

QAAFI

Annual Report to the
Queensland Government



2012



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

QAAFI
Queensland Alliance for
Agriculture and Food Innovation

COVER: At a trial site near Dalby, DAFF Senior Experimentalist and Sorghum Breeder, Tony McCosker, checks a rain gauge as part of routine monitoring on a major new QAAFI–DAFF sorghum breeding program.



Working together with the
Queensland Government



ABOVE: QAAFI headquarters – located within the Queensland Bioscience Precinct at The University of Queensland.



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 now includes 65 full-time senior research-only staff, leading more than 100 support staff and an increasing number of research higher degree students – plus more than 50 outstanding researchers who have a close relationship with QAAFI as either an adjunct or affiliate.

Conceived as a strategic joint-initiative, QAAFI's expertise helps Queensland to capitalise on emerging research in areas such as genomics, biofuels 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



**Founding Director,
Queensland Alliance for
Agriculture and Food Innovation**
Professor Robert Henry



**Director, Centre For Animal
Science (CAS)**
Professor Stephen Moore



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



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



Director, Centre for Plant Science
Professor Graeme Hammer



Operations Manager
Melissa Glendenning



Message from the Director

After more than two years' operations, it is timely to reflect upon QAAFI's remarkable growth and achievement. The alliance that emerged as QAAFI in late 2010 now presents a widening range of benefits to the citizens of Queensland, the Queensland Government and The University of Queensland.

The institute's ability to surpass expectations is a credit to the dedication and commitment of QAAFI staff and students. It is interesting to explore how well QAAFI is performing using the different criteria used by UQ and the Queensland Government.



To benchmark our performance using UQ metrics, we compared our expected 2012 funding with that of six other UQ institutes. Indeed our research income for 2012 places us among the top two UQ research institutes (according to 2011 figures). Overall, two years into our first five years, QAAFI is on-track to record the highest research income per 'Full Time Equivalent' among UQ research institutes, and the highest Category 1 income per FTE.

World rankings in agriculture research

The latest performance ranking of scientific papers for world universities confirms UQ as the leading Australian university in agriculture research, underscoring QAAFI's strong growth and continuing collaboration with many other UQ research scientists.¹

UQ's World Ranking in Agriculture Research*			
Year	2010	2011	2012
World Ranking	25	16	12

In terms of agriculture research, the university continues to improve its international ranking. In 2011 it advanced from twenty-fifth in the world to sixteenth. By November 2012, UQ was among the top 12 agriculture research universities anywhere. This is a remarkable achievement and one the Queensland Government and UQ can be justifiably proud. The next placed Australian research organisation in the world's top 100 agriculture research centres is the University of Melbourne (41st).

Government metrics reflect equally well

QAAFI was established with about 10 per cent of the Queensland Government's agricultural research scientists. We now provide the state with a research institute that generates four times that original investment of human capacity. This growth has been achieved with the help of QAAFI direct employees and UQ affiliates. QAAFI has leveraged UQ and external sources to triple the pool of funding provided by the Queensland Government.

QAAFI is playing a major role in re-building Queensland's capacity to train scientists in both the agriculture and food sectors. Moreover, by enrolling our own students in 2013 we will soon boast twice as many RHD students as staff.

¹ The 2012 performance ranking of scientific papers for world universities released by the National Taiwan University.



Towards QAAFI's future growth

In 2012, QAAFI spearheaded a wide range of research programs:

- We worked with our alliance partner DAFF to establish a new group, along with CSIRO, to help boost the fortunes of the \$5 billion northern beef industry.
- Earlier in the year, we announced a \$9 million research project focused on improving fertility of the northern beef herd with cutting-edge genomics.
- We announced a new \$6 million five-year integrated project, funded by Horticulture Australia Ltd, to help safeguard the banana industry from the impact of serious endemic and exotic diseases. QAAFI is leading this project with additional expertise from UQ and DAFF.
- QAAFI is also leading an international team of researchers to develop nanovaccines for cattle diseases and cattle tick. Together these diseases cause \$340 million losses to the industry each year.
- Meanwhile the Queensland Government has committed an additional \$1 million to QAAFI for more research on biofuels.

QAAFI occupies a unique space in the international world of agriculture, food, fibre and animal science and we expect our growth to continue.

Professor Robert Henry

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



Key performance indicators – 2012

Performance Measure	Target	Achievement	Page
Number of refereed publications	90	91	42
Total grant income	\$8 M	\$23.3 M	7
Number of research consultancies	5	>33	14
Number of research higher degree (RHD) students	30	37	9
Number of RHD completions	10	17	13
Number of national/ state/local policy reports and industry/government briefings	25	28	17
Visitors to QAAFI of national and international profile	30	64	20
Number of memberships of national and international professional committees	13	53	24
Media profile (positive media events)	15	>74	28 (see also Appendix A)
Advice provided to a QG Minister or Department	10	11	37
Number of types (types to be presented descriptively) of new or improved technologies published	7	33	38
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).	High	<i>See report</i>	49



QAAFI consolidated income and expenditure ^{*}

	Consolidated	YTD Actuals
	<u>REVENUE</u>	
	External Revenue	2012
External Revenue	Aust. Gov Financial Assistance	568,055
	Qld Government Funding	0
	Tuition Fees	123,890
	Research Income	21,277,477
	Investment Income	1,212
	Scholarships and Prizes	111,503
	Donations and Bequests	105,000
	Consultancies, Contract & Serv	681,280
	Other Revenue	295,782
	Trading Revenue	147,703
External Revenue	Total External Revenue	23,311,901
Internal Allocations	Total Internal Allocations	3,103,157
TOTAL REVENUE		26,415,058
	<u>EXPENDITURE</u>	
	Academic Salaries	2012
Academic Salaries	Salaries - Academic	8,189,465
	Salaries - Academic Casual	1,953
Academic Salaries	Total Academic Salaries	8,191,418
	General Salaries	2012
General Salaries	Salaries - General	2,298,860
	Salaries - General Casual	497,012
General Salaries	Total General Salaries	2,795,871
	Other Employment Costs	2012
Other Employment Costs	Salary Reimbursements	29,178
	Staff App Develop & Health Cst	13,370
Other Employment Costs	Total Other Employment Costs	42,548



	Other Expenditure	2012
Other Expenditure	Consumables	2,145,670
	Services	4,068,604
	Marketing & Advertising	8,465
	Equipment	954,461
	Telecommunications	62,737
	Travel & Hospitality	952,573
	Properties & Insurances	1,939
	Scholarships & Prizes	473,412
	Collaborative Projects	4,757,242
	Financial Costs & Taxes	25,240
	Depn Amortisation & Impairment	0
	Total Other Expenditure	13,450,342
TOTAL EXPENDITURE		24,480,179
	Operating result	1,934,879
Equity		2012
	Carry forward	4,873,539
Accumulated Position		6,808,418

*** DEFINITIONS**

Australian Government financial assistance	support from the Australian Federal Government
Tuition fees	fees an overseas or domestic student pays for each program or course (if not supported by Australian Government funding)
Research income	includes all income from external sources, including DAFF
Scholarships and prizes	awarded to students funded by external parties
Donations and bequests	grants, contributions, donations and gifts that are non-reciprocal in nature
Consultancies	revenue for delivery of services to an external customer
Other revenue	various income including refunds and reimbursements for staff activities conducted on behalf of other organisations
Trading revenue	income from sales of goods, and fees for services provided
Corporate Allocations	\$1.05 M strategic allocation to QAAFI from UQ in 2012
Operating level allocations	allocations made internally for salaries, general support and new staff research grants



Research higher degree students

In 2012, twenty QAAFI researchers were principal advisors to 37 Research Higher Degree students. In addition, five students successfully completed their PhD studies (see below). Professor Robert (Bob) Gilbert continues to dominate the QAAFI RHD program, supervising six PhD research projects at the Centre for Nutrition and Food Sciences.

