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Welcome to the Waite!

Welcome to the first issue of the quarterly newsletter from The University of Adelaide's School of Agriculture, Food & Wine (AFW) at the Waite Campus, Australia's leading agricultural research, education and commercialisation precinct.

This newsletter will keep you informed of recent research progress and achievements, teaching and student activities, and other campus events held at the Waite. These will be interspersed with current articles of general interest on agriculture, food and wine. We hope you enjoy it! Feedback is always welcome via e-mail at wri@adelaide.edu.au

Since its establishment in 1924, the Waite Campus has built an international reputation for its research strengths in plant science and breeding (particularly cereal crops, but also almonds, eucalypts and pasture legumes), agronomy, food and nutrition science, landscape and soil science, wine and grape science, and a range of related disciplines. A number of world-firsts have been developed or discovered here, a testament to the vision and foresight of Peter Waite, the

SA pastoralist who gifted his family home and Urrbrae property to The University of Adelaide for the purpose of agricultural research and teaching. To this day, his gift remains the largest individual philanthropic bequest in the history of South Australia.

The 12 centres and organisations based on the 120-hectare Waite Campus today collectively employ more than 1,100 research and technical staff, receive more than \$100m of research income each year, and share \$265m of cutting-edge research and teaching infrastructure. The result is a rich network of collaboration and synergies, and research capability that underpins the Australian agricultural sector's long-term viability and success.

New Dean of Waite Campus

J.A.T. Mortlock Professor of Plant Protection, Mike Keller, has been appointed inaugural Dean of the Waite, which includes the roles of Head of the School of Agriculture, Food and Wine and Director of the Waite Research Institute. Professor Keller is an entomologist who

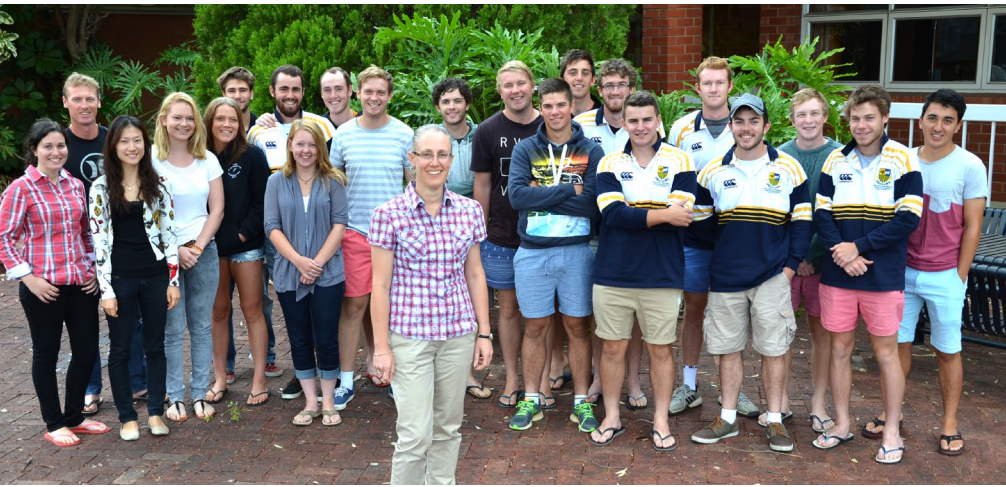


has worked at the Waite for more than 28 years. He was acting Head of School in 2004-6, and Deputy Head in 2003 and 2007. In the intervening time, he has been Associate Dean International for the Faculty of Sciences.

Professor Keller remarked, "This appointment is a tremendous honour. It brings great responsibility to oversee this great campus, its outstanding staff and broad student body. I look forward to working with colleagues and campus partners to ensure that the Waite Campus maintains its high standards and we receive the recognition we deserve for our excellent research and teaching."

Professor Keller's research covers biological control of insect pests, pest management, insect behaviour and ecology and pollination.

National standards for agriculture education developed to address industry needs



Prof Amanda Able (front) with some of the third-year agriculture students at The University of Adelaide (picture courtesy of Stock Journal)

The School of AFW recently contributed to a national project developing a set of tertiary-level education standards for agriculture. These have been developed to help universities design and deliver programs that meet agreed standards, attract more students and produce skilled graduates.

Professor Amanda Able said agriculture had traditionally been placed in the science division and expected to work within its standards and learning thresholds.

“Even though agriculture fits in science, it also has business and social aspects that are not captured in science,” Professor Able said. “We wanted to make sure we had a set of standards for agriculture specifically.”

