



QAAFI 2013



**Queensland
Government**



**THE UNIVERSITY
OF QUEENSLAND**
AUSTRALIA

QAAFI
Queensland Alliance for
Agriculture and Food Innovation

COVER: Launch of new drought resistant sorghum initiative at Dalby in March 2013 (L–) Hon Ms Deb Frecklington MP, Qld Premier Hon Campbell Newman, A/Prof. David Jordan, PhD candidate Taye Tadesse, and Minister for Agriculture, Fisheries and Forestry, Mr John McVeigh MP.



BELOW: QAAFI headquarters – part of the Queensland Bioscience Precinct at the St Lucia campus of The University of Queensland.



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About QAAFI

Established in October 2010, the Queensland Alliance for Agriculture and Food Innovation (QAAFI) benefits from the collective strengths of the Queensland Government and The University of Queensland. The institute brings together high-level expertise in the plant, animal and food sciences to deliver high-impact research and development outcomes across the agriculture and food sectors.

QAAFI research programs help to consolidate Queensland as a world-leader in the development of tropical and sub-tropical agriculture and food.

QAAFI researchers work across three broad disciplines – animal science, nutrition and food sciences, and plant science. Collectively these groups work closely with industry, government and other stakeholders to address strategic issues. From a foundation group of 34 senior Queensland Government researchers transitioned to QAAFI in 2010, the institute directly involves more than 300 people across Queensland.

Conceived as a strategic joint-initiative, QAAFI's expertise helps Queensland to capitalise on emerging research in areas such as genomics, molecular nutrition and advanced systems modelling – disciplines vital to the innovation and sustainability of Queensland's food and agribusinesses sectors.

In addition, QAAFI research programs offer exciting career opportunities for young Queensland scientists – from the traditional agricultural research programs supporting the beef, dairy, cropping and horticulture industries, through to leading national research efforts in food nutrition and biosecurity.

QAAFI research staff members are based at 12 sites, including two UQ campuses and multiple Queensland Government research stations and centres, allowing continuing opportunities for collaboration and industry involvement.

QAAFI Leadership Team



**Director & Professor of
Innovation in Agriculture**
Robert Henry



Director, Centre for Plant Science
Professor Graeme Hammer



**Deputy Director, Business
Development and Engagement**
Sarah Meibusch



**Director, Centre for Nutrition
and Food Sciences**
Professor Mike Gidley



Operations Manager
Melissa Glendenning



Director, Centre For Animal Science
Professor Stephen Moore



Message from the Director

QAAFI enjoyed a momentous 2013, experiencing its busiest year to date. With release of the *QAAFI Review*, our growing relationship with a new state-government administration, and steady growth across-the-board, there has been scant time for reflection. Despite the rapid pace, we have witnessed significant improvements and change.

For example, we passed the \$100 million mark of contracted research funding; an impressive feat in three years. In addition, our target to become an independent enrolling unit by 2013 is now a reality, with 70 research higher degree students joining the institute since January 2013. I would like to thank Drs Ralf Dietzgen, Eugeni Roura and Mary Fletcher for their dedication as Research Higher Degree committee members.



Professor Robert Henry

QAAFI research plays an important role in helping the Government achieve its goal of doubling agriculture production by 2040. Some highlights include QAAFI discoveries that stand to: increase crop productivity with new wheat varieties; encourage growers take-up a new sweetcorn that helps to combat blindness; develop new malting barley for the brewing industry; find new ways of producing biofuel; push discoveries in genomics which benefit the state's \$600 million sorghum crop; develop new varieties for a \$450 million banana industry, and help to establish a premium coffee market in Queensland (see *Appendix C*).

Our research outcomes, however, remain our best advertisement. QAAFI's total number of peer-reviewed journal articles, since establishment, has already passed the 300 mark and is set to climb. In 2013 alone, we saw three QAAFI research articles in *Nature Communications* and *Nature Climate Change*. This research comes at a time when agriculture and forestry is UQ's highest ranked field of research. The increasing number of international collaborations, enjoyed across all centres, creates long-lasting relationships that boost the impact of our research.

On a more personal level, several of our staff and students have been recognised for outstanding work. QAAFI Principal Research Fellow, Dr Stuart McLennan was presented with a North Australian Beef Research Council 2013 Medal at the industry's national conference. Professor Graeme Hammer was honoured with the prestigious Australian Medal of Agricultural Science and Professor Stephen Moore awarded one of only three Visiting International Fellowships with Vicosia University, Brazil.

The work of our early career scientists and students, such as Dr Lee Hickey (finalist – Fresh Science Competition and awarded a Gates Foundation fellowship to Germany), Karishma Mody (UQ 3MT winner – Institute final) and Madelyn Gleeson (Senate scholarship winner) is being noticed nationally and internationally. QAAFI's leadership in plant science has never been more evident than at the launch of a \$4 million Bill & Melinda Gates Foundation sorghum project in Dalby. Dr David Jordan's sorghum team, supported by the research expertise and resources of the Grains Research and Development Corporation (GRDC), The University of Queensland, the Queensland Department of Agriculture, Fisheries and Forestry (DAFF) and the Ethiopian Government, is an excellent example of QAAFI research in action.

Similar praises should also be offered to Professor Bob Gilbert for his ground-breaking work in Wuhan China, where he is one of the few non-Chinese '1000 experts' funded by the Chinese government to advance science. All this during a year in which we moved our administrative team into more expansive accommodation in UQ's Queensland Bioscience Precinct.

While looking back at 2013, I see extraordinary highlights, and I remain optimistic and excited about our future.

Robert Henry

Director & Professor of Innovation in Agriculture
Queensland Alliance for Agriculture and Food Innovation



Key performance indicators – 2013

Performance Measure	Target	Achievement	Page
Number of refereed publications	90	483	53
Total grant income	\$10 M	\$24.6 M	7
Number of research consultancies	5	46	17
Number of research higher degree (RHD) students	40	>70	10
Number of RHD completions	15	17	
Number of national/ state/local policy reports and industry/government briefings	25	69	21
Visitors to QAAFI of national and international profile	30	78	26
Number of memberships of national and international professional committees	13	89	31
Media profile (positive media events)	15	38	39
Advice provided to a QG Minister or Department	10	12	42
Number of types (types to be presented descriptively) of new or improved technologies published	15	>40	43
Annual survey results of external funding agencies	Highly satisfied with QAAFI	<i>See report</i>	48
Level of satisfaction by industry (based on feedback from industry representatives on Advisory Board).		<i>See report</i>	49



QAAFI 2013 consolidated income and expenditure¹

CONSOLIDATED

REVENUE		
External Revenue		
External Revenue	Australian Gov Financial Assistance	1,216,713
	Tuition Fees	517,391
	Research Income	24,592,627
	Investment Income	28,677
	Scholarships and Prizes	151,520
	Donations and Bequests	195,000
	Consultancies, Contract & Services	594,741
	Other Revenue	237,424
	Trading Revenue	43,062
External Revenue	Total External Revenue	27,619,889
Internal Allocations	Total Internal Allocations	1,557,201
TOTAL REVENUE		29,177,090
EXPENDITURE		
Academic Salaries		
Academic Salaries	Salaries – Academic	9,018,570
	Salaries – Academic Casual	0
Academic Salaries	Total Academic Salaries	9,018,579
General Salaries		
General Salaries	Salaries – General	2,771,887
	Salaries – General Casual	564,904
General Salaries	Total General Salaries	3,336,791
Other Employment Costs		
Other Employment Costs	Salary Reimbursements	446
	Staff App Develop & Health Cst	29,807
Other Employment Costs	Total Other Employment Costs	30,253

¹ See definitions page 7

Other Expenditure	Other Expenditure	
	Consumables	2,637,486
	Services	6,402,141
	Marketing & Advertising	5,949
	Equipment	397,984
	Telecommunications	77,463
	Travel & Hospitality	1,279,171
	Properties & Insurances	145,105
	Scholarships & Prizes	627,264
	Collaborative Projects	4,471,184
	Financial Costs & Taxes	30,781
	Depn Amortisation & Impairment	0
	Total Other Expenditure	16,074,527
TOTAL EXPENDITURE		28,460,150
Equity	Operating result	716,940
	Carry forward	7,167,241
Accumulated Position		7,884,181

RESEARCH INCOME BY FUNDING ORGANISATION

Australian Centre for International Agricultural Research (ACIAR) – 11%

Australian Research Council (ARC) – 3%

Cotton Research and Development Corp (CRDC) – 4%

Department of Agriculture (DAF) – 3%

Department Agriculture Fisheries & Forestry (DAFF, QLD) – 28%

Department of Science Information Technology & Arts (DSITIA) – 5%

Grains Research and Development Corp (GRDC) – 13%

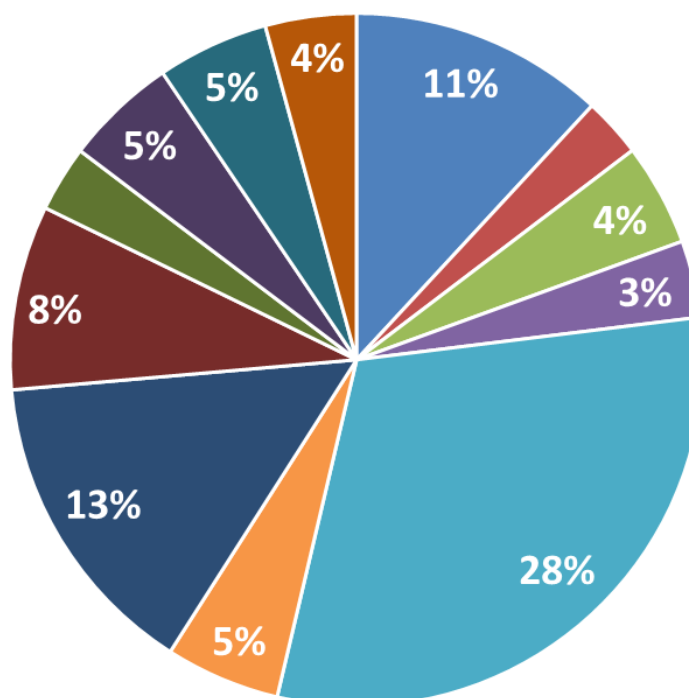
Horticulture Australia Limited (HAL) – 8%

International Maize & Wheat Improvement Center (CIMMYT) – 3%

Meat & Livestock Australia (MLA) – 5%

Pork CRC Ltd – 5%

The University of Adelaide – 4%



DEFINITIONS

Australian Government financial assistance	support from the Australian Government funding schemes is driven by the number of RHD students, research dollars, research publications.
Consultancies	revenue for delivery of services to an external customer
Donations and bequests	grants, contributions, donations and gifts that are non-reciprocal in nature
Internal allocations	allocations made internally by UQ for salaries, general support and new staff research grants
Other revenue	various income including refunds and reimbursements for staff activities conducted on behalf of other organisations
Research income	includes all income from external sources, including DAFF
Scholarships and prizes	awarded to students funded by external parties
Trading revenue	income from sales of goods, and fees for services provided
Tuition fees	fees an overseas or domestic student pays for each program or course (if not supported by Australian Government funding)
Services	payments made to service providers, including payments to DAFF for provision of research services



Research higher degree students

For the first time, in 2013, QAAFI became an independent enrolling unit within The University of Queensland. Given the duration of research higher degree studies, several students will continue to be listed under their original enrolling unit until completion of their program, although their principal advisor is a QAAFI staff member. With more than 70 RHD candidates currently working with a QAAFI advisor, PhD confirmations occur almost weekly.

