to appreciate the daily pressures to test vast numbers of wool bales, and the quality differences between wool bales worth 10s of thousands of dollars each and those of little value.

We continued west, stopping at the Dog on the Tuckerbox in Gundagai and then to the Junee Licorice and Chocolate factory and shop, where we learned from owner Neil Druce the interesting history of the enterprise, how licorice is made, and the importance of value-adding in the agri-food chain.

After driving past vast fields of recently harvested or yet-to-be-harvested wheat, we made it to the beautiful town of Griffith late on the Tuesday and savoured the excellent restaurants and pubs on offer.

On Wednesday morning we visited the control centre at Murrumbidgee Irrigation outside of Griffith. It was fascinating to learn from Peter Duncan and colleagues about the incredible scale of the irrigation systems in the MIA and the ways in which water flow is regulated and controlled.

We then visited the recently upgraded Narrandera Fisheries Centre, hosted by Trish Evans. Every year, the Centre raises millions of fingerlings of a range of fish species, including Murray cod and silver perch, to repopulate popular angling waterways across a large area of NSW.

After another overnight stay in Griffith, we had a fascinating visit to the Catania Fruit Salad Farm in the heart of the SIA, where we were given an insightful talk and tour by the husband-and-wife team

of Joe and Sharon.

Narrandera Fisheries

Whitton Malt House

Catania Fruit Salad Farm Tour

Heading back to Sydney, we stopped at Temora for lunch and then visited Cherrymore Orchard in Young. Here we were given an eye-opening tour by Michael Batinich's family of the highly automated and exacting cherry sorting facility producing A-grade cherries for export to China.

Thanks to Lynne, Claire and Kristy from the SIA for all their amazing work in planning the excursion!

Read further about Quality Food

Carbon, Water and Soil
Federico Maggi

While on my flight back to Sydney last July returning from a sabbatical period, I was thinking about what project I should propose in my class CIVL6665 the past semester, and having recently been exposed to conversations about response options to carbon losses from soil, I decided to focus the class project on compost and its uses in agriculture. In fact, there is a plenitude of scientific research about amelioration of soil health via compost amendments, including of course carbon content along with other nutrients, improved water retention characteristics, increased soil biodiversity, and possibly many others. I could find UN guidelines about producing good compost (e.g., https://www.fao.org/3/s8930e/s8930e.pdf) and more recent guidelines regulating compost production in NSW. When I started collecting some papers, however, it turned out that the recent research is

mostly looking at compost as a source of contamination rather than a response option to offset atmospheric CO2 concentration and increase soil fertility. Surprisingly, a number of papers consistently report presence of plastics and microplastics across regions regardless of economic factors, waste processing infrastructure, governance in place, and source materials.

In this round of the Agricola news, I will bring up some of the of the findings by my students in the CIVL6665 class the past semester.

Students in CIVL6665, Semester 2, 2023

At the end of the class last year, my students found that microplastic content in compost can range from just below 1 g/kg-compost up to more than 30 g/kg-compost across countries including Australia, Bangladesh, Canada, China, Cyprus, Czech Republic, Finland, Germany, Lithuania, Morocco, Netherlands, Sri Lanka, Spain, Switzerland, Slovenia, Korea, and Taiwan. This truly seems very widespread.

I did not really know what compost is made of, so I checked the [report of the Australian Organics Recycling Industry Assessment for 2020-2021](#) and I read that every year about 7.5 million tonnes of organic materials are reused for composting from garden and food wastes, wood and timber residuals, biosolids and agricultural organics in Australia. Now, in a perfect pipeline, no contamination should occur, but it appears that mismanaged plastic wastes come into the chain of waste management and composting, to the point that, take a low value of say 1 g/kg-compost, this means that 7.5 thousand tonnes of plastics enter agricultural soil in Australia every year. What are the implications of mismanaged plastics? The first is that birds fly around with an unnatural coat that they like to show to other birds when they land on a chimney, and the second is that the same birds like to ware them as jewels around the neck. Effects on biodiversity (actually biodiversity loss) are definitely becoming quite an issue, which is investigated widely internationally by research institutes, academia, and international organizations.

Yuxin Huo, PhD, Microplastics contamination and decomposition in soils

Recent research by one of our PhD students, Dr. Yuxin Huo, supervised by Prof. Balwant Singh, examined the impact of plastic exposure on soil organisms, analysing 2936 observations from 140 publications. The work found that plastics had significant adverse effects on plants and fauna, with higher concentrations causing more harm. Larger plastics (>1 μm) harmed plant growth and germination, while smaller ones increased oxidative stress. Small plastics had a more adverse impact on fauna reproduction and survival. Polystyrene (PS) affected soil fauna more than polyethylene (PE). Vegetable plants were more affected than cereal plants.