The national standards were officially launched by Senator Richard Colbeck, Parliamentary Secretary to the Minister for Agriculture, in front of 700 delegates at the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Outlook 2015 conference in Canberra on 4th March.

“Agriculture and its related industries support 1.6 million Australian jobs and in the current environment of agricultural growth and innovation, it is vital that agriculture graduates have the necessary

skills and knowledge needed by industry to secure Australia’s future economic prosperity and to meet national objectives for food production and supply,” Senator Colbeck said.

Led by the University of Tasmania, the Agriculture Learning and Teaching Academic Standards (AgLTAS) project is funded by the Federal Government’s Office for Learning and Teaching and was developed in collaboration with The University of Adelaide, University of Western Sydney and Charles Sturt University.

The standards were developed through a nationwide consultation with industry, graduates, and academics and aim to define the nature and extent of agriculture and also outline the key threshold learning outcomes for graduates, which include highly-developed problem solving and communication skills.

The standards have been endorsed by the Australian Council of Deans of Agriculture and are to be used by universities around Australia to assure the quality of their courses.

Each of the four universities involved will now do their own curriculum-mapping to ensure they meet the thresholds, paving the way for other institutions with agriculture-related degrees.

Waite visitors – January to March 2015

Notable visitors to the Waite Campus in the first few months of the year included the following:

- > Professor Jerry Roberts, Assistant Pro-Vice-Chancellor Research, and Professor Zoe Wilson, Professor of Developmental Plant Biology, from The University of Nottingham, visited the Campus for meetings with senior staff and researchers at AFW and gave a seminar.
- > The Latin American Heads of Mission Delegation – Their Excellencies, the Ambassadors of Argentina, Brazil, Chile, Columbia, Cuba, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Uruguay and Venezuela – visited SARDI and The University of Adelaide on 11 February.
- > The Tumby Bay and Wolseley Agricultural Bureau groups, from the Lower Eyre Peninsula and the South East of South Australia respectively, toured the Campus and talked with researchers from various disciplines.
- > A trade delegation from the Indian Ocean Rim, hosted by PIRSA and the Institute for International Trade, heard from University and SARDI speakers.
- > A delegation from the College of Enology at Northwest Agriculture and Forestry University, Yangling, China.
- > A delegation from China Agriculture University, Beijing.
- > Professor Kazuhiro Sato and Professor Minoru Murata, Institute of Plant Science and Resources, Okayama University, Japan.



Part of the Tumby Bay Agricultural Bureau group talking with Dr Peter Boutsalis about herbicide resistance in rye grass (picture: Graeme Stirling)

Waite breeding programs boost farmer profitability

As we approach the season for sowing cereal crops, the adoption of new high-yielding varieties by growers continues to be a tangible measure of the Waite's success in delivering productivity gains to the agricultural sector.

Researchers at the Waite Campus continue to develop new barley, oat and durum wheat varieties which will deliver significant farm productivity improvements. The University of Adelaide's latest barley release – a variety named Compass – has consistently shown a 10% increase in grain yield over established malting varieties. Seed is available to growers for the first time for sowing in 2015, and malting accreditation of Compass is scheduled to be completed in early 2017 to support marketing of the 2016 crop.

Professor Jason Eglinton, head of the University's Barley Breeding Program, described developing a new variety as a collaborative effort involving a multidisciplinary team using the latest science in genetics, biochemistry, statistics and agronomy. Researchers also work closely with industry, with each potential new variety field tested at many different on-farm locations spread across Australia to validate the genetic improvement under different environmental conditions and agronomic management systems.

According to Professor Eglinton, the breeding process requires scale as well as scientific precision. "We generate about 25,000 potential new varieties every year and test and evaluate every one of them," he says. "But on average we only release about one new variety every 12 months, and a typical product development time is 10-12 years."