Queensland Alliance for Agriculture & Food Innovation

Last Name	First Name	Project Title	Advisor Role	Advisor Full Name
Al-Asmari	Fahad	Assessment of natural antimicrobials and photosensitization on the microbial contamination of dates (<i>Phoenix doctylifera</i> L.)	Principal	Dr Yasmina Sultanbawa
Benet Duran	Iu	Analytical and sensorial evaluation of cooked ham volatiles in an oral system. The role of saliva.	Principal	Dr Eugeni Roura
Brozynska	Marta	Australian Wild Rice	Principal	Prof. Robert Henry
Busch	Greta	Expression and identification of <i>Ixodes holocyclus</i> toxins to develop novel treatment methods	Principal	Dr Ala Lew-Tabor
Chen	Si-Qian	Comparison of the structure and mechanical properties of bacterial cellulose produced by different <i>Gluconacetobacter xylinus</i> strains	Principal	Prof. Mike Gidley
Comino	Penelope	Effect of cereal processing on the solubility of dietary fibre	Principal	Prof. Mike Gidley
Do	Trung Kien	Investigation of disease resistance mechanisms in mango and related species.	Principal	Dr Elizabeth Dann
Doungsa-ard	Chanintorn	Taxonomy and co-evaluation of rust fungi (<i>Uromycladium</i> and <i>Racospermyces</i>) on <i>Acacia</i> spp. in Australia based on morphological, molecular and biological studies	Principal	Dr Andrew Geering
Ejigu	Mesfin Dejene	Utilisation of crop residues as ruminant feeds and/or for conservation forming in crop - livestock farming systems	Principal	Dr Robert Dixon



Falade	Titilayo Diana Omozejele	Aflatoxin detection using Near-infrared Spectroscopy and High Performance Liquid Chromatography - correlations and implications in reduction of aflatoxin contamination through sorting	Principal	Dr Glen Fox
Fowler	Ryan	Pathogenicity of Net Form of Net Blotch (<i>Pyrenophora teres f. teres</i>)	Principal	Dr Lee Hickey
Fu	Minghai	Manipulation of the preference of piglets for herbal compounds through maternal flavour conditioning to decrease the use of feed antibiotics	Principal	Dr Eugeni Roura
Gorham	John	Microbial interaction with plant cell walls	Principal	Dr Deirdre Mikkelsen
Gous	Peter	Understanding abiotic stress impacts on cereal starch structure and value-added quality through genetic and environmental screening	Principal	Prof Bob Gilbert
Grant	Lucas	Elucidating the relationship between the physico-chemical structures of dietary fibres and the molecular profiling and function of gut microbial communities	Principal	Dr Barbara Williams
Han	Mingxia	Carotenoid bioavailability related to molecular organisation	Principal	Prof Mike Gidley
Han	Pengfei	The Australian pork meat flavour: the flavour wheel, retronasal release and satiety	Principal	Dr Eugeni Roura
Hay	Karen	Epidemiology of Bovine Respiratory Disease in feedlot cattle in Australia; an analysis of the risk factors, burden of disease and financial impact on the beef cattle industry	Principal	Dr Tamsin Barnes
Healey	Adam	Analysis of variation in genes for biofuel traits in the Eucalypt genome	Principal	Prof Robert Henry
Hoang	Van Nam	Analysis of genes controlling the biomass traits in the sugarcane genome	Principal	Prof Robert Henry
Hunt	Colleen	Statistical analysis of sorghum breeding trials with complex genetic components	Principal	A/Prof. David Jordan
Khairul Ikram	Emmy Hainida	Evaluation of potential health benefits of different Papaya Cultivars selected in vitro assays	Principal	Dr Michael Netzel



Khemmuk	Wanporn	The co-evolution of wild rice and its pathogens	Principal	Dr Andrew Geering
Li	Cheng	Development of plants with starch structures for improved digestion characteristics	Principal	Prof. Bob Gilbert
Li	Ming	Processing-structure-property relationships of starch-based polymers	Principal	Prof. Bob Gilbert
Liu	Dongjie	Effect of plant tissue drying on nutrient release	Principal	Prof. Mike Gidley
Mann	Krinpreet	Molecular characterization of the nucleoprotein, phosphoprotein and 4B viral proteins of Lettuce necrotic yellows virus in both plant host and insect vectors	Principal	A/Prof. Ralf Dietzgen
Mindaye	Taye Tadesse	Genotypic variability and combining ability study of sorghum [<i>Sorghum bicolor</i> (L) <i>Moench</i>] inbred lines and multi environment evaluation of their derived hybrids	Principal	Dr David Jordan
Mody	Karishma	Nanoparticle based delivery of veterinary vaccine for improved shelf life and elimination of cold chain storage using Bovine viral diarrhoea virus surface glycoprotein E2 and Ovalbumin as model systems	Principal	Dr Neena Mitter
Moosavi	Seyed	Applying genomics to macadamia improvement	Principal	Prof. Robert Henry
Muller	Jarud	Hydration as a factor in survival of neonatal calves in tropical Australia	Principal	Dr Geoffry Fordyce
Navarro Gomez	Marta	Improving quality and safety of poultry meat with synergistic combinations of bioactive plant extracts	Principal	Dr Yasmina Sultanbawa
Neilsen	Merran	Mechanisms of cultivar-and race-based disease resistance in avocado	Principal	Dr Andre Drenth
Nguyen	Tuyet Giang	Dependence of digestion and growth rate of pigs on taro (<i>Colocasia esculenta</i>) foliage	Principal	Dr Peter Sopade



Nhantumbo	Nascimento Salomao	The effects of residue management strategies on nitrogen and water use efficiency in Maize-Legume cropping systems	Principal	Dr Daniel Rodriguez
Nirmal	Ravi Chandrabhan	Genomics of wheat quality for bread production.	Principal	Prof. Robert Henry
O'Connor	Daniel	Development of a molecular breeding strategy for early generation selection of peanut genotypes with desirable agronomic and marketing traits	Principal	Dr Rao Rachaputi
O'Donoghue	Adam	The role of lycopene and ketosamines in tomatoes as a protective agent against prostate cancer.	Principal	Dr Timothy O'Hare
Palou Egoaguirre	Rousset Leslie	Dietary manipulation of flavour conditioning through maternal fluids.	Principal	Dr Eugeni Roura
Parkinson	Louisamarie	Investigating avocado tree mortality during early field establishment	Principal	Dr Elizabeth Dann
Pluschke	Anton	Fibre effects on enzyme action in the small intestine in-vitro and in vivo	Principal	Prof. Mike Gidley
Poppi	David	Elucidation of the roles and requirements of sulphur amino acids in the diet of barramundi	Principal	Prof. Stephen Moore
Powell	Jonathan	Identifying sources of resistance to Fusarium diseases using the model plant <i>Brachypodium distachyon</i>	Principal	Prof. Robert Henry
Powell	Prudence	A Plant Model for Diabetes	Principal	Prof. Bob Gilbert
Reyes Ponce	Andres	The physiological basis of genetic improvement in maize yield in the US Corn Belt	Principal	Prof. Graeme Hammer
Richard	Cecile	Delivery of wheat root traits that contribute to water limited yield stability	Principal	Dr Jack Christopher
Roxburgh	Caspar	Nutrient management under conservation agriculture systems in semi-arid areas of Queensland and Southern/Eastern Africa	Principal	Dr Daniel Rodriguez



Schibrowski	Meghan	Role of <i>Mycoplasma bovis</i> in respiratory disease of Australian feeder cattle	Principal	Dr Tamsin Barnes
Seyoum	Solomon Admassu	Characterisation of production environments and genotypes to improve selection for drought and heat adaptation of maize in Sub-Saharan Africa and Australia	Principal	Dr Rao Rachaputi
Sharman	Murray	Diversity and epidemiology of Tobacco streak virus in Australia	Principal	Dr John Thomas
Sullivan	Mitchell	Biosynthesis and biodegradation of glycogen	Principal	Prof. Bob Gilbert
Sunarharum	Wenny-Bekti	The compositional basis of coffee flavour	Principal	Dr Heather Smyth
Sun	Lijun	Studying the effect of phytochemicals on starch digestion in vitro and in vivo	Principal	Prof. Mike Gidley
Survase	Abhijeet	Genomic strategies for reducing losses during processing and improving the nutritional value of wheat in human diet.	Principal	Prof. Robert Henry
Tan	Eddie Ti Tjih	Food Safety Assessment of Indospicine	Principal	Dr Mary Fletcher
Tefera	Abeya Temesgen	Understanding the opportunities from conservation agriculture in sub-humid maize-legume farming systems of Ethiopia	Principal	Dr Daniel Rodriguez
Temba	Benigni Alfred	Tracking factors influencing Aflatoxin contamination profile along the maize value chain in Tanzania	Principal	Dr Mary Fletcher
Thavaraj	Pridhuvi	Investigating the effect of casein micelle size on the physico-chemical and functional properties of milk gels.	Principal	Dr Eugeni Roura
Tran	Thi Minh Hue	Genetic analysis of coffee quality	Principal	Prof. Robert Henry
Wambugu	Peterson Weru	Analysing Molecular Genetic Diversity of Cultivated and Wild Rice Species	Principal	Prof. Robert Henry
Wang	Kai	Relations between starch biosynthesis and structure	Principal	Prof. Bob Gilbert
Widana Gamage	Shirani	Thrips-tospovirus interactions	Principal	A/Prof. Ralf Dietzgen



Wu	Chung-Chi	Theory of the biosynthesis and biodegradation of starch and glycogen	Principal	Prof. Bob Gilbert
Xu	Tao	Optimization of the expression of Rhipicephalus (Boophilus) microplus antigens in <i>Pichia pastoris</i> yeast	Principal	Dr Manuel Rodriguez-Valle
Zhai	Honglei	In vivo and in vitro studies of cereal grain effects on lipid metabolism	Principal	Prof. Mike Gidley
Zhang	Bin	Structure-digestibility relationship of starch: the influence of local density of starch chains	Principal	Prof. Mike Gidley
Ziems	Laura	Dissecting the genetic interactions associated with Rph20 resistance to leaf rust (<i>Puccinia hordei</i>) in barley	Principal	Dr Lee Hickey
Zou	Wei	Starches with improved nutritional and material properties	Principal	Prof. Bob Gilbert

RIGHT: PhD candidate, Karishma Mody, who is working on 'Development of single dose shelf-stable nanoparticle based vaccines' with her QAAFI advisor, Dr Neena Mitter.



School of Agriculture and Food Sciences

Last Name	First Name	Project Title	Advisor Role	Advisor Full Name
Chu	Shang	Fitness-for-use starches in cereal grains	Principal	Prof. Bob Gilbert
Conway	Janine	Axillary bud behaviour in macadamia	Principal	James Hanan
Karimaei	Mohammad	Understanding macadamia growth and development through field studies and functional-structural modelling	Principal	Dr James Hanan
Wang	Ruo Bing	The management of pesticide spray drift: A science based framework for the regulatory assessment of the physics of droplet movement in agriculture	Principal	Dr Gary Dorr

School of Business

Last Name	First Name	Project Title	Advisor Role	Advisor Full Name
Gething	Katrina	Product differentiation and development through sensory preference and discrete choice analysis	Joint Principal	Dr Heather Smyth

School of Veterinary Science

Last Name	First Name	Project Title	Advisor Role	Advisor Full Name
Ferguson	Andrew	Investigation of the immunological response in cattle exposed to respiratory pathogens	Principal	Dr Timothy Mahony



Research consultancies conducted

EXECUTIVE SUMMARY

Compared to the previous year, QAAFI experienced nearly 40 per cent growth in the number of research consultancies in 2013. International demand for high-quality research expertise continues to grow. Whether it's high-level advice to international governments or horticulture services for Chile, senior QAAFI scientists are in demand for their expertise in rice, macadamia, bananas, avocados, plant viruses, beef cattle and poultry, as well as their expert knowledge of fertilisers, animal health, sugar, biofuel, starch and animal nutrition.

Sector	Consultancy	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> 'Genomics tools for improving sorghum for African farmers' – invitation-only meeting of experts in the field run by Bill & Melinda Gates Foundation, Seattle, USA 	Dr David Jordan
	<ul style="list-style-type: none"> Appointed to the three-member scientific panel for 'Biomass for the Future', an eight-year 28 million Euro project funded by the French Government 	
	<ul style="list-style-type: none"> ACIAR commissioned consultancy on 'Analysis of legume value chains in Eastern Indonesia' for AUSAID (May 2013) 	Dr Rao (RCN) Rachaputi
	<ul style="list-style-type: none"> Participant in strategic study on biotechnology in CGIAR, CGIAR Independent Science & Partnership Council 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> PhD course adviser to the Australian Agency for International Development. The PhD course adviser provides impartial, accurate and timely advice and assistance to candidates for PhD awards in agriculture on appropriate research programs to be undertaken in Australian universities 	Dr Daniel Rodriguez
	<ul style="list-style-type: none"> Editor, <i>Agricultural Systems</i> journal. Responsible for the initial evaluation of submissions and identification of reviewers of the most important international journal in Farming Systems Research 	
	<ul style="list-style-type: none"> Consultant to ACIAR. Provided technical revision on the report: 'Eastern Indonesia Agribusiness Development Opportunities – Analysis of Maize Value Chains 	
	<ul style="list-style-type: none"> Facilitated 'Gates Foundation Planning Workshop' funded by Bill and Melinda Gates Foundation, Melkassa, Ethiopia, 13-22 April 2013 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Consultant to the Vietnam Academy of Agricultural Science on climate change and impacts on rice production in Vietnam', funded by Bioforsk, the Norwegian Institute for Agricultural and Environmental Research, 14-19 Nov 2013 	