There is more to read and learn, and therefore I address all interested readers of the SIA newsletter to Yuxin's PhD thesis and two published works here:

Huo Y, PhD thesis available at https://ses.library.usyd.edu.au/handle/2123/31742

[Huo, Y., Dijkstra, F. A., Possell, M., & Singh, B. (2022). Ecotoxicological effects of plastics on plants, soil fauna and microorganisms: a meta-analysis. Environmental Pollution, 310, 119892.](#)

[Huo, Y., Dijkstra, F. A., Possell, M., & Singh, B. (2022). Plastics in soil environments: All things considered. Advances in agronomy, 175, 1-132.](#)

<div style="background:#e8491d;color:white;">Read further about Carbon, Water and Food</div>

Development Agriculture
Daniel Tan

For the first story, I hand over to Professor Joy Becker to update us on her DFAT funded research project on aquaculture in Sri Lanka.

Women leading the development oyster and seaweed aquaculture in Sri Lanka by working with Australian experts to build healthy and resilient local communities and environments.

Aquaculture has experienced rapid growth in South Asian countries, doubling every 10 years since 1980. However, Sri Lanka has lagged due to civil unrest and global economic downturns, though recent progress is promising. Sri Lanka's focus on marine aquaculture for rural economic development necessitates careful planning for resilient and sustainable industries. Like other developing economies, Sri Lanka faces obstacles in aquaculture development, including complex regulations, lengthy licensing, value chain gaps, and insufficient infrastructure.

The global aim of our project is to support and promote sustainable marine aquaculture development in Sri Lanka. Aquaculture provides safe and affordable nutritious food, is a creator of employment and a generator of income and economic growth – especially in rural communities. Led by Professor Dr Joy Becker, the project is funded by the Department of Foreign Affairs and Trade (DFAT) and is in collaboration with the Sri Lankan Ministry of Fisheries, the Ocean University of Sri Lanka, University of Western Australia, University of Sunshine Coast and NSW Department of Primary Industries Fisheries.

With our Government of Sri Lanka collaborators, we have completed fieldwork to collect samples from several locations that will underpin the foundations for sustainable marine aquaculture development. Our focus is on creating novel genetic knowledge and insights to potential disease threats for the developing tropical oyster, seaweed, and Asian sea bass aquaculture industries. During the fieldtrip, we hosted training workshops in rural coastal communities to learn about oyster farming and farming practices appropriate for Sri Lankan conditions. Australia's active involvement places us in a position to swiftly accelerate industry development and sustain the momentum achieved thus far.

Professor Joy Becker and Dr Alexandra Campbell (University of Sunshine Coast) collecting and preserving seaweed samples for genetic and microbiome analysis to support industry development. Farmers report issues with a disease called 'ice ice' that is associated with marine heat waves and it appears to

becoming more frequent. Building climate resilience into their farming practicing is essential for generational farming.

Dr Erandi Pathiranafrom The University of Sri Jayewardenepura (USYD PhD 2020) discussing ways toknow how your farmed oysters are healthy.

A women's collective has been operating the only oyster farm in Sri Lanka for nearly 15 years. Thefamily group diversifies their income stream by catching wild caught juvenileoysters for growing out to market size.

CGIAR FRESH Mid-Year Workshop in Bangkok, Thailand

Our PhD student and Research Officer, Ms Samali Perera and I represented the University of Sydney at the CGIAR FRESH – Fruit and Vegetables for Sustainable Healthy Diets mid-year Workshop in Bangkok from 25 to 27 March 2024. All key FRESH partners also participated in the workshop including the International Food Policy Research Institute (IFPRI), World Vegetable Center, Applied Horticultural Research, Industrial Technology Institute (Sri Lanka), International Water Management Institute (IWMI), the University of California, Davis and the University of Philippines. The University of Sydney leads in the FRESH project are Prof Daniel Tan for food safety (Work Package 4) and Prof Anne-Marie Thow for policy (Work Package 6). The workshop concluded with a tour of the Simummaung market which is the largest wholesale fresh produce market in southeast Asia.

Team at FRESH Mid-Year Workshop in Bangkok

Jackfruit on sale at Simummaung Wholesale Market, Bangkok.

Jamson on sale at Simummaung Wholesale Market, Bangkok.

Acaciapennata (Cha-omin Thai or Sa-om in Khmer) on sale at Simummaung Wholesale Market, Bangkok.

Read further about Development Agriculture

Camden Show

Sydney Royal Easter Show

Social Media

The Sydney Institute of Agriculture is on Instagram (Sydney_Sia) and Twitter (Sydney Agriculture). Follow us at the links in the box below.