The University of Adelaide's Durum Breeding Program released a new durum wheat variety called DBA-Aurora in late 2014 – and this is also promising a step-change in durum production in southern Australia. DBA-Aurora, the product of GRDC-funded research through its partnership with Durum Breeding Australia (a joint initiative between GRDC, NSW DPI and the University of Adelaide), is high yielding with improved quality and robustness. "DBA-Aurora heralds a new beginning for the Australian durum industry with many superior attributes over previous commercial grown varieties," says leader of the program Dr Jason Able. Dr Able says the new variety will improve durum's fit into the farming system rotation. "DBA-Aurora is a more robust durum that is better suited to an integrated weed management system, and less likely to be downgraded for small grain under a tight spring finish with minimal rainfall," he says. The popularity of this new variety is evident from the fact that all available seed for the 2015 growing season was sold by early December 2014, and that there are already several new seed orders in place for the 2016 season. The release of DBA-Aurora has also attracted world-



Dr Jason Able, pictured with DBA-Aurora durum wheat at the Hart Field Day.

wide attention – including interest from Italian pasta manufacturers such as Barilla and Divella, who have clearly signalled that they want to buy durum from the southern regions of Australia. Dr Able said that "while we currently do not produce a sufficient enough volume to meet a 50-100 kt surplus year-in, year-out, it is expected that with varieties such as DBA-Aurora, and others in the pipeline for future release, that we will see increased opportunities for growers and exporters beyond what is needed by San Remo and other local end-users".



Vintage 2015 action in the Waite winery



More than 60 students have been getting hands-on experience with vintage 2015 at the Roseworthy-Hickinbotham Wine Science Laboratory over the past few weeks. The 'winemaking at vintage' course comprises students from a cross-section of the School's oenology and viticulture programs.

Overseen by winemaker Stephen Clarke, students work in groups of four to make two red wines in Semester 1 and process white grapes for cold storage of the juice until Semester 2. It's the largest

cohort of students since 2005. There has been a steadily increasing proportion of international students, particularly from China, accounting for some of this year's spike in numbers.

The grapes used in making these wines come from the Coombe and Alverstoke vineyards on the Waite Campus, as well as from growers in Blewitt Springs and the Adelaide Hills.

This vintage is shaping up as one of the earliest on record, with picking commenced in January for some white varieties.

Waite Arboretum app

A new free mobile app promises to make the wonders of The University of Adelaide's Waite Arboretum more accessible than ever before.

The Waite Arboretum is a living tree museum and repository for many species now considered rare and endangered in the wild.

"We are excited to share the University's botanical treasure with a broader audience using the latest technology," says Arboretum Curator Dr Jennifer Gardner.

The new app contains information on all 2,300 tree specimens in the Arboretum and features an interactive map, allowing visitors to search and locate their favourite trees. The map also allows users to track their GPS positions within the Arboretum and discover information about trees in their immediate area.

"The app provides visitors with everything they need to enhance their experience in the Arboretum. This includes opening times, details of the facilities, history, bird watching and wildlife information, features of interest and upcoming events."

"It's more than just a simple guide to the Arboretum. Visitors can choose from a list of themed walks such as Trees of the Mediterranean or Out of Africa, and use the app as their guide," Dr Gardner says.

The University of Adelaide is the only university in Australia to have a dedicated Arboretum. The Arboretum was established on land given to the University by Peter Waite for the enjoyment of the public. It is open every day of the year from dawn until dusk, except on days of high fire danger.

The first trees were planted in 1928 and the Arboretum now occupies 30 hectares of land and features more than 800 species of trees. Every tree is labelled and mapped, and the special collection includes eucalypts, dragon trees, pears

and oaks. Trees are grown without supplementary watering to demonstrate their performance in local conditions.

"The Arboretum is a valuable resource for research and teaching. However, we also want to use this app to engage with the wider community – including young families – and enrich their experience and enjoyment of this unique space too," Dr Gardner says.

The new app is free to download from the [iTunes App Store](#) and [Google Play](#)



2015 Agricultural Sciences enrolments higher

2015 agricultural science enrolments are at their highest level in some years, with increased interest in all of the degrees offered at the Waite. A new Applied Biology degree kicks off this year, attracting a cohort of 12 students with an interest in biology to study a range of life and biological science options, which will include agriculture and plant science.

However, even after the new program is taken out of the equation, total numbers in 2015 are still nearly 50% higher than the average of the previous two years. This is encouraging for the agricultural sector, which has struggled in recent years to find young people interested in careers in primary production. But overall, numbers are still well down on what they were 10 years ago. With four jobs in the sector available to every graduate, it's hoped that better marketing and communication of the enormous breadth of potential careers in agriculture will gradually overcome common misconceptions about the sector.

Associate Professor Chris Ford, Deputy Head of School (Learning & Teaching) is delighted at the increased enrolments



Some of the commencing Ag Science students at the Orientation Day BBQ in February (pictures: Ben Hooper)

and attributes this to a number of factors, including increased community engagement and outreach, such as two Campus visit days held in 2014 and the PICSE program for secondary school students, as well as the increased profile of food and nutrition in the media.