Last Name	First Name	Project Title	Advisor Role	Advisor Name	Advisor School
Benet Duran	Iu	Analytical and sensorial evaluation of cooked ham volatiles in an oral system. The role of saliva.	Principal	Dr Eugeni Roura	QAAFI
Comino	Penelope	Effect of cereal processing on the solubility of dietary fibre	Principal	Prof. Mike Gidley	QAAFI
Do	Trung Kien	Investigation of disease resistance mechanisms in mango and related species.	Principal	Dr Elizabeth Dann	QAAFI
Doungsaard	Chanintorn	Taxonomy and co-evaluation of rust fungi (Uromycladium and Racospermyces) on Acacia spp. in Australia based on morpho-logical, molecular and biological studies	Principal	Dr Andrew Geering	QAAFI
Gous	Peter	Understanding abiotic stress impacts on cereal starch structure and value-added quality through genetic & environmental screening	Principal	Prof. Robert Gilbert	QAAFI
Han	Mingxia	Carotenoid bioavailability related to molecular organisation	Principal	Prof. Mike Gidley	QAAFI
Han	Pengfei	The Australian pork meat flavour: the flavour wheel, retro-nasal release and satiety	Principal	Dr Eugeni Roura	QAAFI
Harteveld	Dalphy Ondine Camira	Etiology and diversity of <i>alternaria</i> leaf blotch and fruit spot of apples in Australia	Principal	Dr Andre Drenth	QAAFI
Hay	Karen	Epidemiology of Bovine Respiratory Disease in feedlot cattle in Australia; an analysis of risk factors, burden of disease and financial impact on the beef cattle industry	Principal	Dr Tamsin Barnes	QAAFI



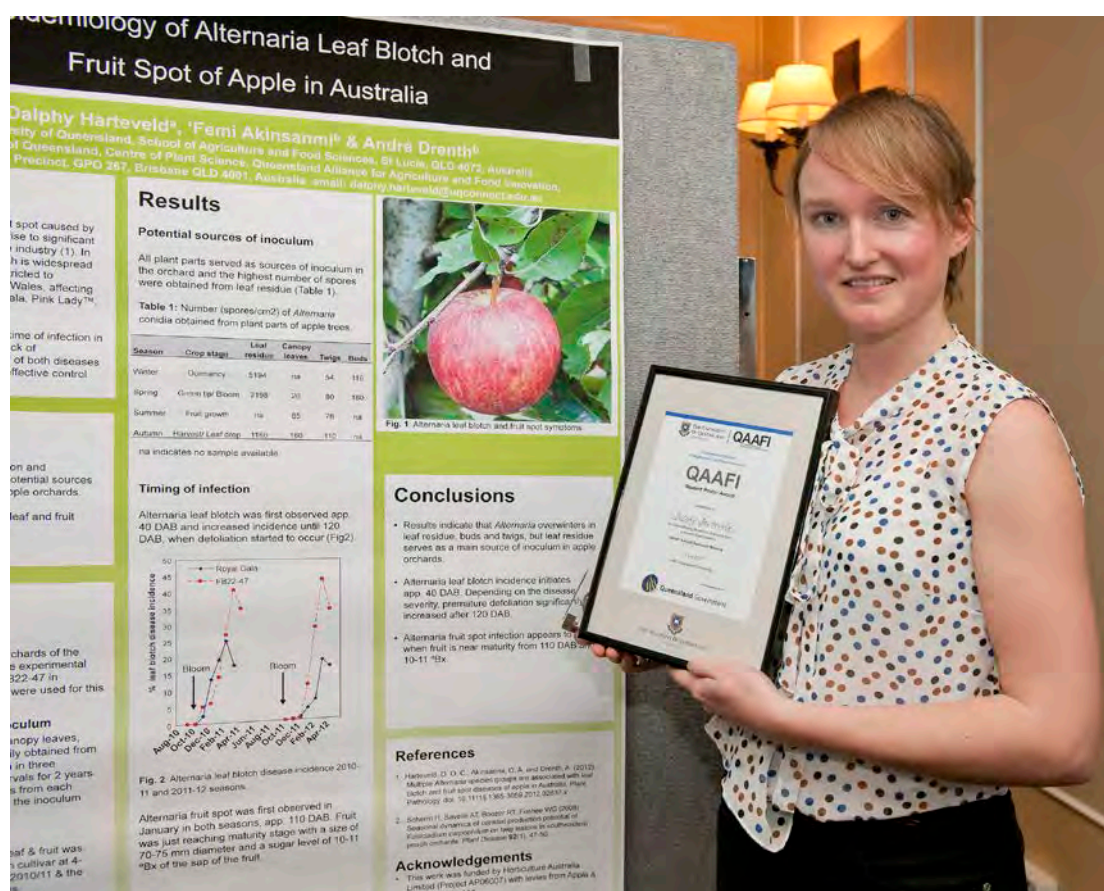
Hunt	Colleen	Statistical analysis of sorghum breeding trials with complex genetic components	Principal	Dr David Jordan	QAAFI
Khairul Ikram	Emmy Hainida	Evaluation of potential health benefits of different papaya cultivars selected <i>in-vitro</i> assays	Principal	Dr Michael Netzel	UQ Grad School – QAAFI, Senior Adjunct Fellow
Li	Cheng	Development of plants with starch structures for improved digestion characteristics	Principal	Prof. Robert Gilbert	QAAFI
Li	Ming	Processing-structure-property relationships of starch-based polymers	Principal	Prof. Robert Gilbert	QAAFI
Low	Yanwen	Nutrient availability from tropical fruits studied <i>in-vitro</i> and <i>in vivo</i>	Associate	Dr Barbara Williams	QAAFI
Mann	Krinpreet	Molecular characterisation of the nucleoprotein, phosphoprotein and 4B viral proteins of Lettuce necrotic yellows virus in both plant host and insect vectors	Principal	Dr Ralf Dietzgen	QAAFI
Mindaye	Taye Tadesse	Genotypic variability and combining ability study of sorghum [<i>Sorghum bicolor</i> (L) Moench] inbred lines and multi environment evaluation of their derived hybrids	Principal	Dr David Jordan	QAAFI
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	QAAFI
Navarro Gomez	Marta	Improving quality and safety of poultry meat with synergistic combinations of bioactive plant extracts	Principal	Dr Yasmina Sultanbawa	QAAFI
Neilsen	Merran	Mechanisms of cultivar-and race-based disease resistance in avocado	Principal	Dr Andre Drenth	QAAFI
Nguyen	Tuyet Giang	Dependence of digestion and growth rate of pigs on taro (<i>Colocasia esculenta</i>) foliage	Principal	Dr Peter Sopade	QAAFI



Nhantumbo	Nascimento Salomao	The effects of residue management strategies on nitrogen and water use efficiency in Maize-Legume cropping systems	Principal	Dr Daniel Rodriguez	QAAFI
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	UQ Grad School
Phan	Anh Dao	Mango wine processing: Influences of enzyme treatments and processing steps on volatile aroma compounds and sensory quality	Associate	Prof. Mike Gidley	QAAFI
Pluschke	Anton	Fibre effects on enzyme action in the small intestine <i>in-vitro</i> and <i>in vivo</i>	Principal	Prof. Mike Gidley	QAAFI
Powell	Jonathan	Identifying sources of resistance to Fusarium diseases using the model plant <i>Brachypodium distachyon</i>	Principal	Prof. Robert Henry	QAAFI
Reyes Ponce	Andres	The physiological basis of genetic improvement in maize yield in the UQ Corn Belt	Principal	Prof. Graeme Hammer	QAAFI
Schibrowski	Meghan	Role of Mycoplasma bovis in respiratory disease of Australian feeder cattle	Principal	Dr Tamsin Barnes	QAAFI
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	QAAFI
Sharman	Murray	Diversity and epidemiology of Tobacco streak virus in Australia	Principal	Dr John Thomas	QAAFI
Sullivan	Mitchell	Biosynthesis and biodegradation of glycogen	Principal	Prof. Robert Gilbert	QAAFI
Sunarharum	Wenny-Bekti	The compositional basis of coffee flavour	Principal	Dr Heather Smyth	QAAFI
Tefera	Abeya Temesgen	Understanding the opportunities from conservation agriculture in sub-humid maize-legume farming systems of Ethiopia	Principal	Dr Daniel Rodriguez	QAAFI



Wang	Kai	Relations between starch biosynthesis and structure	Principal	Prof. Robert Gilbert	QAAFI
Wu	Chung-Chi	Theory of the biosynthesis and biodegradation of starch and glycogen	Principal	Prof. Robert Gilbert	QAAFI
Xu	Tao	Optimisation of the expression of Rhipicephalus (Boophilus) microplus antigens in Pichia pastoris yeast	Principal	Dr Manuel Rodriguez Valle	QAAFI
Zhai	Honglei	In vivo and in vitro studies of cereal grain effects on lipid metabolism	Principal	Prof. Mike Gidley	QAAFI
Zhang	Bin	Structure-digestibility relationship of starch: the influence of local density of starch chains	Principal	Prof. Mike Gidley	QAAFI



ABOVE: Dalphy Harteveld, winner of the Student Poster Award at the 2012 QAAFI annual research meeting.