HORTICULTURE

- Invited to review diseases affecting macadamia and their management practices in Guatemala Dr Femi Akinsanmi
- Invited to provide banana disease management strategy for farm enterprises, Qld and NSW
- Provided consultancy to Cenipalma (Colombia) on research needs and solutions to a dieback problem (Sept 2013) Dr André Drenth
- Consultant to Sugar Research Australia concerning cause of Yellow Canopy Syndrome
- Consultancy to the Comité de Paltas Hass de Chile AG (Chilean Hass Avocado Committee). Prepared report, 'On the risks posed by Peruvian avocado imports to the Chilean avocado industry' Dr Andrew Geering
- Consultancy services to the Queensland-owned and operated company 'Propagation Australia'. Petunia plants were tested for tomato yellow leaf curl virus to enable export by 'Propagation Australia' of petunia cuttings to Western Australia
- Consultancy services to the Queensland-owned wholesale nursery 'Highsun Express Plugs'. New Pelargonium hybrids in post-entry quarantine were tested for Pelargonium zonate spot virus
- Development of complex linear models for analysis of field genetic data for Sugar Research Australia (SRA) Dr Craig Hardner
- Selection of elite families for biofuel traits for Seed Energy company
- Support systems to deliver elite new cultivars for extended storage for the Washington Fruit Tree Research Commission.
- Joint analysis of fruit quality of apple progenies from un-replicated multi-location trials for Washington State University
- Provided Agricultural Production Systems sIMulator (APSIM) training and support to Agriculture and Agri-Food Canada Dr Andries B. Potgieter
- Provided training in plant virus diagnostics and surveying in Myanmar and Thailand, funded by the Australian Federal Department of Agriculture, staged over two weeks in April–May 2013 Dr John Thomas
- Conducted plant disease surveys on Norfolk Island with follow-up diagnostics in Brisbane, funded by the Australian Federal Department of Agriculture
- Plant disease surveys on Norfolk Island, funded by Australian Federal Department of Agriculture (consultancy lead by Andrew Geering), two one-week surveys with follow-up diagnostics in Brisbane



FOOD & NUTRITION SCIENCES

ANIMAL SCIENCE

- Conducted pot trials to assess the efficacy of a Fly-Ash based fertiliser for HEPCO and Kansai, Japanese electric power companies
 - Conducted field trials to measure the effect of a Fly-Ash based fertiliser on tree growth for HEPCO and Kansai, Japanese electric power companies
 - Detailed analysis of biochar made from Brisbane Council green waste and its effect on plant growth in field and pot trials

Prof. Roger Swift
- Provided consultancies for Manildra (Australia) on starch structure characterisation of commercial samples

Prof. Mike Gidley
- PureCircle Ltd – food and feed additive company, main global producer of the sweetener Stevia. Consultancy services regarding Stevia applications
 - Ajinomoto Co. (Japan) – food additive company. Consultancy services regarding applications of glutamate
 - Lallemand (France) – food and feed additive company. Discussions of feed additive applications in pigs with a Lallemand representative
 - Ingaso – multinational feed and feed specialties producer. Seminar and meeting discussing the development of novel feed additives
 - Biomin Australia Pty Ltd – feed additive company. Seminar to customers following a visit to UQ. Discussions of potential novel feed additive developments
 - BEC and CHM Alliance Pty Ltd – food and feed specialties producer. Partnership in a Pork CRC funded project. Consulting in developing novel feed additive
 - Rivalea Pty Ltd – food and feed specialties producer. Partnership in an Australian Pork Limited project. Consultancy related to manipulation of feed intake in pigs

Dr Eugeni Roura
- Consultant to the Australian Wagyu Association on future projects
 - Consultant to the Meat and Livestock Association (MLA) on research priorities

Prof. Stephen Moore
- Conducted consultancy services for two chicken farms

Dr Conny Turni
- Court-appointed expert for a trial relating to alleged disturbance to livestock from operations of light aircraft

Dr Carol Patherick
- Invited speaker – Poultry Health Respiratory Diseases Workshop organised by Asian Agribusiness, Bangkok, 16–18 June 2013
 - Invited speaker – Australasian Veterinary Poultry Alliance Scientific Meeting, Roseworthy, SA
 - Invited speaker – Meetings of veterinarians and poultry consultants on Infectious Coryza held in Hyderabad, Rajmundry, Namakkal, India

Dr Pat Blackall



- Review of research direction and progress in the development of genetic alternatives to mulesing (a flystrike control technology of animal welfare concern) for Australian Wool Innovation Ltd.
- Report for Animal Health Australia: 'Old World Screw-Worm Fly: Evaluation of risk of Entry into Australia and Surveillance Requirements'; 'Assessment of Australia's entomology capability for surveillance and incursion response'
- Resistance evaluation in buffalo flies. Consultancy provided to Shering Plough Aust Ltd. and Veterinary Health Research Pty Ltd.
- Evaluation of experimental compound activity against *Lucilia cuprina*. Consultancy provided to Merck & Co. Inc.
- Consultant to the Meat and Livestock Australia for a research project 'A feasibility study for a decision support tool to evaluate the cost-effectiveness of paddock-level phosphorus and non-protein nitrogen supplementation in northern beef herds'

Dr Peter James

Dr Rob Dixon



ABOVE: QAAFI scientists Dr David Jordan (far right) and Prof. Graeme Hammer introduce Qld Premier Campbell Newman and other VIPs to a new sorghum improvement project at Dalby in March 2013. (L-R) Deputy Premier Hon Jeff Seeney MP, Premier Hon Campbell Newman, Prof. Max Lu, Hon Ms Deb Frecklington MP, UQ President and Vice-Chancellor Prof. Peter Høj, Prof. Graeme Hammer, A/Prof. David Jordan.



National/state/local policy reports and/or industry/government briefings

QAAFI's research strengths in key industries such as banana, macadamia, pulses, sorghum, beef cattle and sorghum are as strong as ever. Indeed with more than 60 reports and briefings across these sectors, QAAFI's role as a locus for scientific knowledge in agriculture is increasingly being recognised by government and industry.

Sector	Briefing or report	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Briefed GRDC Program Management on drought and frost adaptation in cereals, University of Queensland, 18 Jan 2013 Briefed GRDC Northern Panel on drought adaptation research, 4 Feb 2013 Briefed NuSeed managers on drought adaptation research, 7 March 2013 Reported on international sorghum collaborations, Australian Summer Grains Conference, Gold Coast, June 2013 Keynote address – Drought adaptation research in cereals (QAAFI Annual Research Meeting). Attended by stakeholders: DAFF, UQ, grain-growers, GRDC, 6 Aug 2013 Opening address on the value of science and education at the Hermitage Plant Science Competition. Attended by stakeholders: local councillors, grain-growers, educators, senior Queensland Government policy makers, Crawford Fund, GRDC, AG Institute Australia, 13 Aug 2013 Briefed Western Downs and Maranoa RAC on crop research at the Queensland Government's Hermitage Research Facility, 30 Aug 2013 Briefed GRDC Program Management on drought and frost research, 11 Dec 2013 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Adoption study report, ACIAR project, 'Productivity and Market Enhancement of Peanut in PNG and Australia' Annual report, ACIAR project, 'Enhancing productivity and profitability of Tropical pulses in Indonesia and Australia' Presented on the 'Role of Pulses in Dryland Cropping Systems' at the Growers' Technical and Economic Information Day. Meeting attended by Minister McVeigh, Kingaroy Research Facility, 18 Sep 2013 	Dr Rao (RCN) Rachaputi
	<ul style="list-style-type: none"> Dr Errol Corsan, Mr Bill Swann, NuSeed – briefed on research opportunities National Grains RDE Plan, contributed to systems modelling strategy 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> GRDC Board Member and CEO, Mr John Harvey – CPS and QAAFI 	



- DAFF Ministers Grain Industry Forum, Toowoomba – R&D policy
- Involved into development of research priorities for GRDC Northern Panel in the area of Soils and Crop Nutrition (Dec 2013). Priorities were developed after consulting researchers across the northern region agencies and universities and developing consensus positions. These priorities will form the basis of RD&E investment over the next 5–8 year timeline.
- Speaker at the Australian Summer Grains Conference June 2013. Presentation: 'Sell the farm or pay the interest: maintaining soil fertility in modern cropping systems'
- International webinar speaker with participation of by international fertiliser industry representatives of Mosaic and International Plant Nutrition Institute (IPNI)
- Presentation: 'Declining soil nutrient reserves in cropping systems in northern Australia: a need for balanced nutrient inputs and deep placement of P and K', GRDC, June 2013
- Speaker at the Moree Research Forum: Outcome driven investment in cropping systems organised by Conservation Farmers Inc. Presentation: 'Maintaining healthy soils – the key to sustainable farming systems', June 2013
- Industry update at GRDC Grower Update – Pittsworth, 'Nitrogen use efficiency', Timing and application method to minimise loss and optimise N use efficiency, New research on nitrous oxide emissions, volatilisation and denitrification, 18 July 2013
- Update at the Agronomy Community Technical forum, Kingaroy: 'Is potassium deficiency the next big challenge for agriculture? And what about sulphur?' July 2013
- Update at the Agronomy Community Technical forum, Kingaroy: 'Nitrous oxide research in QLD crop industries,' July 2013
- Update at the Growers Technical and Economic Information Day, Kingaroy, 'Trends in rainfed farming systems in the inland Burnett', Sep 2013
- Update at the Growers Technical and Economic Information Day, Kingaroy, 'Maintaining healthy and productive soils – the key to food production,' Sep 2013
- Speaker, National Landcare Conference, Warwick. Presentation: 'Maintaining healthy soils – the key to sustainable farming systems,' Sep 2013
- Updates at the Central Queensland Grower Solutions 2013 Winter Road Show, 'Managing nutrients in Central Queensland farming systems' Presented at the meetings in Gindie, Duaringa, Jambin and Moura, July 2013

Dr Michael Bell



HORTICULTURE

- Akinsanmi, O., Drenth, A. (2013). Phytophthora diseases of macadamias. *Australian Nutgrower*, 27(3), 15–17 Dr Femi Akinsanmi
- Akinsanmi, O., Drenth, A. (2013). Lowdown on Phytophthora. *Australian Macadamia Society News Bulletin*, Nov. 2013, 41(4), 56–59
- Alternaria fruit spot; new directions. Final report to Horticulture Australia Ltd. Dr Femi Akinsanmi, Assoc. Prof. André Drenth, Mr Nick Macleod, Dec 2013
- Invited speaker presentation: 'Diagnosis of Phytophthora diseases in the Tropics' at the International Congress of Plant Pathology, Beijing, China, 25–30 Aug, 2013 Dr André Drenth
- Presentation: 'The impact of Phytophthora on tree crops' at the XXXI Congresso Nacional de Fitopatologia, Colombia
- Presentation: 'Bud rot in oil palm, an update of Cenipalma research findings' at the XI Reunion Tecnica Nacional de Palma de Aceite, Bogota
- Update on 'Bud Rot of oil palm' at the Phytophthora Palmivora International Conference, Kuala Lumpur, 18–21 Nov 2013
- Presentation: 'Mechanisms of cultivar and race based disease resistance in Avocado' at the 5th New Zealand & Australian Avocado Growers Conference, ASB Baypark Arena in Tauranga, New Zealand, 9–12 Sep 2013
- Thomas, J. E. (2013) 'Impact and management of banana viruses'. 10th Banana Industry Congress, Coolumb, Sunshine Coast Qld, 29 May – 1 June 2013
- Henderson, J. (2013) 'Disease Diagnostics: How to look for something you don't want to find.': paper presented at the 10th Banana Industry Congress Sustaining, Coolumb, Queensland, 29 May – 1 June 2013
- Citrus Pathology Resource Scientist. Final report to Horticulture Australia Ltd. Dr Andrew Miles & A/Prof. André Drenth, The University of Queensland, Aug 2013
- Alternaria fruit spot; new directions. Final report to Horticulture Australia Ltd. Dr Femi Akinsanmi, A/Prof. André Drenth, Mr Nick Macleod, Dec 2013
- Hartevelde, D.O.C., Akinsanmi, O.A., Drenth, A. *The disease cycle of Alternaria leaf blotch and fruit spot of apple*. Paper presented at the 19th Biennial Australasian Plant Pathology Conference, Auckland, New Zealand, Nov 2013
- Hartevelde, D., Akinsanmi, O., Drenth, A. *Alternaria on apples*. Poster presented at QAAFI Annual Research Meeting, Redcliffe, Australia, Aug 2013
- Hartevelde, D.O.C., Akinsanmi, O.A., Drenth, A., 'Alternaria fruit spot new directions': presented at Innovate or Real-estate, Fruit Industry Conference, Gold Coast, Australia, July 2013

HORTICULTURE



ANIMAL
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- Akinsanmi, O., Drenth, A. (2013). *Phytophthora* diseases of macadamias. *Australian Nutgrower*, 27(3), 15–17.
- Akinsanmi, O., Drenth, A. (2013). New Disease management project. *Australian Macadamia Society News Bulletin*, May 2013, 41(2), 50–51.
- Akinsanmi, O., Drenth, A., & Miles (2013). Integrated Disease management, a snapshot. *Australian Macadamia Society News Bulletin*, Aug. 2013, 41(3), 34–37.
- Akinsanmi, O., Drenth, A. (2013). Lowdown on *Phytophthora*. *Australian Macadamia Society News Bulletin*, Nov 2013, 41(4), 56–59.
- Drenth, A. (2013). Getting with the Program. *Australian Bananas*, 38, 12–13.
- New varieties on show, *Australian Banana News*, 9 May 2013, p6.
- Bananas get some Ayr space, *Australian Banana News*, Feb – March 2013, p1.
- Drenth, A. (2013, March). Integrated management of Banana diseases. Presented to the Cassowary Coast Banana Growers Association Meeting, El Arish.
- A/Prof Andre Drenth is a member of the Scientific Reference Panel together with Prof John Lovett (Chair) and Dr Geoff Inman-Bamber. The panel travelled to the Herbert cane growing region in August 2013 to investigate a new sugarcane problem called yellow canopy syndrome. A detailed report has been provided to Sugar Research Australia and DAFF and the chair met Dr Peter Allsopp (Executive Manager – Development) and Ms Meagan McKenzie (Director R&D Policy and Partnerships, Agri-Science Queensland, DAFF) in Brisbane on 21 August 2013 for a de-brief.
- Final report submitted to Poultry Cooperative Research Centre on poultry *coccidiosis* (Australia) Dr Jess Morgan
- Briefing to senior DAFF management regarding the Northern Australia Beef Research Alliance Prof. Stephen Moore
- Briefing to Mr David Morhart, Deputy Minister and Dr Hubert Eng, Branch Head, Life Sciences Industries from the ministry of Enterprise and Advanced Education, Alberta, Canada
- Provided advice to the Federal Department of Agriculture, Australian Government on genomics