"We are particularly excited about the commencing enrolments for the new Applied Biology degree, which is already bringing first year students that wouldn't otherwise come to the Waite here for tutorials. The next few months will see the

development of major courses of study based on existing expertise to run at the Waite in the second and third years of the program."

A highlight of the new program will be a fully-managed semester of study at an overseas partner institution, building on bilateral exchange and research collaborations with the University of Adelaide's strategic partners, including North Carolina State University and the University of Nottingham.

Fertiliser expert wins prestigious international award



Professor Mike McLaughlin

Professor Michael McLaughlin is the 2015 IFA Norman Borlaug Award laureate, awarded by the International Fertilizer Industry Association for research that has led to significant advances in crop nutrition. Recipients of this prestigious award must also be effective in knowledge transfer and successfully communicating the outcomes of their work to farmers. He was nominated by The Mosaic Company and was selected from an international field of ten other excellent nominees.

Professor McLaughlin is a Science Fellow in CSIRO and a Research Professor in Soil Science in the School of Agriculture, Food and Wine. Professor McLaughlin has more

than 30 years of experience in soil fertility and plant nutrition research, covering three continents. His research now has a global impact and coverage through the establishment of The University of Adelaide Mosaic Fertiliser Technology Research Centre.

Professor McLaughlin's research is characterised by a focus on the fundamental mechanisms of fertilizer behaviour in soils and linking these to field observations to improve fertilizer effectiveness, as well as developing new methods to examine fertiliser behaviour and effectiveness. These include isotope tracing and dilution methods to determine the fate of added fertiliser and to benchmark improvements in crop nutrition effectiveness.

Cereal disease expert recognised for communication efforts

One of Australia's most respected cereal disease experts has been officially recognised for his efforts and achievements in communicating the outcomes of research.

Dr Hugh Wallwork, cereal pathology principal scientist with the South Australian Research and Development Institute (SARDI), has been named the recipient of the 2015 Grains Research and Development Corporation (GRDC) Southern Region Seed of Light award, which acknowledges outstanding effort in communicating research outcomes. The southern Seed of Light Award is presented each year to an individual voted upon by the GRDC Southern Regional Panel.

The Seed of Light award was presented to Dr Wallwork in late February at the GRDC Grains Research Update in Adelaide and acknowledges his outstanding long-term commitment to delivering timely and relevant information on management of cereal diseases to the grains industry nationally.

Dr Wallwork's career spans three decades and has focussed on the management of disease and the development of disease screening methods on cereal crops. His work has had national reach through high-impact publications and communications, and his contribution to the development of cereal cultivars with genetic resistance.

Dr Wallwork's annually published *Cereal Disease Guide* was cited as a key example of his ability to translate

complex and comprehensive scientific information into an easily digestible form that underpins the development of on-farm disease management plans. The scientific data he collected and used to develop the South Australian guide is also freely shared and used nationally to assist farmers across Australia with the selection of the most resistant cultivars for their farms.

Dr Wallwork's work on cereal fungal diseases has contributed over a sustained period to fundamental knowledge, resistance management in plant breeding programs, and engagement with agronomists and farmers around practical disease management.

Making and tasting wines online with first wine MOOC

The University of Adelaide's School of Agriculture, Food and Wine is taking its wine education free to the world with its first Wine massive open online course (MOOC), available through EdX.

Wine101x, offered under the banner AdelaideX from 2 April 2015, is a free online course covering wine tasting, grape and wine production, and wine research. It will be delivered by Kerry Wilkinson, Cassandra Collins, David Jeffery and Paul Grbin.

Participants will make their own virtual wine, which will be judged with medals up for grabs for students making the best decisions through the wine-making process. Participants will also undertake wine tasting, learning how to evaluate wine appearance, aroma, flavour and taste.

The course is very interactive, and includes videos, interviews and activities. It's self-paced and assumes no prior knowledge. It is aimed at anyone with an interest in wine, from the wine novice to

seasoned oenophiles. The course will run for six weeks and covers wine styles and sensory evaluation, grape production and vineyard management, winemaking and packaging, and wine research.

Wine101x comprises short videos from wine academics, interviews from world-renowned viticulturists and winemakers including Chester Osborn from d'Arenberg, Kelly Wellington from Wirra

Wirra, and Chris Hatcher from Wolf Blass. Research case studies cover 'recycling oak barrels', 'the microbiology of winery wastewater' and 'organic and biodynamic grape production'. Further information can be found at the website <https://www.edx.org/course/world-wine-grape-glass-adelaidex-wine101x> or from course leader Associate Professor Kerry Wilkinson on kerry.wilkinson@adelaide.edu.au

Our trailer is available via <https://www.youtube.com/watch?v=2aBuLPMBpmE>



And more awards news ...