Research higher degree completions

Centre	Last name	First name	Project title	Principal
CNAFS	Peng	En	The study of relations of biosynthesis, structure and properties of starches from sorghum	Prof. Robert Gilbert
CPS	Alam	Mohammad Mobashwer	Genetic mapping and modelling of tillering in Sorghum	Prof. Graeme Hammer
CNAFS	Zainul Abidin	Syhariza aka Riza	Understanding relationships between structure and digestibility properties of cooked rice grains	Prof. Robert Gilbert
CNAFS	Meng-Wong	Taing	Use of high throughput techniques in the assessment of nutritional mango extracts	Prof. Mike Gidley (Joint Principal)
CNAFS	Gunness	Purnima	Mechanisms behind the cholesterol-reducing effect of cereal soluble dietary fibres: (1,3:1,4) beta glucan & arabinoxylan	Prof. Mike Gidley

Centre	Last name	First name	Associate advisor
CPS	Anderson	Jay Maree	Dr Liz Dann
CAS	Carr	Margaret Leigh	Dr Geoffry Fordyce
CNAFS	Gunness	Purnima	Prof. Mike Gidley
CPS	Gursanscky	Nial Rau	Dr Neena Mitter
CNAFS	Hoerudin	Dede	Prof. Mike Gidley
CPS	Horton	Jessie	Dr Roger Swift
CPS	Manson	Daniel	Prof. Jim Hanan
CNAFS	Padayachee	Anneline	Prof. Mike Gidley
CPS	Robinson	Travi	Dr Roger Swift
CAS	Sinclair	Stephanie	Dr Carol Petherick
CPS	Spolc	David John	Prof. Jim Hanan
CNAFS	Wang	Dongjie	Dr Barbara Williams



Research consultancies conducted

EXECUTIVE SUMMARY

*IN 2012, QAAFI research scientists reported more than **33 consultancies** to industry across the plant, animal, nutrition and food sectors. Particularly noteworthy is an invitation extended to Principal Research Fellow Dr David Jordan to attend a meeting of world experts gathered in California to discuss the use of plant genomics to improve crop species.*

The Queensland beef industry continues to benefit from QAAFI's scientific expertise in terms of genetic selection and nutrition. Other major beneficiaries include growers of both sorghum and bananas.

Sector	Consultancy	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Invited by the Indian Society of Plant Physiology to deliver a plenary lecture and visit the Directorate of Sorghum Research, Hyderabad, Dec 2012 	Dr Andrew Borrell
	<ul style="list-style-type: none"> 'Crop Wild Relatives Genomics: a Key to Unlocking Diversity' – invitation-only meeting of experts run by the global diversity trust to discuss the potential of using genomic information to extract value from wild relatives of crop species. Asilomar, California USA 	Dr David Jordan
	<ul style="list-style-type: none"> Invitation-only meeting to launch the 'seeds of discovery' project in Mexico. Invited to act as a consultant to one of the planning sessions 	
	<ul style="list-style-type: none"> Invited to visit and make an in-house presentation to the agricultural development group: 'Integrated Crop Improvement of Sorghum', Bill & Melinda Gates Foundation, Seattle, USA 	
	<ul style="list-style-type: none"> 'Biomass for the Future': a Stimulus Initiative Project for the development of lignocellulosic biomass value chains in France. Invited to become a member of the Scientific Advisory Board 	
	Invited presentations	
	<ul style="list-style-type: none"> Invited speaker – Translational Genomics in Sorghum, a Climate-Resilient Crop: International Sorghum Genomics Workshop. Atlanta, Georgia. Presentation: 'A Genetic Analysis of Complex Traits Populations and Phenotyping' 	
	<ul style="list-style-type: none"> Member – advisory board, Regional Crop Prediction, Agri Food Canada 	Dr Andries Potgieter



ANIMAL SCIENCE

- Invited to review team for the School of Plant Biology at the University of Western Australia. **Prof. Graeme Hammer**
- Australian Centre for International Agricultural Research (ACIAR) commissioned consultancy on 'Analysis of Legume value Chains in Eastern Indonesia' (with Collin Higgins group), Oct 2012 **Dr Rao Rachaputi**
- ACIAR, 'Animal health research in Timor-Leste', Jan 2012 **Dr Geoffry Fordyce**
- S Kidman & Co, 'Bull selection and management', Feb 2012
- MLA, 'Cattle welfare assessment', Aug 2012
- Analyses and expression of cattle antigens in yeast and bacterial expression systems – Virbac Australia **Dr Tim Mahony**
- 'Phosphorus and non-protein nitrogen decision support system: feasibility assessment and technical specifications'. Sub-contracted to Holmes and Co., primary investigator for MLA **Dr Stuart McLennan**
- Involved in a project led by QAAFI's Dr Rob Dixon (Easy management of phosphorus nutrition) **Dr Carol Petherick**
- Pork CRC, South Australia Pork Industry Day seminar, Roseworthy (SA) **Dr Eugeni Roura**
- Ajinomoto, food additive company (Japan)
- Lallemand, food additive company (France)
- Lucta Guangzhou, feed additive company (China)
- Animalesweb S.L. Online pig science magazine (www.3tres3.com; www.pig33.com)
- Percepnet S.L. Online technical publications on sensory topics (www.percepnet.com)
- Provided serovar profiling consultancy services on eleven farms for *Haemophilus parasuis* **Dr Conny Turni**

HORTICULTURE

- Visited Cenipalma, Colombia, to provide advice on research needs and solutions for a dieback problem in oil palms, Sep 2012 **Dr Andre Drenth**
- Consultancy services to the Queensland-owned and operated company 'Propagation Australia'. Petunia and poinsettia nuclear stock was tested for tomato yellow leaf curl virus so Propagation Australia could meet the conditions of its export permit to Western Australia **Dr Andrew Geering**
- Consultant to Hokkaido Electric Power Company, Japan **Prof. Roger Swift**
- Consultant to Horticulture Australia Ltd
- DAFF (Federal) – Singapore/Indonesia, diagnostic operations, surveys **Dr John Thomas**
- Bioversity International – banana virus indexing
- Bioversity International – diagnostic antiserum production
- Member – Nestle Australia Science Advisory Group **Prof. Mike Gidley**

FOOD & NUTRITION SCIENCES

- Mars Food – understanding the effect of processing on properties of a condiment product (Promite) **Dr Jovin Hasjim**
- Consultant to Essential Oils of Tasmania, investigating antimicrobial activity of Tasmanian pepper leaf and berry extracts, Aug 2012 **Dr Yasmina Sultanbawa**
- Proof of concept study – Woods Grain Milling, Adding value to by-products generated from the processing of legumes. DAFF-led consultancy, Dec 2012
- Two briefing documents for a new bio-fertiliser production company **Prof. Roger Swift**

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

EXECUTIVE SUMMARY

With more than twenty-eight industry/government briefings throughout the year, QAAFI research scientists continue to enjoy growing recognition and acceptance in their respective sectors. The institute's strengths in broad-acre cropping are an obvious asset. Other strengths include horticulture and the development of native foods.