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- Australian Pig Veterinarian conference, 16–18 June 2013, Melbourne: 'Antimicrobial resistance in bacterial respiratory pathogens in Australia' Dr Conny Turni
- Australasian Pig Science Association conference, 24–27 Nov 2013, Melbourne: '*Actinobacillus pleuropneumoniae* – a diagnostic update'
- Australian Association of veterinary laboratory Diagnosticians conference, 28–29 Nov 2013, Melbourne: 'Molecular epidemiology and serotyping of *Riemerella anatipestifer* in Australia'
- Advised industry on availability of evidence for disturbance to cattle from mining, dust, noise etc. Dr Carol Petherick
- Advised industry on bull-to-female ratios in large paddocks
- Developing research programs for proposed Beef CRC – MLA workshop, Nov 2013
- Provided feedback on MLA Body Condition Score booklet
- Extension program – feedback on Grazing BMP in relation to welfare component (Grazing BMP is an online, self-assessment tool that allows graziers to benchmark their current grazing and business practice against an industry-developed set of standards).
- Research report, OECD Cooperative Research program Dr Manuel Rodriguez-Valle
- Report to Animal Health Australia: 'Old World Screw-Worm fly: Risk of Entry to Australia and Surveillance Requirements' Dr Peter James
- Review: 'Breech Flystrike Prevention Genetic R&D Review', Independent audit of Australian Wool Innovation's Breech Flystrike Prevention Genetic Research, Development and Extension Program, June 2013
- Presented on the latest developments in cow and bull reproductive management research at the Australian Cattle Veterinarians Conference, Darwin, NT 25-28 June 2013 Dr Geoffry Fordyce
- Poster presentation at the Northern Beef Research Conference, Cairns, 12–14 July 2013 Dr Tim Mahony
- Presentation on project results on respiratory disease in feedlot cattle, BeefEx2013, 22 March 2013



Visitors of national and international profile

QAAFI's interaction with international scientists often leads to development of research student interest from the visiting country. With more than 87 distinguished guests, the leading source countries this year included: Brazil, USA, Germany and India. In the important area of broad-acre crop science, more than 25 research scientists visited QAAFI. A visitor will often interact with more than one QAAFI researcher, forging ties across research groups.

Sector	Visitor	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> ▪ Mr Tim Lust – CEO of the United Sorghum Checkoff Program (Texas, USA), an organisation that disperses grower levies to US researchers, Texas, USA ▪ Dr Stephen Kresovich – The Robert and Lois Coker Trustees Chair of Genetics/ SmartState Endowed Chair of Genomics at Clemson University South, Carolina, USA ▪ A/Prof Wilfred Vermerris – University of Florida, Gainesville, Florida, USA ▪ Dr Paula Bramel – Deputy Executive Director of Global Diversity Trust, Bonn, Germany ▪ Dr Hannes Dempewolf – Scientist at Global Diversity Trust, Bonn, Germany ▪ Dr Eva Weltzien – International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Mali, Africa ▪ Dr Bob Klein – United States Department of Agriculture (USDA), Texas, USA ▪ Dr Jurandir Magalhaes – Brazilian Agricultural Research Corporation (EMBRAPA), Brazil ▪ Prof. Bill Rooney – Texas A&M University, USA ▪ A/Prof Trish Klein – Texas A&M University, USA ▪ Dr Geoff Morris – Assistant Professor at Kansas State University, USA ▪ Dr Kirsten vom Brocke – Agricultural Research Centre for International Development (CIRAD), France ▪ Dr Vicente Trucillo – Senior Sorghum Breeder at Advanta Semillas, Argentina ▪ Dr Sally Norton – Department of Environment and Primary Industries, Victoria, Australia ▪ Dr Evans Lagudah – CISRO Plant Industry, Canberra, Australia ▪ Mr Errol Corsan – Global Breeding Leader for Sorghum, Sunflower and Canola at Nuseed, Victoria, Australia 	Dr David Jordan



BROAD-ACRE
CROP
SCIENCE

- **Dr Mark Cooper, Dr Charlie Messina** – DuPont Pioneer, Johnston, Iowa, USA
- INRA delegation, France
- ACIAR delegation, which included **Nick Austin** (ACIAR CEO), Canberra
- Delegation from Kansas State University, which included **Prof. Dirk Maier** (Department of grain science and industry director, International Grains Program), USA
- **Prof. Steve Kresowitch** – Cornell University, USA
- **Tim Lush** – Director, Sorghum Grain Producers Association, USA
- **Prof. Graham Farquhar** – Australian National University, Canberra
- **Dr Bob Furbank & Dr David Deery** – Australian Plant Phenomics Facility, CSIRO, Canberra
- **Prof. Holger Meinke** – Director, Tasmanian Institute of Agriculture/Agricultural Science, University of Tasmania
- **Dr Bob French** – Department of Agriculture and Food, Western Australia
- **Val Snow** – AgResearch Ltd, New Zealand
- **Dion Bennett** – Australian Grain Technologies (AGT), WA
- **Tim Lust** – US National Sorghum Producers Association, USA, Jun 2013
- **Steve Kresovich** – Clemson University, USA, Jun 2013
- **Alemu Tirfessa** – Ethiopian Institute of Agricultural Research, Ethiopia, Aug 2013
- **Asfaw Adugna** – Ethiopian Institute of Agricultural Research, Ethiopia, Aug 2013
- **Bob Klein** – USDA, USA, Dec, 2013
- **Trish Klein** – Texas A&M University, Dec 2013
- **Jurandir Magalhaes** – EMBRAPA, Brazil, Dec 2013
- **Bill Rooney** – Texas A&M University, Dec 2013
- **Dr John McVeigh** – Minister, Queensland Department of Agriculture, Fisheries & Forestry. Dr Jack Christopher invited the Minister to open the Wheat Breeding Assembly, Brisbane 2013

Prof. Graeme
Hammer

Dr Karine Chenu

Dr Andrew Borrell

Dr Jack
Christopher

HORTICULTURE

- **Dr Nathaniel Newlands** and **Dr Louis Kouadio**,
Agricultural Production Systems sIMulator Initiative
(APSIM), Whopper Training and Testing of Canadian
National Agricultural Variables Evaluation Project
Dr Andries B. Potgieter
- **Dr Arvind Varsani** – Associate Investigator at the
Biomolecular Interaction Centre (BIC), University of
Canterbury, Christchurch, NZ
Dr Andrew Geering
- **Dr Cameron Peace** – Washington State University, USA
Dr Craig Hardner
- **Dr Arvind Varsani** – Associate Investigator at the
Biomolecular Interaction Centre (BIC), University of
Canterbury, Christchurch, NZ
Dr John Thomas
- **Dr Nemat Sokhandan** – Associate Professor, University
of Tabriz, Iran
A/Prof. Ralf Dietzgen
- **Dr Gus Molina** – Senior scientist and regional coordinator
of Commodity Systems and Genetic Resources Program,
Productivity and Value Chains Program, Bioversity
International, Philippines
Dr André Drenth
- **Dr Gert Kema** – Senior Scientist Pathogen Genetics at
Plant Sciences Group, Plant Research International,
Wageningen UR, The Netherlands
- **Prof. Jolanda Roux** – Tree Pathology Co-operative
Programme (TPCP), Forestry and Agricultural
Biotechnology Institute, University of Pretoria, South Africa
- **Dr Geetanjali Singh** – Assistant Professor, Department of
Veterinary Physiology & Biochemistry, College of
Veterinary & Animal Sciences, CSK Himachal Pradesh
Agricultural University, Palampur, India
Dr Neena Mitter
- **Dr Tilak Raj Sharma** – National Research Centre on Plant
Biotechnology, New Delhi, India
- **Dr A.K. Singh** – Head, Principal Scientist at Indian
Agricultural Research Institute, India
- **Prof. Michael H. B. Hayes** – University of Limerick, Ireland
Prof. Roger Swift
- **Prof. Donald Sparks** – University of Delaware, USA
- **Drs Homma, Yashida & Hoshi *et al*** from Japan



ANIMAL
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- **Fellows of the John Dillon Fellowship**, visit to Rockhampton for discussions Dr Carol Petherick

- ELANCO, ARC linkage meeting Dr Manuel Rodriguez-Valle
- ELANCO Innovation Strategy Manager, **Dr Aleta Knowles**, and ELANCO Associate Director (ANZ R&D), **Kim Agnew**

- A delegation of Japanese undergraduates who visited QAAFI for a seminar by Dr Athol Klieve Dr Athol Klieve
- High-level Malaysian delegation, discussion on collaborative research and teaching capabilities
- Hosted a laboratory tour for IndoBeef Program delegation, including representatives of Indonesia and ACIAR

- **Dr Mai Anh Khoa** – Deputy Director, Thai Nguyen University of Agriculture and Forestry, Vietnam Dr Rob Dixon
- **Dr Doan Duc Lan** – Vice Rector of Tay Bae University, Vietnam
- **Dr Wameotsile Mahabile** – Head of the Livestock Research Division in the Ministry of Agriculture, Botswana

- **Dr Edgardo Soriano-Vargas** - Centro de Investigación y Estudios Avanzados en Salud Animal, Facultad de Medicina Veterinaria y Zootecnia, Universidad Autónoma del Estado de México, México Dr Pat Blackall
- **Ms Anni Kusumaningsih** – Research Institute for Veterinary Science (RIVS), Bogor, Indonesia
- **Dr Clarissa Domingo** – Veterinary School, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines



FOOD & NUTRITION SCIENCES

- **Prof. Suwabun Chirachanchai** – Chulalongkorn University, Bangkok, Thailand Prof. Robert Gilbert
- **Prof. Qunyu Gao** – South China University of Technology, China
- **Prof. Axel Mueller** – Max Planck Institute for Polymer Research, Mainz, Germany
- **Prof John Taylor** – University of Pretoria, South Africa Prof. Mike Gidley
- **Dr Roger Hellens** – Plant & Food Research, New Zealand
- **Dr Peter Butterworth** – Senior Research Fellow at King's College London, UK
- **Prof Yong-Cheng Shi** – Grain Science & Industry Kansas State University, USA
- **Eliecer Lopez Jimenez** – Director of research and innovation development at IRTA Dr Eugeni Roura
- **Emma Feeney** – Post-Doctoral fellow from Pennsylvania State University, USA
- **Dr Jagger Harvey** – Biosciences Eastern & Central Africa, Nairobi, Kenya Dr Glen Fox
- **Prof. A. Sinclair** – Professor of Nutrition Science, School of Medicine, Deakin University, Vic Dr Purnima Gunness
- **Alison Saunders** – Senior Research Program Manager, New and Emerging Industries, Rural Industries Research & Development Corporation (RIRDC), Australia Dr Yasmina Sultanbawa
- **Dr Hui Wang** – Director, Food Safety Research Centre, Institute for Nutritional Sciences, Shanghai Institute for Biological Sciences, Chinese Academy of Sciences, China

RIGHT: QAAFI Principal Research Fellow, Dr André Drenth meets with banana growers at Duranbah.



Membership of national and international professional committees

QAAFI research staff members play leading roles on national and international scientific committees – particularly in agriculture. QAAFI's strong representation on the editorial committees of peer-reviewed scientific journals is also noteworthy.