Emeritus Professor Geoff Fincher has recently been made a Fellow of the Australian Academy of Technical Sciences and Engineering.

The University's 2014 Faculty of Sciences awards, announced in December, included the following winners from the School of Agriculture, Food & Wine.

Courtney Peirce won the KP Barley Prize for the Best PhD in Agricultural and Natural Resource Sciences

Dr Caitlyn Byrt was awarded the Edith Dornwell Medal for Early Career Research (Female)

Dr Beverly Mühlhäusler won the Mid-Career Research Excellence Award

Dr Beth Loveys won a Teaching Excellence award for Sciences staff in their first five years of teaching



Dr Julie Culbert, a Postdoctoral Fellow in the School of Agriculture, Food and Wine, has won a prestigious **2015 Science and Innovation Award for Young People in Agriculture**. She took out the \$22,000 Viticulture and Oenology award, sponsored by the Australian Grape and Wine Authority (AGWA), one of 11 study grants awarded as part of the Department of Agriculture's Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry. The awards were presented during the ABARES Outlook conference dinner held at the National Convention Centre in Canberra.

Dr Culbert (pictured, centre) will use her prize to employ computational modelling to identify the fining agents (adsorbents) best suited to removing volatile compounds associated with common faults and taints in wine.

Dr Culbert says that the occurrence of faults and taints in wines means that the wine can't be sold resulting in significant financial losses to Australian wine producers. Her research hopes to determine a more time- and cost-effective way of identifying which adsorbents should be used.

"This project aims to determine the binding interactions between wine components and various adsorbents, thereby improving the selection of adsorbents for specific fining or taint removal applications," she said.

"While computational modelling techniques are yet to be explored by the wine sector, they have been commonly used in other fields such as the pharmaceutical industry.

"I'm looking forward to being able to help deliver financial benefits to the Australian wine sector by improving both the efficiency of these processes and the quality of finished wines."

AGWA's Research, Development and Extension Portfolio manager, Liz Waters, attended the presentation and congratulated Dr Culbert on her successful grant application.

"AGWA is delighted to support projects from innovative young researchers like Dr Culbert, that can be adopted by grape growers and winemakers to help their business be more profitable and sustainable," Liz said.

"This project's focus on using a new approach to designing an innovative winemaking tool will further improve the quality of Australian wine."

Dr Culbert expects to conclude her research in December and a full report of research outcomes will be available on the AGWA website following completion. The findings will also be disseminated via a conference presentation and publication in peer-reviewed and industry technical journals.

Solar Eggs omega-3 eggs

More than five years of work by scientists from the FOODplus Research Centre and SARDI's poultry production unit at Roseworthy has gone into understanding how chickens process and transform dietary fatty acids to increase the levels of healthy omega-3 fatty acids in eggs.



Melinda Phang from FOODplus with Jonathan Attard from Solar Eggs in the R&D barn with the trial hens.

This work is now being translated into a commercial outcome by one of SA's largest egg producers – Solar Eggs Pty Ltd. A current DFEEST/PIRSA Food Hub project is allowing Solar Eggs to use one of their R&D barns to test a diet containing SA sustainably grown and pressed flaxseed oil to grow 2,000 hens and evaluate bird survival, egg production rate, feed consumption and egg quality on a semi-commercial scale. The exciting finding is that eggs from the hens on the flaxseed oil diet contain three times as much long-chain omega-3 fatty acids than standard eggs. This allows the company to make several claims on the label of the eggs – "enriched source of omega-3", "good source of omega-3" and the statement "contributes to heart health". The eggs taste the same, have the same shelf life as regular eggs and the long chain omega-3s are bioavailable as they can be detected in the blood of people who have consumed two eggs. This indicates that this strategy can increase the intake of these beneficial fatty acids without changing the purchasing behaviour or lifestyle of consumers and, importantly, without increasing demand on capture of wild fish for fish oil or fish meal. Solar Eggs plan to put 25,000 hens on the flaxseed oil diet and sell 2,000 dozen omega-3 eggs per day from mid-2015.