Sector	Briefing or report	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Two grains industry briefings to determine research priorities for soil-related R&D. Workshops were conducted to set national and regional (northern Australia) research funding priorities and capacity requirements. 	Dr Mike Bell
	<ul style="list-style-type: none"> Represented UQ at a planning workshop for the Australian International Food Security Centre, 23–24 Jan 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Contributed to a Grains Research Priority Paper with the Western Downs and Maranoa Research Advisory Committee, 19 March 	
	<ul style="list-style-type: none"> Addressed growers and advisors in central Queensland concerning frost and related problems in wheat crops that season, leading to several media reports, Sep 2012 	Dr Jack Christopher
	<ul style="list-style-type: none"> Industry briefing at Northern Region Barley Advisory committee 	Dr Glen Fox
	<ul style="list-style-type: none"> Contributed to the Feed Grain Partnership (FGP) forum designed to bring together representatives of key sorghum plant breeding organisations, related animal and plant scientists and key intensive animal industry nutritionists. 	Dr David Jordan
	<ul style="list-style-type: none"> Briefed the Queensland Grain Research consultative meeting on sorghum breeding. 	
	<ul style="list-style-type: none"> Monthly regional commodity crop outlooks for both sorghum and wheat 	Dr Andries Potgieter
	<ul style="list-style-type: none"> Final report, GRDC project, 'Agronomic Packages for Improved Yield and Quality in the Aust Peanut Industry' 	Dr Rao Rachaputi
	<ul style="list-style-type: none"> Final report, ACIAR commissioned consultancy, 'Eastern Indonesia agribusiness development opportunities-analysis of legume value chains' 	
	<ul style="list-style-type: none"> Annual report, ACIAR project, 'Enhancing productivity and profitability of Tropical pulses in Indonesia and Australia' 	

ANIMAL SCIENCE

- Invited speaker presentation: 'Archaeophage, methanotrophs and feed additives to reduce emissions', Reducing Emissions from Livestock Research Program, program update. Canberra, ACT. March 2012
- Invited speaker presentation 'Animal agriculture and carbon emissions', Carbon Farming Initiative Roadshow, Warwick, Queensland. (Australian Government), Sep 2012
- Presentation at 'Pain workshop' organised by MLA, Jan 2012
- Organised seminar and speakers for Beef 2012 (national/international). Speakers including Dr Petherick presented scientific, animal welfare organisation and industry perspectives on cattle welfare.
- Scientific presentation at international forum, Vienna
- Scientific presentation at national forum, Melbourne

Dr Athol Klieve

**Dr Carol
Petherick**

HORTICULTURE

- Keynote address about the cause of budrot in oil palm at the International Oilpalm Conference in Cartagena, Colombia, Sep 2012
- Disease Management in Macadamia. Final report to Horticulture Australia. Dr Olufemi A. Akinsanmi & Assoc. Prof. Andre Drenth, The University of Queensland, Brisbane, Sep 2012
- Predicting the Benefits of Banana Bunchy Top Virus Exclusion from Commercial Plantations in Australia, Author(s): Cook, David C.; Liu, Shuang; Edwards, Jacqueline; et al. Source: Plos One Volume: 7 Issue: 8 Published: 7 Aug 2012
Economic returns from fungicide application to control husk spot of macadamia in Australia is influenced by spray efficiency, rates and costs of application Author(s): Akinsanmi, Olufemi A.; Drenth, Andre Source: Crop Protection Volume: 41 Pages: 35-41, Nov 2012
- Akinsanmi OA and Drenth A (2012) Phytophthora management, Australian macadamia industry, MacGroups at six locations in Qld and NSW
- Research update on Alternaria leaf blotch and fruit spot of apples in Australia, Dalphy Harteveld and A/Prof. Andre Drenth, Nov 2012
- Alternaria leaf blotch and fruit spot on apples in Australia. Dalphy Harteveld, Femi Akinsanmi and Andre Drenth. Fruit West Magazine. Summer 2012, 30-32
- Briefing of macadamia and sweetcorn biofortification projects to National Macadamia Industry board meeting, Eco Science Precinct, 7 Aug 2012 diseases on food security
- Member of a high-level UQ delegation to India, Dec 2012

Dr Andre Drenth

Dr Tim O'Hare

Dr Neena Mitter

FOOD & NUTRITION SCIENCES

- Member of Food Industry Strategy Group (DIISRTE) – final report delivered Sep 2012
- Member of National Food and Nutrition Leaders Forum
- Hosted the Australian Native Food Industry Forum on the 2013–2018 R&D Plan, and the Annual General Meeting by CNAFS/QAAFI at HFSP, Coopers Plains, 12 Nov 2012

Prof. Mike Gidley

Dr Yasmina Sultanbawa



ABOVE: Premier Campbell Newman (centre) meets with the UQ Vice-Chancellor Professor Peter Høj (left) and QAAFI Director Professor Robert Henry at launch of the Northern Beef Research Alliance.

Visitors of national and international profile

EXECUTIVE SUMMARY

The growing list of distinguished scientists and visitors beating a path to QAAFI is certainly encouraging. The bilateral nature of these visits injects additional intellectual capital into research programs and often leads to subsequent development of research student interest from the visiting country. Leading countries to date include: USA, Africa, China, India and Japan.

Sector	Visitor	QAAFI Link
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> ▪ Dr Sidi Coulibaly and Dr Niaba Teme – Institut Economie Rurale, Mali, 6-23 Feb 	Dr Andrew Borrell
	<ul style="list-style-type: none"> ▪ Sudanese visitors, including State Governor and State Minister for Agriculture, 21 Feb 	
	<ul style="list-style-type: none"> ▪ Dr Tom Hash – International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Niger, 12 June 	
	<ul style="list-style-type: none"> ▪ Visitors from about 10 African nations (AusAID), 20 July 	
	<ul style="list-style-type: none"> ▪ Dr Sidi Coulibaly and Dr Niaba Teme – leaders of the Malian sorghum improvement program 	Dr David Jordan
	<ul style="list-style-type: none"> ▪ Dr Tom Hash – Principal Scientist, sorghum and millet improvement at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) 	
	<ul style="list-style-type: none"> ▪ Dr Inigo Auzmendi – Charles Sturt University 	Dr Jim Hanan
	<ul style="list-style-type: none"> ▪ Roberto Tuberosa – Professor in Biotechnology Applied to Plant Breeding Department of Agroenvironmental Sciences and Technology University of Bologna, Italy, 31 Jan 2012 	Prof. Robert Henry
	<ul style="list-style-type: none"> ▪ Mr Thomas Hicks – Deputy Assistant Secretary of the US Navy for Energy, 6 Feb 2012 	
	<ul style="list-style-type: none"> ▪ Mr Chris Tindal, Director for Operational Energy, US Navy, 8 March 2012 	
	<ul style="list-style-type: none"> ▪ Dr Renu Swarup, Adviser, Dept of Biotechnology, Govt. of India, 12–13 April 2012 	
	<ul style="list-style-type: none"> ▪ Hosted the 'Second Australian Wild Rice Symposium', which included Professor Rod Wing (University of Arizona) and Dr Ryuji Ishikawa (Hirosaki University), 26 June 2012 	
	<ul style="list-style-type: none"> ▪ Indonesian ACIAR delegation visited QAAFI, 27 July 2013 	
	<ul style="list-style-type: none"> ▪ Visit by members of the Columbian based International Centre for Tropical Agriculture (ICTA) Attendees: Ruben Echeverria (Director General), Rod Lefroy (Regional Research Coordinator in 	