Sector	Role	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Scientific panel member – 'Biomass for the Future' (Stimulus Initiative Project for the development of lignocellulosic biomass value chains in France) 	Dr David Jordan
	<ul style="list-style-type: none"> Member – Head of the Program Committee, Australian Summer Crops Conference (Queensland, Australia) 	
	<ul style="list-style-type: none"> Member – Head of the Program Committee, annual Australian Sorghum Research Group meeting (AusSORGM) 	
	<ul style="list-style-type: none"> Member – Scientific Advisory Committee, NCRIS Australian Plant Phenomics Facility APPF, CSIRO 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> Member – Scientific Advisory Committee, European Plant Phenomics Network (EPPN) 	
	<ul style="list-style-type: none"> Member – Scientific Advisory Board, EU AMAIZING Project (Breeding for economically and environmentally sustainable maize varieties: an integrated approach from genomics to selection) 	
	<ul style="list-style-type: none"> Member – Crawford Fund Queensland Committee 	Dr Lee Hickey
	<ul style="list-style-type: none"> Member – Western Downs and Maranoa Regional Advisory Committee 	
	<ul style="list-style-type: none"> Member – Northern Region Barley Advisory Committee 	
	<ul style="list-style-type: none"> Chair – Organising Committee, The 7th International Conference on Functional – Structural Plant Models, Finland 	Dr Jim Hanan
	<ul style="list-style-type: none"> Member – Organising Committee, The IV International Farming Systems Design Symposium, Lanzhou, China 2013 	Dr Daniel Rodriquez
	<ul style="list-style-type: none"> Member – Organising Committee, the V International Farming Systems Design Symposium Montpellier, France 2015 	
	<ul style="list-style-type: none"> Advisory Panel Member – Conservation Farmers Inc. 	
	<ul style="list-style-type: none"> Member – College of Experts of the Global Change Institute, The University of Queensland 	
	<ul style="list-style-type: none"> Member – UQ-CSIRO Rural Livelihoods and Resources Forum 	
	<ul style="list-style-type: none"> Member – National group of technical specialists in crop nutrition. Overseeing development of national databases and decision support tools to improve fertiliser use efficiency 	Dr Michael Bell
	<ul style="list-style-type: none"> Chinese Foreign Expert – Liaoning Academy of Agricultural Science, Shenyang, China, 25 Jan – 2 Feb 2013 	Dr Andrew Borrell



HORTICULTURE & PLANT SCIENCE

- UQ delegation member to the Indian Council of Agricultural Science (ICAR). Meeting in New Delhi to explore potential collaborations on biofuels and RNAi, 25 Feb 2013
- Invited international scientist – Gates Foundation Agricultural Research Connections Workshop, Nairobi, Kenya, 28 Sep – 2 Aug 2013
- Treasurer – Wheat Breeding Society of Australia Dr Jack Christopher
- Organising Committee Member – Wheat Breeding Assembly Brisbane 2013
- Member – Downs Interest Group for Geographical information Systems And Remote Sensing (DIGGARS) Dr Andries B. Potgieter
- Senior Editor – Plant Biotechnology Journal Prof. Robert Henry
- Associate Editor – Tropical Plant Biology
- Associate Editor – In vitro Cellular and Developmental Biology
- Member – Organising committee, 13th International Plant Biotechnology Congress
- Chair – *Caulimoviridae* Special Interest Group of the International Committee on Taxonomy of Viruses (ICTV) Dr Andrew Geering
- Member – Editorial Advisory Board, 'Archives of Virology', an official journal of the Virology Division of the International Union of Microbiological Societies Dr John Thomas
- Associate Editor – European Journal of Plant Pathology (EJPP), a broadly based international journal of plant pathology covering epidemiological, ecological, biochemical/physiological and molecular aspects of plant diseases and their causal agents
- Chair – Nanoviridae Study Group of the International Committee on Taxonomy of Viruses (ICTV)
- Chair – Conservation Thematic Group, Global Musa Genetic Resources Network (MusaNet), Bioversity International
- Scientific Committee Member – International Horticultural Congress Dr Tim O'Hare
- Scientific Committee Member – V International Symposium on Human Health Effects of Fruits and Vegetables – FAVHealth2013
- Chair – Rhabdoviridae Study Group, International Committee for the Taxonomy of Viruses (ICTV) A/Prof. Ralf Dietzgen
- Member – Mononegavirales Study Group, International Committee for the Taxonomy of Viruses (ICTV)
- Member – UQ Research Higher Degree Committee
- Member – UQ Institutional Biosafety Committee
- Member – Advisory Committee, National Centre for Biotechnology Information (NCBI) Entrez Genome ReSeq



FOOD & NUTRITION SCIENCES

- IntReader – Australian Research Council (ARC)
- Expert – European Commission, The Seventh Framework Programme (FP7)
- Member – Technical advisory board, Investigación e Innovación Tecnológica en Palma de Aceite (CENIPALMA), Colombia Dr André Drenth
- Member – Advisory committee, World Phytophthora Collection, California, US
- Chair – Finance committee, Australasian Plant Pathology Society
- Editor – *Tropical Plant Pathology*
- Associate Editor – *Persoonia*, an international, peer-reviewed journal, publishes papers dealing with molecular systematics and evolution of fungi
- Member – Australasian Plant Pathology Society
- Executive committee Member – Low Chill Australia Inc. Dr Bruce Topp
- Member – Macadamia Conservation and Breeding Committee
- Member – Macadamia Industry Varietal Improvement Committee
- Scientific Committee Member – Plant Breeding in Horticulture within the International Horticultural Congress, Brisbane, 17–22 Aug 2014
- Organising Committee Member – The 15th Australasian Plant Breeding Conference Melbourne, Australia, 26–29 Oct 2014.
- International Working Group on Legume and Vegetable Viruses (IWGLVV): Dr Neena Mitter
- Women in Technology, Queensland
- Academic Editor for *PLOS ONE*
- Past-President and member of the Executive of the International Society of Soil Science Prof. Roger Swift
- Member – China Strategies Committee, AACC International (USA) Prof. Robert (Bob) Gilbert
- Member – Organising Committee, 34th Australasian Polymer Symposium (Australia)
- Chair – Cereal Chemistry Division of the Royal Australian Chemical Institute Prof. Mike Gidley
- Member – Editorial Board for *Carbohydrate Polymers*, an international journal devoted to scientific and technological aspects of industrially relevant polysaccharides
- Member – Editorial Board for *Food & Function*, an international journal devoted to linking the chemistry and



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physics of food with health and nutrition

- Member – Organising Committee, CNAFS Open Lecture Series, QAAFI, UQ
- Member – R&D specialist group 3, 'Nutrition, health and physiology', Australian Pork Limited (since Sept 2011)
- Member – Scientific advisory board, Omnia Molecular S.L., a biotech company (since Nov 2011)
- Vice-President – Australasian Association for Chemo Sensory Science (since Dec 2011)
- Member – Organising Committee, the 2013 Annual Meeting of the Nutrition Society of Australia
- Member – Organising Committee, the 2016 International Symposium on Olfaction and Taste
- Co-Chairman – Australian committee member for the International Symposium Digestive Physiology of Pigs (DPP) in 2018
- Member – Analytical Sub-Committee, Institute of Brewing & Distilling (IBD)
- Member – Brewing Science Group, European Brewery Convention
- Member – Editorial Board of the *International Journal for Parasitology*, covers the results of original research in all aspects of basic and applied parasitology
- Executive Committee Member – International Society for Animal Genomics (ISAG)
- Member of the European Union funded Scientific Advisory Board for *Ruminomics*
- Member – Red Meat Co-Investment Committee (RMCiC), Meat and Livestock Australia
- Treasurer – Organising Committee of 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals
- Co-Editor-in-Chief – Editorial board member of *Applied Animal Behaviour Science* (published by Elsevier)
- Member – Awards committee of the International Society for Applied Ethology (ISAE)
- UQ representative – National Animal Welfare RD&E Strategy committee
- Member – Organising Committee, International *Pasteurellaceae* Conference 2014, Prato, Italy, May 2014
- Member – *Pasteurellaceae* Subcommittee, International Committee on Systematic Bacteriology (ICSB), member since 1992

Dr Eugeni
Roura

Dr Glen Fox

A/Prof. Ala Lew-
Tabor

Prof. Stephen
Moore

Dr Stuart
McLennan

Dr Carol Petherick

Dr Pat Blackall

Editor – *Journal of Veterinary Diagnostic Investigation*.
The journal covers all aspects of veterinary laboratory
diagnostic science



- Editorial Board Member – Avian Diseases, an international journal devoted to avian health
- Editorial Board Member – *Journal of Clinical Microbiology*
- Editorial Board Member – Veterinární Medicina, an international journal for biomedical science
- Chairman – Genetics & Animal Breeding Sub-Committee, Australian Cattle Veterinarians (ACV) Dr Brian Burns
- Member – Litmus panel 2013-2014, Australian Cattle Veterinarians (ACV)
- Member – Local Organising Committee and Scientific Program Planning Committee, Joint International Symposium on the Nutrition of Herbivores and International Symposium on Ruminant Physiology 2014 Conference to be held in Canberra, Sep 2014 Dr Athol Klieve
- Member – Queensland Branch Committee, Australian Society of Animal Production (ASAP)
- Editorial Board Member – *Virus Genes* Dr Tim Mahony
- Member – Queensland committee, Crawford Fund (since 2011) Dr Yasmina Sultanbawa





Above & below: Launch of new drought resistant sorghum initiative, Dalby, March 2013



Media profile

QAAFI research scientists are encouraged to nurture professional relations with the media. The institute issued more than 25 media release in 2013, many of which formed the basis of a subsequent news item or follow-up media story. Media releases often have surprising longevity. All information listed on the QAAFI or UQ website becomes part of the global online community, searchable 24 hours a day, seven days a week.

Sector	Media event/ profile	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Launch of the Bill and Melinda Gates Foundation sorghum project including the Premier, Treasurer, Minister for Agriculture, Mayor of Dalby and two other members of Parliament. Associated national and international media coverage (TV, radio, print and online) 	Dr David Jordan
	<ul style="list-style-type: none"> Presented Australian Medal for Agricultural Science, Ag Institute, Australia 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> National Finalist for Fresh Science 2013. This involved preparing a press release and a week of media training in Melbourne. 	Dr Lee Hickey
	<ul style="list-style-type: none"> Media Release: 'Using genes to counter rust' – an announcement of the discovery of a gene in barley for resistance to leaf rust. The breakthrough was communicated via all forms media including; <i>Courier Mail</i>, ABC Radio, 4BC Breakfast Radio, WIN News, News.com.au, Twitter, U.S Science News 	
	<ul style="list-style-type: none"> Media Release: 'Bringing better wheat to growers faster than ever' – an announcement of the development of a new wheat variety which is resistant to rust diseases and tolerant to pre-harvest sprouting. Covered by ABC Radio and Weekly Times in Victoria 	
	<ul style="list-style-type: none"> Field-day: 'Winter Cereal Research, Gatton – a day designed to communicate current research activities on wheat and barley in Queensland. Strong rural media attendance and reporting. 	
	<ul style="list-style-type: none"> Keynote address at the IV International Farming Systems Symposium Lanzhou, China, 2013 	Dr Daniel Rodriguez
	<ul style="list-style-type: none"> Interview – 'Warmer climate boosts northern crops but the bad soon outweighs the good', <i>The Conversation</i>, 14 March 2013 	
	<ul style="list-style-type: none"> Article – 'Relay-cropping extends cropping window', <i>Ground Cover</i>, May – June 2013, p11 	
	<ul style="list-style-type: none"> Video feature – 'Banding Fertilisers impacts crop yields', <i>Ground Cover TV</i>, 10 May 2013 	Dr Michael Bell
	<ul style="list-style-type: none"> Magazine article – 'Active and diverse 'food web' key to healthy sugarcane soils', <i>Australian Sugarcane</i>, June – July 2013, pp 9-11 	
	<ul style="list-style-type: none"> Article: 'Legume solution to rising fertiliser costs,' <i>Queensland Country Life</i>, 26 Dec 2013 	



BROAD-ACRE CROP SCIENCE

- **Interview** – Generation Challenge Program, media consultant for a story on development of drought adapted sorghum for Africa, 25 March 2013
- **Interview** – GRDC media consultant on drought research in sorghum, 22 May 2013
- **Feature story** – Article about stay-green trait in sorghum published in GRDC *Ground Cover* Magazine
- **Radio interview – ABC radio**, broadcast on the morning of the Wheat Breeding Assembly Brisbane, 16 July 2013
- **Interview – ABC Southern Queensland**, Rural Report interview on stay-green wheat, wheat roots and the NAM breeding strategy by Cassandra Hough, 15 Oct 2013
- **Full-page** interview about macadamia: 'On the trail of an iconic tree's roots', science page, By Rob Kidd, *Courier Mail*, Saturday, 5 Jan 2013
- **Interview** about trip to Hawaii to study history of macadamia by ABC Radio Capricornia, 5 Jun 2013
- **Web blog: Expedition to Hawaii**, a day-by-day online update on Churchill Fellowship trip to Hawaii and California to trace the domestication pathway of macadamia from the wilds of the Queensland sub-tropical rainforest to Hawaii and California and back again. 26 May – 28 June 2013
See: <http://www.qaafi.uq.edu.au/macadamia-184223>