The Waite's history brought up to date

The Waite Historic Precinct, which includes the former family home of Peter Waite, the magnificent Urrbrae House (pictured), attracts many hundreds of visitors to heritage events and guided tours every year. Later this year, Urrbrae House will celebrate 10 years of its schools program – more on that in the September issue!

In the meantime, the book *The Waite: A social and scientific history of the Waite Agricultural Research Institute* written by historian Lynette Zeitz and launched by the Hon. Martin Hamilton-Smith MP, Member for Waite, in May 2014, reappraises Peter Waite's legacy and the early years of the Institute (covered in V. A. Edgeloe's history of the Waite's first 50 years) before focusing on the period of rapid change from 1975 onwards.

Lynette, who also manages the Urrbrae House Historic Precinct on the Waite Campus, was keen to place people at the heart of the new history. Scientific developments and institutional change are woven together with personal stories throughout the text. The lavishly produced



book is based on extensive archival research, photographs, and interviews with past and present staff and students.

The history can be purchased online from the University of Adelaide Press website for \$55 plus postage.

See <http://www.adelaide.edu.au/press/titles/waite/>.

It's also available from Dymocks bookstores, and from the Student Hub on the Waite Campus.

Barley program research agreement with SAB Miller to brew better beer

Carlton & United Breweries (CUB), a subsidiary of SABMiller, and The University of Adelaide recently announced a joint research initiative to investigate the impact of barley quality on key attributes of the brewing process and beer quality.

Researchers from The University of Adelaide's Waite Campus will use state-of-the-art technologies to improve the understanding of the barley grain. They will explore the impact that different climates and agricultural practices have on barley grain development in the field, and how this affects both the malting and brewing processes of beer.

This understanding will allow brewers to ensure that malting and brewing processes are able to be adapted to get the best out of the grain.

"This is an opportunity to re-examine the composition of malting barley and optimise it specifically for modern brewing," said Professor Jason Eglinton, University of Adelaide [Barley Breeding Program](#) Leader.

"We are always developing new commercial barley varieties with improved malting and brewing quality traits. National field trials and quality testing will be used to examine environmental effects on parameters associated with processing and quality to be determined."

Professor Katherine Smart, Group Chief Brewer of SABMiller, said that the brewer carefully selects barley and adapts its malting process to ensure that our recipes and brewing processes will always deliver the finest beers.

"This collaboration will enable us to understand more about this key cereal crop and the impact of growing conditions on its characteristics," she said.

The Waite Campus-based Australian Research Council (ARC) Centre for Excellence in Plant Cell Walls will look at biochemistry to provide new insight into the composition of barley and malt under the supervision of co-investigator Associate Professor Rachel Burton.

The research will have a commercial focus with samples, process data and technical input from CUB and the SABMiller group.

Masters in Plant Biotechnology helping shape the future of African agriculture

The third cohort of students funded by the International Centre for Genetic Engineering and Biotechnology (ICGEB; <http://www.icgeb.org/>), as part of a project supported by the Bill & Melinda Gates Foundation to build capacity for GM regulation in sub-Saharan Africa (<http://biosafety.icgeb.org/projects>), commenced their two-year Master of Biotechnology (Plant Biotechnology) program at the Waite in March. Along with seven other students from Germany, Mexico, Vietnam and China, the five African students will be trained in plant biotechnology and biosafety. The ICGEB-funded students are likely to be the future gene regulators of their countries, so this highly successful program is playing a key role in enabling food security in that region.

The first cohort of ICGEB-funded students will graduate later this year, while the second-year students return to their home countries to collect data for their research projects. The newly-arrived students are settling in well and already benefiting from the breadth and depth of relevant expertise at the Waite.



First-year Plant Biotech students with Associate Professor Rachel Burton.

Celebrating 60 years of wine research and industry support



On 27 April 2015, the Australian Wine Research Institute celebrates its 60th birthday. From its beginnings in 1955, the AWRI's purpose has been to support the Australian wine industry through cutting-edge, relevant research and the provision of technical information and assistance. During the past 60 years, the AWRI has

worked closely with industry during a time of significant expansion and change. The AWRI's location on the Waite Campus has allowed many fruitful collaborations with co-located research organisations that have improved outcomes for industry.

A number of activities will take place during 2015 to mark the AWRI's 60th birthday. Putting some of the past 60 years of scientific advances into action, Peter Godden is making a commemorative 2015 vintage wine. It is intended that this wine will last the distance to 2030, and be enjoyed as part of the AWRI's 75th birthday celebrations. A special edition of the Australian Journal

of Grape and Wine Research will be published, containing review articles authored by AWRI researchers across a range of grape and wine science topics. Staff will attend a one-day wine education event and a dinner will be held for all past and present Directors and Councillors of the AWRI.