Asia) **Deborah Bossio** (Director of Soils Research), 15 Nov 2012

- **David Ingham** – Canadian high commission office, science and technology and food and agriculture sector
- Hosted Dr He Yingbin from the Chinese Academy of Agricultural Sciences and organised seminar
- **Dr V. K. Baranwal** – Principal Scientist, Indian Agricultural Research Institute, Pusa, New Delhi
- **Dr Renu Swarup** – Adviser, Ministry of Science & Technology, Department of Biotechnology, Government of India
- **Dr Bary Tillman**, Peanut Breeder, University of Florida, USA, Dec 2012 – June 2013
- **Dr Chari Kandala**, Ag Engineer, USDA-ARS National Peanut Research Lab, Dawson, USA, May 2013
- **Dr Peter Horne**, Research Program Manager, Australian Centre for International Agricultural Research, ACIAR, Aug, 2013
- **Kassie Menale**, International Maize and Wheat Improvement Centre (CIMMYT), Kenya
- **Mulugetta Mekuria**, CIMMYT, Zimbabwe
- **John Dixon**, Australian Centre for International Agricultural Research (ACIAR), Australia
- **Heng Qiao**, University of Finance and Economics, Beijing, China
- **Isabel Cachomba**, Mozambique Institute for Cotton Research (IAM) Mozambique
- **Adam Bekele**, Ethiopia Institute of Agricultural Research (EIAR), Ethiopia
- **Dr Martins Odendo**, Kenya Agricultural Research Institute, Kenya
- **Shadrack Mbapila**, Tanzania
- **Tilak Mallawaarachchi**, Australian Bureau of Agricultural and Resource Economics (ABARE), Australia
- **Prof. S Powles**, UWA

**Dr Andries
Potgieter**

Dr Neena Mitter

**Dr Rao
Rachaputi (RCN)**

**Dr Daniel
Rodriguez**

Dr Steve Walker

ANIMAL SCIENCE

- **Dr Clarissa Domingo**, Central Luzon State University, Philippines
- **Dr Susan Lola**, Philippines Animal Health Center, Quezon City, Philippines
- **Dr Lilia Rettes**, Philippines Animal Health Center, Quezon City, Philippines
- **Dr Karen Dazo**, Bureau of Animal Industry, Quezon City, Philippines
- **Dr Alex Eggen**, MSD, Boxmeer, The Netherlands
- The International Society for Animal Genetics (ISAG) conference, in Cairns, made it possible to meet with many internationally renowned animal geneticists and collaborators such as: **Michael Goddard** (Vic, Australia), **Luciana Regitano** (EMBRAPA, Brasil), **Rogério Curi** (Unesp, Brazil), **Christa Kühn** (Leibniz Institut FBN, Germany), **Paul Boettcher** (FAO, Italy) and **Han Jianlin** (ILRI, China).

Dr Pat Blackall

Dr Marina Fortes

- **Prof. Adegbola T. Adesogan** – Dept. Animal Sciences, University of Florida, USA
- **Prof. Thakshala Seresinhe** – Dept. Animal Science, University of Ruhuna Mapalana, Kamburupitiya, Sri Lanka
- **Prof. David Gally** – Professor of Microbial Genetics, The Roslin Institute, R(D) SVS, Uni of Edinburgh, UK
- The Honourable **John McViegh MP** – Minister for the Department of Agriculture, Fisheries & Forestry (DAFF)

Dr Athol Klieve

Dr Tim Mahony

- **Dr Alison Small** – animal welfare expert, CSIRO, Armidale
- Several high-profile speakers were invited to attend the Beef 2012 forum e.g. **Melina Tensen** Scientific Officer RSPCA Australia, **Justin Toohey** and **Peter Hall** from the Australian Cattle Council, **Dr John Henshall**, a CSIRO scientist with national profile, and **Dr Jim Rothwell**, Manager Sustainability R&D at Meat and Livestock Australia.

Dr Carol Petherick

HORTICULTURE

- **Assistant Professor Chi-Wei TSAI**, National Taiwan University (UQ Travel Award)
- **Dr Gerardo Martínez López**, Coordinador Programa de Plagas y Enfermedades, Cenipalma
- **Dr Hernán Mauricio Romero**, Coordinador Programa de Biología y Mejoramiento Cenipalma, Associated Professor of Plant Physiology, Department of Biology, National Uni of Colombia.

Dr Ralf Dietzgen

Dr Andre Drenth

FOOD & NUTRITION SCIENCES

- **Terry Bacon**, Director of Variety Development, SunWorld International, Bakersfield CA, USA **Dr Bruce Topp**
- **Dr Plutarco Elias Ramos Echegoyan** Plant Protection Specialist, International Regional Organization for Plant and Animal Health (OIRSA), El Salvador **Dr John Thomas**
- Prof. James Brewbaker – University of Hawaii. Sweetcorn project proposal planning and review meeting. Gatton Qld, Jan 2012 **Dr Tim O'Hare**
- **Hon. John McVeigh MP** – Minister for the Department of Agriculture, Fisheries & Forestry, Gatton campus visit, July 2012
- **Prof. Doug Goff** – Food Science Program, University of Guelph, Canada **Prof. Mike Gidley**
- **Prof, Barry McCleary** – CEO, Megazyme Ltd
- Vice-Chancellor – Huazhong University of Science & Technology (China) **Prof. Robert (Bob) Gilbert**
- Visiting scientist (3 months) – **Dr MDolors Guardia**, Research Fellow, Meat Scientist from research institute IRTA, Monells, Catalonia, Spain **Dr Eugeni Roura**
- **Dr Yada Treesukosol** – Post-doctoral fellow at Johns Hopkins University, School of Medicine, USA
- **A/Prof. Russell Keast** – Food Scientist, Deakin University
- **Dr Toshifumi Imada** – Umami R&D Manager at Ajinomoto North America
- **Prof. Bernd Weber** – Neuroscientist, Bonn University, Germany
- **Prof. Donald Sparks** – University of Delaware, USA **Prof. Roger Swift**
- **Prof. Michael Hayes** – University of Limerick, Ireland
- **Philip Moore** – CEO, Biotel Industries, Malaysia
- **Dr P Faigl** – Palm Oil Industry Expert, Jakarta, Indonesia
- **Prof. Ravi Naidu** – CEO, CARE-CRC, Adelaide
- **Prof. Hasan Ali Alzahrani** – Chairman of the Mohammad Hussein Al-Amoudi Chair for Diabetic Foot Research, Faculty of Medicine, King Abdulaziz University, Saudi Arabia

Membership of national and international professional committees

EXECUTIVE SUMMARY

ONE of QAAFI's many strengths is the strong presence QAAFI research staff members enjoy on national and international scientific committees – particularly in agriculture. QAAFI's representation on the editorial committees of many peer-reviewed scientific journals is indeed noteworthy.

Sector	Role	Research scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Member – national network of technical specialists developing improved fertiliser use guidelines for the grains industry 	Dr Mike Bell
	<ul style="list-style-type: none"> Member – local organising committee, InterDrought-IV Conference, Perth, Australia, Aug 2013 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Treasurer –Wheat Breeding Society of Australia 	Dr Jack Christopher
	<ul style="list-style-type: none"> Member – Central Queensland Research Advisory Committee 	Dr David Jordan
	<ul style="list-style-type: none"> Member – organising committee, Second Australian Summer Grains Conference & head of the program committee 	
	<ul style="list-style-type: none"> Advisory board member – Australian Plant Phenomics Facility (Canberra and Adelaide) 	Prof. Graeme Hammer
	<ul style="list-style-type: none"> Advisory board member – European Plant Phenomics Facility (Julich, Germany) 	
	<ul style="list-style-type: none"> Scientific advisory committee member – International Research Institute for Climate and Society (Columbia Univ, USA) 	
	<ul style="list-style-type: none"> Member scientific advisory board of the French "AMAIZING" project (Breeding for economically and environmentally sustainable varieties: an integrated approach from genomics to selection) 	
	<ul style="list-style-type: none"> Chair – International Program Committee, Interdrought-IV, 4th International Conference on Integrated Approaches to Improve Crop Production Under Drought Prone Environments, Perth 2013. This committee developed the scientific 	



program and suggested invited speakers for the conference

- Advisory committee – Plant Breeder's Rights
- Australian Research Council College of Experts
- Senior editor – Plant Technology
- Associate editor – Tropical Plant Biology
- Associate editor – Conservation Genetics
- Member – National Integrated Weed Management Initiative
- Member – Australian Glyphosate Sustainability Working Group
- Member – Council of Australasian Weed Societies
- Member – Executive committee, Asian-Pacific Weed Science Society

Prof. Robert Henry

Dr Steven Walker

BELOW: Mr Graham Anderson (left) from Andersons Horticulture meets with Dr Andre Drenth at the QAAFI annual research meeting. Dr Drenth leads a team developing a comprehensive research program aimed at protecting Australia's \$450 million banana industry.