Dr Andrew Borrell

Dr Jack
Christopher

Dr Craig Hardner

Prof. Roger Swift

ANIMAL SCIENCE

- Three **media releases** about soils and food security
- Two **interviews** on ABC local radio
- Multiple interviews to **ABC Rural** on tropical beef cattle management
- **Radio interview – ABC Rural** (Katherine, Northern Territory), 'Improving Male and Female Reproductive Performance in Tropical Cattle in Northern Australia' by Ms Carmen Brown, July 2013
- **Landcare Queensland Newsletter** – 'News from UQ's School of Agriculture and Food Sciences; New probiotic for healthy livestock and environment', Qlinks Bulletin, 5 Mar 2013
- **Update** at the UQ Gatton Campus, 'Cows to learn a thing or two from kangaroos', 8 Feb 2013
- **Landcare Queensland Newsletter** – 'News from UQ's School of Agriculture and Food Sciences; Reducing Methane Belching Cows by Learning from Kangaroos', Qlinks Bulletin, 5 Feb 2013
- **Article** – 'Cows to act like roos', *Gatton, Lockyer & Brisbane STAR*, Feb 2013, p19
- **Interview** – 'Research: New risk factors identified in BRD project', Beef Central, By Jon Condon, 23 Oct 2013
- **Industry presentation** at the Beef Works, 2013 conference, filmed by Australian Lot Feeders Association

Dr Geoffry
Fordyce

Dr Brian Burns

Dr Athol Klieve

Dr Tim Mahony



FOOD &
NUTRITION
SCIENCES

- **Expert opinion** for feature article in Health & Fitness magazine by Health Journalist Stephanie Osfield Dr Eugeni Roura
- **Interview** with Heather Stott, ABC Radio, 'Sweet end to a bitter taste', 28 Oct 2013
- **Interview** with Kelly Higgins-Devine, ABC Local Radio, 30 Oct 2013
- **Media field-day** – Supergold sweet-corn at Gatton Research Facility accompanied by John McVeigh, Minister for Agriculture, Fisheries and Forestry, 12 Dec 2013 Dr Tim O'Hare
- **Invited speaker** at the National Science Week, Industry forum organised by Queensland Health. Presentation: 'Natural ingredients for shelf life extension' Dr Yasmina Sultanbawa
- **Radio interview** – ABC Rural (Northern Territory), 'Bush plum proving fruitful for seafood industry' by Matt Brann, 19 Sep 2013
- **Online report** by Renae Soppe, 'Native foods help in the development of an indigenous Australian cuisine,' Life Sciences Queensland Limited newsletter, 19th Edition 2013
- **Online article** by Jude Mayall, 'Kakadu plum to extend the shelf life of food', ANFIL News, Indigenous Advisory Committee, RIRDC, 18 Dec 2013

BELOW: Prof. Graeme Hammer and his sorghum improvement team (L–R) Kurt Deifel, Dr Erik van Oosteram, Prof. Graeme Hammer and Dr Vijaya Singh



QAAFI Media Releases 2013

Gates Foundation supports wheat leadership

17 Dec 2013

QAAFI Research Fellow Lee Hickey has been honoured with an invitation to take part in a Bill & Melinda Gates Foundation international workshop for early career scientists. The three-day wheat leadership workshop in Heidelberg, Germany (16-19 Dec) is designed to help researchers deal productively with challenges related to interpersonal aspects of their work.

QAAFI and DAFF scientists win poster award in Europe

29 Nov 2013

A team of QAAFI and DAFF scientists, together with their African colleagues, has been awarded first prize for their poster at the 2013 General Research Meeting of the Generation Challenge Program in Lisbon, Portugal.

'SuperGold' corn to slow major eye disease

16 Dec 2013

New sweet corn varieties developed by the Department of Agriculture, Fisheries and Forestry (DAFF) and UQ's Queensland Alliance for Agriculture and Food Innovation (QAAFI) could help slow eye diseases such as age-related macular degeneration (AMD), the leading form of blindness in Australia.

Building stronger links with international brewers

29 Nov 2013

QAAFI's Dr Glen Fox and Professor Robert Henry often work with the brewing industry, researching and accrediting new malting barley varieties. In addition, Glen is long-time member of Institute of Brewing & Distilling (IBD), one of the world's oldest learned societies, and is a representative on the organisation's analytical methods committee (Asia Pacific).

Improved sorghum for Ethiopian farmers

15 Nov 2013

QAAFI scientists Graeme Hammer, Erik van Oosterom, and Greg McLean recently conducted a workshop at Melkassa Agricultural Research Center, located about 100 km from Addis Ababa in Ethiopia. Their visit was part of a Bill & Melinda Gates funded project* to develop better sorghum for Ethiopian farmers. The workshop covered a range of topics including efforts to explore, through modelling, potential trait and management combinations which could improve yield in the dry lowlands of Ethiopia.

QAAFI scores well at Australian Barley Technical Symposium

14 Nov 2013

Laura Ziems A QAAFI researcher and PhD student were award prizes at the recent 16th Australian Barley Technical Symposium (ABTS). The unique industry event, which has been running since 1985, covers the whole value-chain, from breeding and agronomy through to product processing, marketing and global supply chains. The biennial event is also regarded as the best barley meeting in the world, attracting delegates from North and South America, Europe and Asia.

Research recognised by world leader in bovine genomics

6 Nov 2013

Centre for Animal Science Director Professor Stephen Moore has been honoured with an award from TEC Edmonton – one of the world's top bovine genomics research organisations. TEC Edmonton is a joint-venture between the University of Alberta and the Edmonton Economic Development Corporation, which acts as business accelerator, helping to transform technologies into business opportunities.

Beef producers acknowledge QAAFI scientist with 30 years' northern expertise

5 Nov 2013

One of QAAFI's most experienced cattle nutrition specialists has been awarded the northern beef industry's highest research accolade. QAAFI Principal Research Fellow, Dr Stuart McLennan, was presented with a North Australian Beef Research Council (NABRC) 2013 Medal at the industry's national conference, held recently in Cairns.



QAAFI researchers to feature at Brisbane AusBiotech Conference

15 Oct 2013

Scientists to explore how Australia and India could work together on biotech research. THE University of Queensland's scientific excellence will be on show at the AusBiotech Conference in Brisbane in October. UQ Professors Matthew Brown and Ian Frazer and senior research fellows Dr Neena Mitter and Dr Eugeni Roura will join a distinguished line-up of speakers at the conference. AusBiotech will profile world-class research and business partnerships and is expected to attract more than 1000 delegates, including leaders in biotechnology, biopharmaceuticals, life sciences, business, investment, research and health industries.

Scientists unveil new way to grow quality wheat faster

10 Sep 2013

QAAFI scientists have discovered a fast way to develop a new strain of wheat that is resistant to stripe rust and pre-harvest sprouting. The research team developed the wheat product using a new breeding strategy that slashes development time from more than 10 years to just two-and-a-half years. Dr Lee Hickey, from UQ's Queensland Alliance for Agriculture and Food Innovation, said the technology was set to benefit farmers in the next few years with field trials being grown in Victoria and New South Wales.

Queensland science reveals genetic treasures in Africa's most versatile crop, sorghum

28 Aug 2013

A consortium of Australian and Chinese researchers has discovered that sorghum, Africa's most widespread crop, contains vastly more genetic variation than previously realised. In a paper published in 'Nature Communications' this week, researchers from The University of Queensland, the Queensland Department of Agriculture, Fisheries and Forestry (DAFF) and BGI (China), announced they had mapped the entire genome sequence in 44 sorghum lines.

QAAFI excels at Food Science and Technology conference

13 Aug 2013

QAAFI's Marta Navarro and Anton Pluschke came first and second respectively in a student presentation competition at the annual convention of the Australian Institute of Food Science and Technology (AIFST).

Study finds better way to safeguard the world's beer supplies

5 Aug 2013

An international study led by a Queensland scientist has found a way to better safeguard the world's beer supplies.

The challenge and opportunity of food security

5 July 2013

Feature article in 'UQ Contact' by Professor Robert Henry, Professor of Innovation in Agriculture and Director of the Queensland Alliance for Agriculture and Food Innovation (QAAFI)

QAAFI scientists take the plunge for premium coffee

3 July 2013

UQ scientists are teaming up with their Queensland Government colleagues and local growers to fast-track development of premium export coffee.

Expedition to Hawaii

An account of Dr Craig Hardener's Churchill Fellowship expedition to Hawaii in search of the original plantings of macadamias introduced to the region in the late 1800s.

Training centre for 'next generation' food scientists

29 May 2013

A new Australian Research Council (ARC) backed training initiative has started at UQ – the Industry Transformation Training Centre (ITTC).

Tasty new banana trials look promising

23 May 2013

The team tasked with protecting Australia's \$450 million banana industry reports that trials are providing horticulture scientists with invaluable long-term data likely to benefit both growers and consumers.



Pacific taro set to take on the world

23 May 2013

Australian research into the 'best' varieties of taro could open new markets and create greater food security in the Pacific region says a University of Queensland scientist.

Ag Science Medal to Prof. Graeme Hammer

26 March 2013

QAAFI's Professor in Crop Science, Graeme Hammer, is honoured with the prestigious Australian Medal of Agricultural Science.

UQ-DAFF expertise underpins \$4 million Gates grant for drought-resistant sorghum program

14 March 2013

QUEENSLAND Premier Campbell Newman has today announced a \$4 million international collaboration to improve sorghum productivity under drought conditions.

Global warming affects crop yields – but it's the water not the heat!

4 March 2013

The effect global warming will have on plants is now better understood thanks to advanced modelling provided by UQ's Professor Graeme Hammer, one of Australia's leading crop scientists.

Boosting food quality and supplies in the South Pacific

21 Feb 2013

In a first for Fiji and the South Pacific, a new vegetable research project has been launched to identify strategies to strengthen food production and manufacture in the region.

One sorghum gene to feed the world?

20 Feb 2013

UQ scientists have identified a sorghum gene which could lead to development of more digestible feedstocks for farm animals, and much-improved nutrition for some of world's poorest nations.

Fields of gold for better vision

24 Jan 2013

The Health Benefits of eating a diet rich in fruit and vegetables are well recognised, but consuming two serves of fruit and five serves of vegetables a day might be even more beneficial thanks to a research partnership between QAAFI and the Queensland Department of Agriculture Fisheries and Forestry (DAFF)



Advice provided to the Minister or Department

Advice

- Ministerial briefing note associated with the launch of the Bill & Melinda Gates Foundation **sorghum project** – April 2013
- **Verbal briefing (beef)** – roundtable discussion with the minister and departmental advisers – 1 May 2013
- **Agriculture Industry Reception** – an opportunity to network with industry colleagues and discuss key issues in the sector – 21 May 2013
- **Stakeholder lunch** – Queensland Government launch of agriculture strategy – roundtable discussion with the minister 4 June 2013
- **UQ Briefing** – Treasurer and Minister McVeigh and the Vice Chancellor of University of Queensland to discuss QAAFI – 3 Sep 2013
- Assisted in preparation of state response to developing '**emission reduction targets and soil carbon/biochar**' policies (via Policy officers Michael Bourke and Alice Lethborg) – Oct 2013
- LSQ Ministerial TABBS **Roundtable Breakfast**, Life Sciences Queensland Ltd (LSQ) hosted a Ministerial Roundtable Breakfast at the Brisbane Convention and Exhibition Centre, prior to the Australasian Bioenergy and Bioproducts Symposium (TABBS) – 28 Oct 2013
- **Personal briefings** with Minister McVeigh at launch of new sweetcorn varieties – Gatton, Dec 2013
- **Advice provided to Minister's office** on publication of sorghum research, which revealed target gene for more digestible feedstocks (QAAFI media release, 20 Feb 2013)
- Participants in **Ministerial round-table** on peanut industry – Kingaroy, Sep 2013
- Informal **backgrounders** for two ministerial briefings

QAAFI contact

- Dr David Jordan
- Prof. Robert Henry
- Prof. Robert Henry
- Prof. Robert Henry
- Prof. Robert Henry
- Dr Michael Bell
- Prof. Robert Henry
- Prof. Robert Henry & Dr Tim O'Hare
- Prof Ian Godwin & A/Prof David Jordan
- Dr Mike Bell & Dr Rao (RCN) Rachaputi
- QAAFI Deputy Director, Business Development & Engagement Sarah Meibusch

RIGHT: A delegation of agriculture scientists from China visited QAAFI in July 2013.



Number and types of new or improved technologies published

Whether it's designing a better way to irrigate peanuts or controlling lice in sheep, QAAFI scientists are at the forefront of innovations destined to improve the yield and sustainability of modern agriculture.