The AWRI thanks all its Waite partners for their support and collaboration during the past 60 years and looks forward to the next 60 years of grape and wine research.

Professor Bulone's research in plant cell walls and their biotechnological exploitation has applications relevant to:

bioenergy, through the manipulation of plant cell walls to favour digestibility and the release of simple sugars that can be fermented for the production of biofuels;

biorefinery through the generation and exploitation of multipurpose transgenic plants for the production of a whole range of fibres and green chemicals;

biomaterials through the design and engineering of high-performance sustainable and environmentally friendly carbohydrate-based materials that can replace the currently used petroleum-based materials.

food sustainability through the characterisation of key enzymes involved in cell wall formation in eukaryotic microbial pathogens that infect crops, and for which no efficient and environmentally friendly control measures are currently available.

New Director leading research on plant cell walls

The ARC Centre of Excellence in Plant Cell Walls has a new Director, Professor Vincent Bulone (right), Professor of Plant Glycobiology at the Royal Institute of Technology (KTH) in Stockholm, Sweden.

Professor Bulone, who is also Head of the Division of Glycoscience at KTH, replaces the inaugural Director of the Centre, Professor Geoff Fincher, who retired in December.

Professor Bulone will lead more than 100 scientific staff and postgraduate students at the three Australian nodes with important research applications in plant breeding, food processing, human health and renewable fuel production.

Professor Bulone has over 20 years of experience in the study of plant and microbial cell wall biochemistry and has an internationally recognised reputation in the field. He has also been Director of two Centres of Excellence in Sweden: the multisite Centre for Biomimetic Fibre

Engineering (Biomime) during 2009-2013 and The Advanced Carbohydrate Materials Consortium (CarboMat) since 2012.

He was awarded the prestigious BA Stone Award for Excellence in Plant Cell Wall Biochemistry in 2010 in recognition of his seminal work on cellulose biosynthesis and cell wall biochemistry.



The Who's Who of AFW

Each issue, we'll profile a different AFW School Office staff member so you can put a face to the name and know who to go to for what! This issue, it's ...



Karen Chance

Currently I am working in the Position of Executive Officer in the School of Agriculture, Food and Wine.

My responsibilities include delivering executive support to the Head/Dean, Professor Mike Keller; providing HR administration/liaison/advice to the School, processing the many forms that require HOS signature, and managing the HOS's diary and travel. I also act as Executive Officer for the AFW Academic Board, Executive and Research Group Convenors.

I have been with the University since 2009, originally working as a Finance Officer in Procurement and more recently, as PA to the Director in the ARC CoE in Plant Cell Walls.

I am from the UK and have a degree in Economics from De Montfort University in Leicester. Prior to joining the University, I was a Logistics Manager in the Footwear Industry, I love working for the University but miss the free shoes!

Adelaide University Union's Shop

The refurbished AUU Shop is located in the HUB (below Aroma Café and adjacent the gym) and is open 10-4pm Monday – Friday. See the website at www.auu.org.au for more info. The shop sells (payment via Eftpos, cash, Visa):

- > AUU Membership – many discounts & offers! Just \$25 per year, or \$45 for 2 years
 - > Metro recharge, new Metrocards, timetables
 - > Phone credit
 - > Stationery
 - > Adelaide University Merchandise & memorabilia
 - > Coveralls (special membership deal)
 - > Lab coats (special membership deal) & safety glasses
 - > Stamps
 - > Postcards
 - > Basic toiletries, chemist items
 - > Non-perishable food items (noodles, tuna, curries etc) starting at 50 cents
 - > Resource centre - binding
- + information on clubs, Sport, Student care, Employment, Scholarships, & much more

Agriculture students fly north for summer

Every year since 2011 as part of the Bachelor of Agricultural Sciences program, the Level 3 cohort goes on a six-day field trip around southeast Queensland. This takes place in late February so it doesn't interfere with summer internships, and enables the students get to see agriculture in a summer rainfall zone. This year 20 students made the trip with the guidance and company of Jason Able, Glenn McDonald and Ian Nuberg.