ANIMAL SCIENCE

- Member – Chicken Meat Research and Development Advisory Committee **Dr Pat Blackall**
- Member – organising committee, International Pasteurellaceae Conference 2014, Prato 2014
- Member – scientific committee, 'Poultry Health and Biosecurity', 24th World's Poultry Congress, Brazil 2012
- Member – local organising committee, International veterinary vaccines and diagnostics conference, Cairns 2012
- Editor – Journal of Veterinary Diagnostic Investigation
- Editorial Board – Veterinární Medicina
- Guest Editor – special edition, 'Veterinary Immunology and Immunopathology'
- Guest Associate Editor – Animal Production Science
- Member – Australian Veterinary Association **Dr Geoffry Fordyce**
- Member – Australian Cattle Veterinarians (ACV)
- Member – ACV Bull Sub-Committee
- Member – International Society of Animal Genetics (ISAG) **Dr Marina Fortes**
- Member – Australian Society of Animal Production Committee **Dr Athol Klieve**
- Editorial board member – Virus Genes **Dr Tim Mahony**
- Member & Fellow – Australian Society of Animal Production **Dr Stu McLennan**
- Treasurer & Member – international organising committee, 7th International Workshop, Modelling Nutrient Digestion and Utilisation in Farm Animals
- Executive Committee Member – International Society of Animal Genetics **Prof. Stephen Moore**
- For the past seven years, Dr Petherick has been co-editor-in-chief of 'Applied Animal Behaviour Science' (published by Elsevier). During 2012, this involved handling some 130 new submissions plus about 50 revisions of previously submitted manuscripts. Dr Petherick is also over-seeing compilation of a special issue on zoo animal welfare. **Dr Carol Petherick**
- UQ representative – National Animal Welfare RDE Strategy committee
- QAAFI/DAFF representative – Laying hen welfare forum (national)

HORTICULTURE

- Adjunct appointments – Central Queensland University, University of New England
- Member – Australian Society for Microbiology **Dr Conny Turni**
- Member – International Committee on Taxonomy of Viruses **Dr Ralf Dietzgen**
- Chair – Rhabdoviridae Study Group
- Member – Mononegavirales Study Group
- Member – technical advisory board, Investigación e Innovación Tecnológica en Palma de Aceite (CENIPALMA), Colombia **Dr Andre Drenth**
- Chair – finance committee, Australasian Plant Pathology Society (since May 2011)
- Member – advisory committee, World Phytophthora Collection
- Member & Editorial Board – Tropical Plant Pathology
- Associate Editor & Board – *Persoonia*
- Member – American Phytopathological Society **Dr Neena Mitter**
- Member – Australasian Plant Pathology
- Member – International Society of Horticulture Science
- Member – Indian Phytopathological Society
- Member – International Working Group on Legume and Vegetable Viruses
- Member – Women in Technology, Queensland

FOOD & NUTRITION SCIENCES

- Chair – RACI Cereal Chemistry Division **Prof. Mike Gidley**
- Member – American Association of Cereal Chemists Awards Committee
- Member – Deutscheforschungsgemeinschaft (German equivalent of ARC), Centre of Excellence Evaluation Committee **Prof. Robert (Bob) Gilbert**
- Member – R&D specialist group 3, 'Nutrition, health and physiology', Australian Pork Limited (since Sept 2011) **Dr Eugeni Roura**
- Member – scientific advisory board, Omnia Molecular (biotech company)
- Member – Queensland committee, Crawford Fund (since 2011) **Dr Yasmina Sultanbawa**

Media profile

EXECUTIVE SUMMARY

QAAFI attracted more than 150 individual media stories or profiles from an initial output of 37 media releases in 2012. In addition, QAAFI continues to enjoy a good rapport with ABC Rural, ensuring generous coverage on both ABC radio and television (see QAAFI media clips – Appendix A).

A major accomplishment in terms of media promotion was undoubtedly QAAFI's launch of the Northern Beef Research Alliance (NBRA) on 16 October. As well as generating good across-the-board media coverage, the launch created several firsts: including the first UQ function attended by the Premier, the first public function for the UQ Vice-Chancellor, Professor Peter Høj, and the first major QAAFI launch to be attended by Minister John McVeigh. The event attracted coverage on all the major television networks and received additional coverage on ABC Rural/Radio News and Queensland Country Life.

Media releases

18 Dec 2012

Research to increase vegetable production in the South Pacific and Australia

New vegetable research into protective cropping in the South Pacific islands and Australia could help overcome challenges posed by climate and global food security.

12 Dec 2012

World first seafood flavour wheel

This Christmas, food lovers will be able to describe the unique regional flavours of their seafood with a sophisticated new sensory vocabulary, which forms part the world's first seafood flavour wheel.

6 Dec 2012

Fiji vegetable farming shown to have real potential

Australian horticultural researchers are helping Fijians to produce a regular source of high quality vegetables to boost supplies in the community as well as in tourist and international markets.

30 Nov 2012

World-first crop production forecasting technology for Queensland

A new way of capturing crop area information will change the way industry forecasts cropping production across Queensland, and other States.

19 Nov 2012

South Pacific cocoa growers rate their own beans

With assistance from two Australian chocolate companies, the Pacific Agribusiness Research for Development Initiative (PARDI) cocoa project recently produced single origin chocolate bars from samples collected throughout Vanuatu and the Solomon Islands, allowing farmers to taste the fruits of their labour for the first time.



2 Nov 2012

Ameliorating pain in beef cattle – MLA stipend for PhD student research project

2 Nov 2012

UQ Ag science at the forefront of Australia's Asian Century

The University of Queensland is well advanced in the nation's quest to be a major stakeholder in the new Asian Century, a leading QAAFI scientist said today.

29 Oct 2012

Govt throws support behind UQ biofuels research

QAAFI will lead second-generation research efforts to mass produce competitively priced biofuels with a \$1 million Queensland Government project grant.

16 Oct 2012

Alliance to beef up research across northern Australia

Queensland Premier Campbell Newman joined with scientists from The University of Queensland, the Queensland Government and the CSIRO to launch a new research alliance designed to help boost the fortunes of the \$5 billion northern beef industry.

15 Oct 2012

Fibre caught trafficking antioxidants in the colon

World-first study discovers that fibre binds up to 80 per cent of cancer-inhibiting antioxidant polyphenols in fruit and vegetables, thereby protecting the antioxidants from early digestion in the stomach and small intestine.

16 Sep 2012

Trial strawberry variety shows exciting health potential

A Queensland strawberry-breeding program has uncovered what could become the nutritional power-berry of the strawberry industry.

10 Sep 2012

Macadamia disease management R&D moves under QAAFI umbrella

Two UQ scientists will lead a new team protecting Australia's \$ 120 million macadamia industry from damaging plant diseases.

5 Sep 2012

People's Choice and Runner Up at Trailblazer

Prof. Robert Henry and Dr Agnelo Furtado took away two awards at the Trailblazer final last night in front of a large and distinguished audience of academics, lawyers and investment managers.

27 Aug 2012

Bread and babies are biggest winners from UQ Trailblazer competition

The top two prizes in UniQuest's annual Trailblazer innovative ideas competition at The University of Queensland have been won by a genetic discovery that could help feed up to a billion people and a safer way to monitor the breathing of premature babies.

7 Aug 2012

China's diabetes' challenge beckons leading polymer chemist

The People's Republic of China has honoured one of Australia's most experienced polymer chemists with a new research posting.



26 July 2012

QAAFI holds key to a sustainable future

MORE than 120 delegates from across the agriculture/food sciences and industry attended QAAFI's annual research meeting at the Gold Coast on 10–11 July.

19 July 2012

Next-generation cattle vaccines expected to save the industry millions

QAAFI and UQ scientists are pressing ahead with development of two advanced vaccines that stand to save the Queensland cattle industry more than \$360 million a year.

5 July 2012

\$3 million for Qld agriculture research

Queensland agriculture receives a \$3 million boost to support research collaborations between The University of Queensland (UQ) and agricultural industries.

21 June 2012

Northern cattle herd destined to become bigger and better

The Queensland Government has injected \$1.5 million into a \$9 million UQ co-ordinated research program that will deliver state-wide returns for northern beef producers.