Sector	New or improved technology	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Potgieter, A., Meinke, H., Doherty, A., Sadras, V.O., Hammer, G., Crimp, S., & Rodriguez, D. (2013). Spatial impact of projected changes in rainfall and temperature on wheat yields in Australia. <i>Climatic Change</i>, 117, 163–179. 	Dr Daniel Rodriguez
	<ul style="list-style-type: none"> Araujo, L., Santos, P., Rodriguez, D., Pezzopane, J.R., Oliveira, P., Cruz, P. (2013). Simulating Guineagrass production in the Southeast of Brazil: empirical and mechanistic approaches. <i>Agronomy Journal</i>, 105(1), 61–69. 	
	<ul style="list-style-type: none"> Rodriguez, D., Cox, H., DeVoi, P., Power, B., (2013). A participatory whole farm modelling approach to understand impacts and increase preparedness to climate change in Australia. <i>Agricultural Systems</i>. Retrieved from http://www.sciencedirect.com/science/article/pii/S0308521X13000516 	
	<ul style="list-style-type: none"> Chauhan, Y.S., Solomon, K.F., Rodriguez, D. (2013). Characterisation of north-eastern Australian environments using APSIM for increasing rainfed maize production. <i>Field Crops Research</i>, 144, 245–255. 	
	<ul style="list-style-type: none"> Published paper in <i>Nature Climate Change</i> on improved modelling of climate change effects on crops (see 'The critical role of extreme heat for maize production in the United States. <i>Nature Climate Change</i>, 3 5: 497-501.) 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> Christopher, J., Christopher, M., Jennings, R., Jones, S., Fletcher, S., Borrell, A., Manschadi, A., Jordan, D., Mace, E., & Hammer, G. (2013). QTL for root angle and number in a population developed from elite bread wheats with contrasting adaptation to water-limited environments. <i>Theoretical and Applied Genetics</i>, 126(6), 1563–74. doi 10.1007/s00122-013-2074-0. 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Kandala, C.V., Rachaputi, R.C.N., & O'Connor, D. (2013). Capacitance Sensor for Non-destructive Determination of Total Oil Content in Peanut Kernels. <i>Journal of Sensor Technology</i>, 3, 42–46. 	Dr Rao (RCN) Rachaputi
	<ul style="list-style-type: none"> Chauhan, Y.S., Wright, G.C., Holzworth, D., Rachaputi, R.C.N., & Payero, J.O. (2013). AQUAMAN – a web-based decision support system for irrigation scheduling in peanuts. <i>Irrigation Science</i>, 31(3), 271–283. 	
	<ul style="list-style-type: none"> Chauhan, Y.S., Rachaputi, R.C.N. (2013, June). <i>Characterization of drought patterns of mungbean</i> 	



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growing Environments of the Northern Grains Region.

Paper presented at the 2013 Australian Summer Grains Conference, Gold Coast, Queensland.

- Rachaputi, R.C.N., Wright, G.C., & Chauhan, Y. (2013, June). *Application of Aflatoxin Research Outputs to Minimise Aflatoxin Contamination in Australian Peanut Industry*. Paper presented at the International Conference on Mycological Aspects of Food and Feed Safety IC-MAFFS, Gajamada University, Yogyakarta, Indonesia.
- Godwin, R.M., Morgan, J.A.T. (2013). A simple, one-tube assay for the simultaneous detection and diagnosis of ten Australian poultry *Eimeria*. *Electrophoresis*. doi: 10.1002/elps.201300286 Dr Jess Morgan
- Web based decision support system for lice control in sheep [<http://www.liceboss.com.au/>] Dr Peter James
- Methodology for in-vitro (without the use of animals) culture of buffalo fly (*Haematobia exigua*)
Haematobia irritans cell line
- (Final report of project B.NBP.0488: In-vitro culture of buffalo fly and infections with Wolbachia)
- New standards for bull scrotal circumference were derived from Australian data. These standards have been published in an international peer review journal (*Theriogenology*) and in an updated standards publication by the Australian Cattle Veterinarians. They form the basis of bull breeding soundness evaluation, a fundamental strategy in profitable cattle production. Dr Geoffrey Fordyce
- A method to reduce bleeding after commercial dehorning was successfully tested. The simple method, which entails application of a gauze surgical swab, reduces haemorrhage and reduces post-surgical infection, both of which are persistent problems in commercial beef production.
- A ready reckoner for calculating beef business key performance indicators. This computer software application was developed as a part of a large tropical beef cattle reproduction study published by Meat and Livestock Australia. A method to analyse data collected is part of the new system which enables beef producers to assess whether they are at achievable levels and where opportunities or problems are occurring within herds.
- Quantitative genetic parameters for tropical cattle reproduction were published in an international peer review journal (Animal Production Science). These parameters form the basis of genetic improvement strategies in a region where calf production rates are notoriously low and a key limitation to business profitability.
- Timing and reasons for new-born calf deaths in well-managed tropical beef herds were published in an



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SCIENCE

international peer review journal (*Animal Production Science*). Contributions of teat and udder size were quantified, as was the associated genetic control, thus providing the basis for one control strategy.

- Corbet, N. J., Burns, B. M., Johnston, D. J., Wolcott, M. L., Corbet, D.H., Venus, B.K., Li, Y., McGowan, M.R., & Holroyd, R.G. (2013). Male traits and herd reproductive capability in tropical beef cattle. 2. Genetic parameters of bull traits. *Animal Production Science*, 53, 101-113
Dr Brian Burns
- Development of heritabilities and genetic correlations between male and female reproductive traits for use in selection programs in tropical beef cattle breeds
- Paper describing a new method for the performance of antimicrobial sensitivity testing of isolates of *Haemophilus parasuis*. Manuscript accepted by the *Veterinary Microbiology* journal
Dr Pat Blackall
- New Technology for production of vaccine components
Dr Tim Mahony
Cavallaro, A.S., Mahony, D., Mody, K.T., Mahony, T.J., & Mitter, N. (2013). Lots of Bovine Viral Diarrhoea Virus E2 Protein – A Subunit Vaccine. *Advances in Virus Research*. ISBN: 978-1477555-04-0
- New Vaccine Delivery Technology
Mahony, D., Cavallaro, A., Stahr, F., Mahony, T.J., Qiao, S., & Mitter, N. (2013). Mesoporous Silica Nanoparticles Act as a Self-adjuvant for Ovalbumin Model Antigen in Mice. *Small*, 9(18), 3138-46.
- New Vaccine Delivery Technology
Mody, K., Mahony, D., Mahony, T.J. & Mitter, N. (2012). Freeze-drying of protein-loaded nanoparticles for vaccine delivery. *Drug Delivery Letters*, 2(2), 83-91.
- Publication of research on the development of improved supplements for the northern cattle industry
Dr Rob Dixon
Dixon, R.M. (2013). Controlling voluntary intake of molasses-based supplements in grazing cattle. *Animal Production Science*, 53, 217-225.
- Publication of research on the development of improvements in near infrared spectroscopy to measure nutrition of grazing cattle
Dixon, R., Boval, M., Blanfort, V., Decruyenaere, V., & Coates, D. (2013). Faecal near infrared spectroscopy to measure the diet selected and productivity of grazing ruminants. *Proceedings of the 22nd International Grassland Congress*, 1149-1152.
- New diagnostic test for Datura yellow vein virus
A/ Prof. Ralf Dietzgen
(*Australasian Plant Disease Notes* 8:21-25; 2013)
- First step towards reverse genetic analysis of a plant

HORTICULTURE

negative-strand RNA virus (*Journal of Virology* 87:10598-1061; 2013)

Dr Andre Drenth

- Van Brunshot, S.L., Bergervoet, J.H.W., Pagendam, D.E., de Weerd, M., Geering, A.D.W., Drenth, A., van der Vlugt, R.A.A., (2013). Development of a Multiplexed Bead-Based Suspension Array for the Detection and Discrimination of *Pospiviroid* Plant Pathogens. *PLoS ONE* 9(1): e84743. doi:10.1371/journal.pone.0084743
- Akinsanmi, O.A., Drenth, A., (2013). Phosphite and metalaxyl rejuvenate macadamia trees in decline caused by *Phytophthora cinnamomi*. *Crop Protection*, 53, 29–36.
- Cook, D.C., Liu, S., Edwards, J., Villalta, O.N., Aurambout, J.P., Kriticos, D.J., Drenth, A., & De Barro, P.J. (2013). An assessment of the benefits of yellow Sigatoka (*Mycosphaerella musicola*) control in the Queensland Northern Banana Pest Quarantine Area. *NeoBiota*, 18, 67–81.
- Cook, D., Liu, S., Edwards, J., Villalta, O.N., Aurambout, J.P., Kriticos, D.J., Drenth, A., De Barro, P.J. (2013). Predicted economic impact of black Sigatoka on the Australian Banana Industry. *Crop Protection*, 51, 48–56.
- Van Brunshot, S. L., Gambley, C. F., De Barro, P. J., Grams, R., Thomas, J. E., Henderson, J., Drenth, A., Geering, A. D. W. (2013). Panel of real-time PCRs for the multiplexed detection of two tomato-infecting begomoviruses and their cognate whitefly vector species. *Plant Pathology*, 62, 1132–1146.
- Wong, M.H., Henderson, J., Aitken, E., Drenth, A., (2013). Identification and differentiation of *Phyllosticta* species causing freckle disease of banana using High Resolution Melting (HRM) analysis. *Plant Pathology*, 62, 1285–1293.

- New technique developed for the extraction and identification of a large, important and highly resilient fraction of soil organic matter

Prof. Roger Swift

- Plant Breeders Rights granted (to DAFF) for new plumcot cultivar 'Rubycot', 13 Nov 2013.

Dr Bruce Topp

- Gilbert, R.G., Wu, A.C., Sullivan, M.A., Sumarriva, G.E., Ersch, N., Hasjim, J. (2013). Improved method for characterizing starch size distribution. *Analytical and Bioanalytical Chemistry*, 405, 8969–80.

Prof. Robert (Bob) Gilbert

- Analysis of barley-starch structure in relation to drought tolerance, along with PhD candidate Peter Gous – senior adviser, Prof. Bob Gilbert.

Dr Glen Fox

- High barrier material packaging technology developed to retain volatiles in Australian native herbs.

Dr Yasmina Sultanbawa

FOOD & NUTRITION SCIENCES



- Chaliha, M., Cusack, A., Currie, M., Sultanbawa, Y., Smyth, H.E. (2013). Effect of Packaging Materials and Storage on Major Volatile Compounds in Three Australian Native Herbs. *Journal of Agriculture and Food Chemistry*, 61 (24), 5738–5745.
- Sultanbawa, Y. (2013). *Leptospermum* (Manuka) Honey: Accepted Natural Medicine. In L. Boukraa (Ed.), *Honey in Traditional and Modern Medicine* (pp. 113-124). Florida, USA: CRC Press, Taylor & Francis Group.



ABOVE: Researchers from QAAFI and DAFF organised a meeting of avocado researchers in Brisbane on 29 July.



Survey of external funding agencies

Representatives from 12 of QAAFI's external funding organisations replied to an online survey in early 2014. The representatives were chosen from a range of relevant industries including:

- Australian Banana Growers' Council
- Australian Pork Limited
- Bill & Melinda Gates Foundation
- CSIRO
- Horticulture Australia Limited
- Meat and Livestock Associate
- PORK CRC
- Poultry CRC
- RIRDC
- Sugar Research Australia

The respondents were from senior-management level (and above), including 1 x CEO, 2 x general managers, 1 x executive manager research, 1 x project manager, 3 x senior research managers, 3 x R&D managers and 1 x director. Respondents were asked:

1. How would you characterise the quality of QAAFI's scientific output?
2. How does QAAFI's scientific expertise compare with other Australian research organisations?
3. How satisfied are you with the level of engagement offered by QAAFI scientists?
4. Which phrase best describes QAAFI's ability to meet research project outcomes?

RESULTS

In answer to question one, eleven respondents (91%) indicated QAAFI's scientific output met or exceeded their expectations. When comparing QAAFI's output to other Australian research organisations, nine respondents indicated QAAFI was either *very competitive* or *meeting* expectations. Two suggested QAAFI's scientific expertise was in fact 'well above' their expectations. One respondent did not answer.

When asked if their organisation was satisfied with the level of engagement offered by QAAFI scientists (Q3), 75% of those surveyed were 'very satisfied'; two respondents were 'exceedingly satisfied'. Invited to characterise QAAFI's ability to meet research project outcomes (Q4), more than 90% of respondents indicated QAAFI met or exceeded their expectations in this area.

Notwithstanding the relatively small sample size, a majority of respondents was strongly of the opinion that QAAFI continues to meet or exceed its research objectives.

Respondent feedback ...

"I think there are very some talented researchers in QAAFI – who could benefit from more international linkages."

"QAAFI's research in the food and nutrition area is outstanding from both an academic standpoint as well as from an industry engagement point of view."

"The researchers are highly committed and engaged with industry ... QAAFI has developed a name where we expect high quality scientific outputs – the researchers we work with are meeting that high level which we expect."

"The QAAFI researchers engaged with our industry have been excellent in providing advice on urgent industry issues, on modifying research programs to emerging issues (after careful consideration and have been very forthcoming with information for industry publications."



Level of industry satisfaction

QAAFI's external review, conducted over several months in 2013, provided a detailed appraisal of the institute's performance across many levels (see following pages). In the latter half of 2013, several long-time members of the QAAFI Advisory Board announced their intention to vacate their honorary positions. The institute would like to acknowledge the valuable contributions made by outgoing board members, Mr Robert Antonio (McLean Farms), Mr Wayne Carlson, Dr Rob Clark (Lancoma Estate) and Mr Ralf Shannon (Chairman, North Australian Beef Research Council). As this report went to print, discussions were under way to form a new advisory board.