This year's trip started with field and hydroponic vegetable production in the Lockyer Valley, the intricacies of sorghum breeding at Warwick and barley disease work at QLD DPI's Hermitage Research Centre, a visit to the impressive Woods Group family operation of seed production, processing, marketing and distribution at Goondiwindi, and a look at the impressive magnitude of irrigated cotton in the region. At Pampas, Pacific

Seeds hosted a day viewing their sorghum trials and strip-tillage innovation on Peter Black's mixed-cropping farm. Near Dalby, the group observed the complexities of running 17,000 feedlot cattle in conjunction with a 2,000 hectare grazing and farming operation at Sandalwood, then unearthed peanuts at the Bjelke-Peterson Research Station and walked through the Peanut Company of Australia's processing facility. At Nambour, they saw tropical fruit production and visited the strawberry and pineapple breeding programs at the Maroochy Research Facility.

Between each of these stops, there were plenty of impromptu roadside sessions to observe a cattle sale, contour banks and strip cropping, moisture-farming on the Darling Downs, skip-row sorghum, sunflowers, maize, tropical fodder trees, prickly pear, low-chill peaches, and plans for Gina Reinhardt's \$500million, 300 acre

air-conditioned dairy shed near Kingaroy to make baby formula for China. Now that has to be on the itinerary for next year!

Every year the group's leaders keep a keen eye on the weather forecasts for the possibility of floods and this year was no different. Ian Nuberg described the conclusion to the trip:

"Category 5 Tropical Cyclone Marcia arrived on our last night at the Glass House Mountains. We had originally planned for a leisurely departure at 10:00am, but our host woke us at 6:00am to warn us of rising flood waters. Some of the students were difficult to wake up after a late-night party. But fortunately we left early enough to cross the flooded causeway that would have otherwise locked us in for at least another day."



The 2015 'Aggies' at Laurie and Peter Black's property, Pampas (picture: Bill Smith, Pacific Seeds)

The Woolhouse Library and Waite Campus Children's Centre turn 20

The Woolhouse Library celebrated its 20th anniversary last month. Named in honour of Professor Harold Woolhouse, who was Director of the Waite Agricultural Research Institute and Dean of the Faculty of Agricultural and Natural Resources Sciences from 1990-1995, the library was officially opened on 21 February 1995. The new library was part of the revitalisation of the Campus during the Co-Location developments in the 1990s led by Woolhouse and Dr John Radcliffe, then SA Director-General of the Department of Agriculture. The anniversary was marked with a talk by Lynette Zeitz on the history of the Waite Library and a special afternoon tea for members of the Waite Campus community.

And in another birthday on 25 March, the Waite Campus Children's Centre invited children and educators, families and friends both present and past to celebrate 20 years of service to the Waite Campus community. Twenty year old Tom, who attended the Centre in its first week of opening in January 1995, and 1 year old Aurelia, who had her first day in March

2015, helped to blow out the candles on the celebration cake (pictured).

The Waite Campus Children's Centre was jointly sponsored by The University of Adelaide, the CSIRO and the Minister for Primary Industries to provide a not for profit service, primarily for the staff and students of organisations located at the Waite Campus. During the past 20 years, hundreds of young children have attended the Centre while their parents worked or studied at the Waite.

The Centre has developed a strong commitment to professional and high quality education and care for children, emphasising a play-based curriculum and a sustainability ethos. The Centre's focus on education for sustainability was a key theme of the birthday celebration with the unveiling of two large butterfly murals made from recycled bottle caps.

Dr John Radcliffe, who officially opened the Centre in 1995, attended to unveil the murals with Bruce Lines, Chief Operating Officer & Vice-President Services and Resources at The University of Adelaide.

Summer School for Chinese Students

Fifteen undergraduate students and two academics from Northwest Agriculture and Forestry University visited The University of Adelaide from 25 January to 21 February.

They spent their first week studying English at the North Terrace Campus. The remaining three weeks were hosted by the School of Agriculture, Food & Wine. The group (pictured in the University of Adelaide's winery) participated in a wide range of activities that included hands-on work in vineyards, weed management, grain quality assessment with NIR, soil assessment, sensory studies, and much more. They visited the Adelaide Botanic Gardens, greenhouses on the Northern Adelaide Plains and wineries in the Adelaide Hills. Following the success of this tour, Northwest A&F is planning to send another group next summer.



Contact us about the AFW/Waite newsletter

If you wish to unsubscribe to the quarterly Waite newsletter, please email wri@adelaide.edu.au and type 'unsubscribe'. Please also use this address to email us with feedback or items you wish to be considered for inclusion in future issues.

A forthcoming Waite blog will be running in parallel for those that prefer a more frequent and online news feed – watch this space!