7 June 2012

Prestigious agriculture award for QAAFI plant scientist

A leading QAAFI plant scientist has been awarded one of Australia's most prestigious agriculture awards, the Farrer Memorial Medal.

5 June 2012

Your “inner peanut” – the start of something bigger?

QAAFI and American scientists have developed a quick, new, low-cost way of monitoring the moisture content of peanuts in the shell.

31 May 2012

UQ scientists target mango skin for fat-reduction

UQ scientists have discovered that two common mango varieties contain natural compounds that may help to fight flab.

25 May 2012

QAAFI adjunct Professor to head Australian Therapeutic Goods Administration

QAAFI adjunct Professor John Skerritt will soon head the Canberra based Therapeutic Goods Administration (TGA).

18 May 2012

Sorghum scientists – out of Africa

Two sorghum plant breeders from sub-Saharan Africa visited Queensland recently to share and learn knowledge and breeding lines with Queensland scientists.

10 May 2012

QAAFI scientist receives Grand Challenges Explorations Grant

QAAFI announced today that it is a Grand Challenges Explorations winner, an initiative funded by the Bill & Melinda Gates Foundation.



4 May 2012

QAAFI links with India's seed capital

QAAFI Director, Professor Robert Henry, officiated at three key events in the Indian seed capital of Aurangabad on 23 April.

26 April 2012

Protecting Australia's Favourite Fruit

A QAAFI-led team has developed a comprehensive research program aimed to protect Australia's \$450 million banana industry.

16 April 2012

International experts concerned over plight of wild-rice reserves

An international meeting of plant breeders, genetic specialists and commercial growers has cautioned that Australia's world-significant bounty of naturally occurring rice relatives is being under-utilised in current crop-breeding programs.

13 April 2012

Model virus family attracts international attention

An expert UQ plant virologist has distinguished himself by co-editing and contributing chapters to an authoritative new reference work, detailing one of the world's most hotly studied virus families.

10 April 2012

Improved summer pulse yields to help Australia's northern neighbours

A three-year research effort by UQ and Qld Government scientists to improve summer yields in Australian pulses will benefit some of Indonesia's poorest farmers.

27 Feb 2012

Researchers monitor dryland peanuts for Aflatoxin risk

Good canopy growth in peanut crops following recent rainfall may mean increased risks of foliar diseases or stress-related aflatoxin contamination further into the growing season in the event of a dry spell.

7 June 2011

Liver structure could hold the key to battling diabetes

Our liver could be a major springboard for determining life-changing diabetes diagnosis and treatment thanks to a world-first discovery by an Australian-Chinese research team.

10 Feb 2012

QAAFI appointee to promote benefits of high-impact science

QAAFI has appointed a Cornell University Business School graduate with impeccable agribusiness credentials to raise awareness of the commercial benefits of science within Australia's vital food and agriculture sectors.

7 Feb 2012

US Navy here to talk biofuels

The United States Navy's Director for Operational Energy today visited The University of Queensland for discussions on UQ's world-leading biofuels research.

7 Feb 2012

Australia's sheep are naturally itching for tea tree's good oil

QAAFI scientists have discovered that one of Australia's best known folk remedies might help to alleviate the sheep industry's biggest headache.



6 Feb 2012

Predicting Crop Yields Seeds International Interest

UQ's Queensland Alliance for Agriculture and Food Innovation (QAAFI) has bolstered its growing reputation for high-impact science by co-developing innovative new crop technology in consort with one of the world's biggest seed companies.

27 Jan 2012

Early action tipped to save tonnes of Aussie avocados

Researchers at UQ's Queensland Alliance for Food and Agriculture (QAAFI) have acted swiftly to ensure Australia's next \$180 million avocado crop won't be crippled by a fungus.

9 Jan 2012

Fresh hopes for anti-microbial potential from Aussie native plants

QAAFI and Queensland Government scientists have discovered promising new anti-microbial properties in a combination of natural-plant ingredients, including two common native Australian plums.

Sector	Media event/profile	Research Scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none">More than 20 published articles in industry forums, project press releases, industry magazine articles (Groundcover, Australian Grain, Cotton grower) and 3 ABC radio interviews	Dr Mike Bell
	<ul style="list-style-type: none">Interview on inspiring the next generation of scientists to tackle food security issues. Part of the Hermitage School's Plant Science Competition. WIN TV News, 1 Aug 2012	Dr Andrew Borrell
	<ul style="list-style-type: none">Rural newspaper reports on frost damage and related problems in central Queensland 2012	Dr Jack Christopher
	<ul style="list-style-type: none">Media release – Washington State University 'University of Queensland connection – WSU, Australian officials seek research synergies', http://goo.gl/dagBm, 14 June 2012	Dr Neena Mitter
	<ul style="list-style-type: none">Media release – Washington State University 'Viral alliances overcome plant defenses, WSU research finds', http://goo.gl/PcDaC, 16 Oct 2012	
	<ul style="list-style-type: none">Media release – UQ, 'QAAFI receives Grand Challenges Exploration Grant for groundbreaking research in global health and development', http://goo.gl/Gg36Q, 9 May 2012	
	<ul style="list-style-type: none">Keynote speaker and media interview at the International Maize Conference, Gorontalo, Indonesia	Dr Daniel Rodriguez
	<ul style="list-style-type: none">Keynote speaker and media interview at the Conference of the International Soil Tillage Research Organisation, Montevideo, Uruguay	
	<ul style="list-style-type: none">'Aflatoxin Monitors', <i>South Burnett Times</i>, 2 Mar 2012	Dr Rao Rachaputi (RCN)
	<ul style="list-style-type: none">'Research aids poor farmers', <i>South Burnett Times</i>, 30, Mar 2012	
	<ul style="list-style-type: none">'Cracking The Peanut Puzzle', <i>Courier Mail</i>, 9 Jun 2012	



HORTICULTURE

- Filming for Ground Cover TV (GRDC) **Dr Steve Walker**
- QAAFI media release in January 2012 "Early action tipped to save tonnes of Aussie avocados" was picked up by various sources, e.g. FreshPlaza **Dr Eizabeth Dann**
- QAAFI media release: Developing a sweet solution to enhance eye-health. Vegetables Australia Industry magazine; Fresh Plaza (international) **Dr Tim O'Hare**
- **Media release** – Nanovaccine project, Publication with Washington State University, Gates Project Award, Avocado work on Phytophthora resistance **Dr Neena Mitter**
- **Online report** – Village News, 'Aussie geneticist discusses root rot resistance work', <http://goo.gl/ahn07>, 12 April 2012
- Contributed material for a Soil Documentary for Argentine TV **Prof. Roger Swift**
- **Feature story** about Pacific Agribusiness Research for Development Initiative (PARDI) protective cropping research, Weekly Times, Melbourne, 27 Dec 2012 **Dr Steven Underhill**

ANIMAL SCIENCE

- **Queensland Country Life**, Special Ed. "Game Changers, Belching cows on the hop, Nov 2012, p16 **Dr Athol Klieve**
- **Queensland Country Life**, Special Ed. "Game Changers, New probiotic for healthy livestock, environment, Nov 2012, p33
- **Science & Vie decouvertes** (France), Pourquoi Ze bug naime pas les kangourous?, April, 2012, p8
- **UQ Media Release** – 'Next-generation cattle vaccine research expected to save the industry millions', <http://goo.gl/FIjL2>, 18 July 2012 **Dr Tim Mahony**
- **UQ Media Release** – 'UQ welcomes the govt's science investments in the future', <http://goo.gl/n96o8>, 19 June 2012
- Radio interview – Amy Phillips, **ABC Radio** Longreach
- 'Scientist hopes to bring back tick vaccine for cattle', <http://goo.gl/IIO7E>, 20 July 2012
- **Qld Country Life**
'From genes to vaccines at QAAFI'
<http://goo.gl/i9ySZ>
16 July 2012
- **Australian Life Scientist**
'UQ-led teams to develop advanced cattle vaccines'
<http://goo.gl/0lh30>
19 July 2012

ANIMAL SCIENCE

- **Online report** – TopNews
'UQ-led Teams Researching over Two New Cattle Vaccines', <http://goo.gl/jpkWW>, 19 July 2012

Dr Neena Mitter

- Online report – ***Qld Country Life***
'Vaccines to save Qld cattle industry millions'
<http://goo.gl/hPGX7>, 19 July 2012

- Chicken Eimeria research

Dr Jess Morgan

- The Virbac 'Future Farming' award for innovation in animal health. Best Poster, QAAFI Animal Science Olympics UQ, Brisbane, 27 Jul 2012

- Research work reported in three MLA Feedback magazine issues.