In accordance with the board's 2012 recommendations, QAAFI has delivered several key initiatives designed to increase levels of industry engagement.

For example, QAAFI issues regular e-newsletters to a national database of stakeholders and funding agencies; QAAFI researchers have attended and organised field days showcasing the latest breeding technologies in wheat, sweetcorn and bananas. QAAFI agronomist, Dr Mike Bell, has been particularly active in the field. In 2013 he visited Duaringa, Gindie, Jambin, Moree, Kingaroy and Warwick (among other localities) to share his insights into how farmers and growers can best maintain soil nutrients.

QAAFI Advisory Board

Mr Robert Antonio	McLean Farms, Pittsworth, Qld
Professor Kaye Basford	UQ researcher in applied statistics in agricultural science, President of the UQ Academic Board
Mr Wayne Carlson	A former NAB national agribusiness manager with 35 years' experience in the agribusiness and finance sector
Dr Rob Clark	Company Director, Lanoma Estate, Tasmania, former Director of Tasmanian University Research Centre
Mr Peter Lancaster	Former Chairman, Food Spectrum Pty Ltd
Mr Wayne Newton	Member of the Grains Research Foundation Ltd board of directors and grain and cotton grower in Dalby
Mr Ralph Shannon	Chairman, North Australian Beef Research Council
Dr Beth Woods	Deputy Director-General, Queensland Government, Department of Agriculture, Fisheries and Forestry

RIGHT: Each year, QAAFI's animal scientists organise a well-patronised science poster competition.



External report highlights success of QAAFI model

A summary of the 2013 review recommendations by Professor Robert Henry

As part of the original DAFF – QAAFI agreement, the institute was the focus of a mid-term review, in 2013 – a task which required examination of several key terms of reference. Of most interest are the benefits and outcomes QAAFI delivers to Queensland agriculture, the long-term value of QAAFI's scientific research, and the effectiveness of the original DAFF – QAAFI partnership agreement or model.

For nearly 20 years, Foursight Associates, the team appointed to conduct the review, has distinguished itself by evaluating science, technology, research and development initiatives for various Australian governments and universities. Two respected specialist consultants, Graham Mitchell AO and Michael Taylor AO, were part of the Foursight review team, which visited both DAFF and QAAFI.

Foursight Associates sought and gained high-level input from Minister McVeigh and his senior advisors, as well as the UQ Vice Chancellor and President, Prof. Peter Høj and UQ Deputy Vice Chancellor (Research), Prof. Max Lu. I met with the reviewers, in my capacity as QAAFI Director, and they held discussions with several individual researchers and members of the institute's senior management team.

As a relatively young research institute which receives a substantial amount of its funding and intellectual capital from the Queensland Government, it is 'best practice' for QAAFI to regularly review its strengths and weaknesses. The Foursight review was conducted chiefly in May to June 2013 and included some 50 interviews with senior leaders and managers within UQ and DAFF.

The review's findings were provided to the Queensland Government in mid-October 2013.

QAAFI SETS A BENCHMARK

While the review's recommendations are wide-ranging, the reviewers recognised the DAFF – QAAFI model has set an innovative benchmark for science partnerships between the government and university sectors. The report praised the partnership's many achievements during the past 2.5 years.

"Importantly, the DAFF–QAAFI initiative is facilitating the government's objective of deliberate planning and harnessing of innovation through science and technology to make Queensland a world leader in agricultural production," the reviewers' noted.

"It is also giving focus to improving competitiveness and the building of export opportunities for food and agriculture, and ensuring that agriculture is a central pillar of the Queensland economy. The integration of new technologies into Queensland farming systems is already apparent."

The review also noted that many of the original objectives built into the DAFF–QAAFI model have borne fruit. These include:

- Accessing more diversified sources of research funding
- Allowing scientists better access to higher-degree students (which traditionally increases scientific output)
- Enhanced global connectivity
- Strong regional linkages.

The contribution QAAFI now plays in the long-term development and retention of early career scientists in agriculture and bioscience was highly praised.

"For example, QAAFI has already employed more than 25 early career scientists into areas of beef genetics and genomics, animal health, plant pathology and winter cereal breeding," the report stated.

Since January 2013, QAAFI has enrolled more than 70 postgraduate students. Clearly, QAAFI is creating opportunities for trainee and early career research scientists with long-term benefits to Queensland. Indeed, according to the Foursight report, the DAFF – QAAFI model is such an efficient example of 'contestability' and 'outsourcing' that it should be seen as a case study for any future government/university amalgamations.



RELATIONSHIPS WITH FUNDING BODIES

QAAFI's strong relationships with organisations such as CSIRO, Bill & Melinda Gates Foundation, Grains Research & Development Corporation, and our success in attracting ARC Discovery and Linkage Grants, did not go unnoticed. Similarly UQ's growing strength as a leader in agriculture science (ranked 1 in Australia and ranked 7 internationally) has been assisted by QAAFI's work on developing drought-tolerant sorghum; a more productive northern beef herd, and protecting Australian horticulture from pests and diseases.

But what of our weaknesses you might ask? Yes, the review suggested six ways to strengthen our communications, and made eleven recommendations about how we might improve governance and strengthen performance. We are currently working to implement each of these recommendations.

On balance, however, these adjustments do not detract from what can only be interpreted as a very favourable and encouraging report. QAAFI will continue to pursue high-impact science for sustainable agriculture and food to benefit the people of Queensland.

Professor Robert Henry

Director, QAAFI

October 2013

RIGHT: Minister for Agriculture, Fisheries and Forestry John McVeigh (left) with Dr Tim O'Hare at Gatton on 12 Dec 2013.



QAAFI annual research meeting 2013

MORE than 150 delegates attending QAAFI's annual research meeting (ARM) heard that the institute is set to expand its research connections with North America, India and China.

The ARM is typically an opportunity for research scientists to exchange ideas and meet with senior members of DAFF, QAAFI's alliance partner.

QAAFI Director, Professor Robert Henry outlined his vision for the institute, which he said had rapidly expanded from its foundation group to encompass a \$70 million annual budget, which looked set to increase.

In addition, in early 2013, the institute relocated its administrative headquarters to UQ's Queensland Bioscience Precinct, itself a national locus for advances in molecular and genomic science.

"Last year, UQ was seventh in the world for agriculture science, and number one in Australia," Professor Henry said.

"We need to focus on high-value niche markets; to operate at a more global level,

and with increased international collaboration," he said.

By continuing to build on international research links with China, India, Indonesia, Brazil and North America, QAAFI expected to be a world leader in efforts to increase agriculture productivity and sustainability.

"The Queensland-China links in agriculture are likely to be supported by the state government and likely to grow," he said.

QAAFI already has postdocs working in China and USA, and plans are under way to establish a dedicated researcher in Brazil.

The 2013 annual research meeting featured 25 presentations and a panel discussion moderated by the high-profile Agriculture Scientist, Dr Chris Russell (best known perhaps for his regular appearances on ABC Television's *New Inventors*).

In another first for QAAFI, the conference expanded into the Twittersphere with the conference hashtag #QARM2013.■



(Appendix A)

Published articles and papers

Book

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Research Report

Collins, N., Everingham, J., Baumgartl, T., Vink, S., Rodriguez, D., Cavaye, J. et al. (2013) Energy resources from the food bowl: an uneasy co-existence. Identifying and managing cumulative impacts of mining and agriculture. : 1-92.

Thesis

Li, E. (2013) Characterization of environmental and genetic effects on sorghum starch structure and functional properties. .

Van Brunschot, S. (2013) Identification and invasion biology of virus and viroid diseases in tomato. .

Witt, T. (2013) The effect of the amylopectin molecular structures on the helical, crystalline and the crystalline-amorphous lamellar properties of native starch.

Wong, M. (2013) *Phyllosticta* species causing freckle disease of banana. .

RIGHT: Dr Lee Hickey and colleagues have discovered a fast way to develop a new strain of wheat that is resistant to stripe rust and pre-harvest sprouting.



(Appendix B)

QAAFI research scientists

DIRECTOR

Prof. Robert Henry

CENTRE DIRECTORS

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CNAFS – Prof. Mike Gidley

CAS – Prof. Stephen Moore

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BORRELL, Andrew PhD

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CHRISTOPHER, John PhD

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MITTER, Neena PhD

MORGAN, Jess PhD

NETZEL, Michael PhD

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RACHAPUTI, Rao PhD

RODRIGUEZ, Daniel PhD

RODRIGUEZ-VALLE, Manuel PhD

ROURA, Eugeni PhD

SHELAT, Kinnari PhD

SMYTH, Heather PhD

SOPADE, Peter PhD

STANLEY, Roger PhD

SULTANBAWA, Yasmina PhD

SWIFT, Prof. Roger

THOMAS, John PhD

TOPP, Bruce PhD

TURNI, Conny PhD

UNDERHILL, Steven PhD

VAN OOSTEROM, Erik PhD

WALKER, Steven PhD

WILLIAMS, Barbara PhD

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Affiliated Senior Research Fellow	Bruce D'Arcy	CNAFS
Affiliated Associate Professor	Christine Anne Beveridge	CPS
Affiliated Senior Research Fellow	Christopher Lambrides	CAS & CPS
Affiliated Senior Research Fellow	David Adamson	CAS & CNAFS
Affiliated Associate Professor	David Edwards	CAS & CPS
Affiliated Senior Research Fellow	David McNeill	All 3 Centres
Affiliated Professor	Dennis Poppi	CAS
Affiliated Research Fellow	Dianne Mayberry	CAS
Affiliated Senior Research Fellow	Doug George	CPS
Affiliated Associate Professor	Elizabeth Aitken	CPS
Affiliated Professor	Elizabeth Gillam	CPS
Affiliated Research Fellow	Emily Piper	CAS
Affiliated Senior Research Fellow	Erik van Oosterom	CPS
Affiliated Senior Research Fellow	Gunnar Kirchhof	CPS
Affiliated Research Fellow	Guta Bedane	CPS
Affiliated Professor	Ian Godwin	CNAFS & CPS
Affiliated Senior Research Fellow	Jacqueline Batley	CPS
Affiliated Professor	James De Voss	CAS
Affiliated Research Fellow	Jaquie Mitchell	CPS
Affiliated Professor	Jimmy Bottela	CPS
Affiliated Associate Professor	Joanne Meers	CAS
Affiliated Senior Research Fellow	Johannes Bernhard Wehr	CPS
Affiliated Senior Research Fellow	John Gaughan	CAS
Affiliated Professor	Jonathan Hill	CAS
Affiliated Research Fellow	Judy Cawdell-Smith	CAS & CPS
Affiliated Associate Professor	Kathryn Steadman	CNAFS & CPS
Affiliated Professor	Kaye Basford	CPS
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Affiliated Senior Research Fellow	Margaret Hardy	CAS
Affiliated Senior Research Fellow	Mark Dieters	CNAFS
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Affiliated Professor	Neal Menzies	CPS
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Affiliated Research Fellow	Olivia Wright	CNAFS
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Affiliated Associate Professor	Susanne Schmidt	CNAFS & CPS
Affiliated Associate Professor	Victor Galea	CPS
Affiliated Professor	Wayne Bryden	All 3 Centres
Affiliated Research Fellow	Xiuhua Li	All 3 Centres

RIGHT: PhD candidates, Karishma Mody and Anton Pluschke, with QAAFI Director, Prof. Robert Henry, after the candidates successfully participated in a preliminary round of the challenging Three Minute Thesis competition.



QAAFI adjunct appointments

Title	Name
Adjunct professor	Anthony (Tony) Blakeney
Adjunct Senior Fellow	Barry Blaney
Adjunct Professor	Prof. Blake Simmons
Adjunct Fellow	Bryan Simon
Adjunct Professor	Prof. Colin Wrigley
Adjunct Research Fellow	Dr Diane Ouwerkerk
Adjunct Associate Professor	Dr David Butler
Adjunct Senior Fellow	Dr David Poulsen
Adjunct Associate Professor	Dr Emma Mace
Adjunct Fellow	Dr Frances Shapter
Adjunct Fellow	Francesca Sonni
Adjunct Associate Professor	Dr Graeme Wright
Adjunct Senior Research Fellow	Dr Jagger Harvey
Adjunct Professor	Prof. John Skerritt
Adjunct Associate Professor	Dr Kevin Thiele
Adjunct Research Fellow	Dr Lisa-Maree Gulino
Adjunct Associate Professor	Dr Michael Mackay
Adjunct Senior Fellow	Dr Michael Netzel
Adjunct Senior Fellow	Richard Silcock
Adjunct Associate Professor	Dr Robert Eisemann
Adjunct Research Fellow	Dr Rosalind Gilbert
Adjunct Senior Fellow	Dr Santosh Taware
Adjunct Fellow	Dr Selina Ossedryver
Adjunct Associate Professor	Dr Slade Lee
Adjunct Professor	Prof. Scott Chapman
Adjunct Associate Professor	Dr Stephen Miller
Adjunct Research Fellow	Dr Wayne Jorgensen
Adjunct Associate Professor	Dr Zivile Luksiene



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