Dr Carol Petherick

- **Three ABC Radio interviews/broadcasts:**
castration (26 March), dehorning (8 June) and distraction from pain (9 Nov)

- **Feature article – Future Beef** (DAFF website)
'Cattle handling'
3 Feb 2012
<http://goo.gl/k5yQd>

- ***Queensland Country Life***, Special Ed. Game Changers, 'No Pain Plenty of Gain', Nov 2012, p15

- **Feature article – Beef Bulletin**
'Tackling delayed puberty in Brahmans', Q1 2012, P9
<http://goo.gl/CVn7S>

Dr Marina Fortes

- **Interview for magazine feature story**
'Experimenting with Specialty Grains'
By Irini Cavalliotis
Australian Baking Business, Dec 2012, p31
<http://goo.gl/kcMER>

Dr Eugeni Roura

- **Media launch** – "Eyre Peninsula Seafood flavour wheel", 5 Dec, Adelaide, SA

Dr Heather Smyth

- **Feature article**
'Spelling it out: the sensory language of seafood'
The Food Sage (Published online)
By Rachel Lebihan, 11 Dec 2012
<http://goo.gl/62RPI>

- **Feature article**
'Mapping seafood flavours'
The Australian
By Verity Edwards
6 Dec 2012, p 7

- **Feature article**
'A lexicon creamy and rich'
The Australian
By John Lethlean, 6 Dec 2012, p 7.

- **Radio interview – ABC Rural**
'Eyre Peninsula Wheels in an aid for tasting seafood'
By Brook Neindorf
2 Dec 2012
<http://goo.gl/otSFv>

FOOD SCIENCE



- **Online article**
'Flavour notes for seafood launched in South Australia'
Australian Food News – Thought for Food
By Kate Carey, 6 Dec 2012
<http://goo.gl/GuphN>
- **Feature story**
'Language of the Seas'
By Simon Wilkinson
The Advertiser, 5 Dec 2012, p 15
- **Feature article**
'A focus on seafood flavour – a regional branding approach'
Queensland Seafood, 2012, 4, p 25
- **Media release**
'Scientists to savour SA seafood's sensory signatures'
UQ News online, 3 Aug 2011
<http://goo.gl/YFHt2>
- **ABC News online**
'World may soon be your (specific) oyster'
22 Aug 2012
<http://goo.gl/YnFvM>
- **Radio interview – ABC Rural**
'Chemist works on the flavours of the Eyre Peninsula'
By Brooke Neindorf
22 Aug 2012
<http://goo.gl/AOSqK>
- **Radio interview – ABC Rural**
'Taste testing seafood for better marketing'
By Brooke Neindorf
22 Aug 2012
- **Online report**
'World your oyster'
The Fiji Times
23 Aug 2012
<http://goo.gl/sLmGm>
- **Newspaper article**
'Producers meet to discuss seafood brand'
By Bonnie Puckeridge
Port Lincoln Times, p 6.
30 Aug 2011
- **Online report**
'Seafood trail worth following'
By Rachel Lebihan
The Australian Financial Review, 20 July 2012
<http://goo.gl/ypsJe>
- **QAAFI Media release**
'Fresh hopes for antimicrobial potential from Aussie native plants', 9 Jan
<http://goo.gl/u1vuk>
- **Industry publication** – International markets for native food ingredients
Australian Native Food Industry Limited (ANFIL)
Information Bulletin 22 Winter 2012

**Dr Heather Smyth
(cont.)**

**Dr Yasmina
Sultanbawa**

QAAFI website & social media

Google Analytics data indicate the QAAFI website doubled its visitation rate in the 2012 calendar year.² While page views also suggest a healthy increase (58%)³, the average time on-site declined marginally, somewhat balanced by a doubling of unique visitors during the same period. In addition, strong gains were observed in the number of visitors from several major countries with strong scientific interests e.g. Great Britain (+114%), China (+65%), France (+141%), Spain (+84%) and Germany (+424%).

It was also the year QAAFI began to develop its presence in social media (Facebook and Twitter). While both these outlets are largely in development, the early results from exposure on Twitter are perhaps most promising. Twitter offers targeted messages and unusually good audience segmentation for a broad-based research institute such as QAAFI.



² 35,030 vs 17,342 – Google Analytics QAAFI report, generated 4 April 2013

³ 114, 313 vs 72, 238 – *Ibid*



Advice provided to the Minister or Department

As the new administration gradually becomes more familiar with QAAFI's range of expertise and professional services, it is expected to call on QAAFI's input more frequently. To some extent, information passing from QAAFI scientists to their government colleagues is already finding its way to senior government figures – however this information flow is often informal and undocumented. Efforts are under way to better communicate QAAFI's range of scientific services, which will serve to raise awareness of the institute's unique role with both Ministers and their departmental heads.

Sector	Advice	Research scientist
ANIMAL SCIENCE	Assisted in preparation of response to estimates hearing question on research in free-range poultry systems	Dr Pat Blackall
	Presentation of work to The Hon John McVeigh, Minister for Agriculture, Fisheries and Forestry	
	Presentation of work to The Hon John McVeigh, Minister for Agriculture, Fisheries and Forestry	Dr Peter James
	Contributed to DAFF departmental quarterly report – July 2012	Dr Tim Mahony
	Providing information that was included in three Ministerial advices (two about QAAFI generally and one about the Northern Beef Research Alliance)	Sarah Meibusch
	Presentation of work to The Hon John McVeigh, Minister for Agriculture, Fisheries and Forestry	Dr Ala Lew-Tabor
HORTICULTURE	Presentation of work to The Hon John McVeigh, Minister for Agriculture, Fisheries and Forestry , 1 Aug	Dr Andrew Borrell
	Presentation of work to The Hon John McVeigh, Minister for Agriculture, Fisheries and Forestry	Dr Neena Mitter
	Advice to Federal DAFF on: <ul style="list-style-type: none"> ▪ Draft pest categorisation for the non-regulated analysis of existing policy for table grapes from India ▪ Draft policy review: alternative risk management measures to import <i>Lilium</i> spp. cut flowers from Taiwan 	Dr John Thomas
FOOD SCIENCE	Advice provided to the National Food and Nutrition R & D & TT strategy through DAFF	Dr Yasmina Sultanbawa



RIGHT: Dr Steven Walker leads research in weed ecology, herbicide resistance and integrated weed management for the grain and cotton farming systems of the sub-tropical cropping region of Australia.



ABOVE: In April, the Minister of Agriculture, Forestry and Fisheries, Dr John McVeigh visited QAAFI at St Lucia, accompanied by Dr Neena Mitter and Professor Robert Henry.



Number and types of new or improved technologies published

EXECUTIVE SUMMARY

***FROM** developing new ways to deal with the damaging effects of frost to better understanding plant pathogens, QAAFI scientists work on real-world challenges across the agriculture, nutrition and food sciences. In 2012 alone this research accounted for some **32 applications** of high-impact science that resulted in new methods, improved formulae and better techniques across the board.*

Sector	New or improved technology	Scientist
BROAD-ACRE CROP SCIENCE	<ul style="list-style-type: none"> Borrell, A.K., Jordan, D.R., Mullet, J. and Klein, P. 2012. Patent Cooperation Treaty. International Application Number PCT/AU2012/001423. Priority claim of earlier national application No. 61/560763. 'Drought tolerant plants'. International Filing Date: 16 Nov 2012 	Dr Andrew Borrell
	<ul style="list-style-type: none"> Frederiks T.M., Christopher J.T., Harvey G.L., Sutherland M.W. and Borrell A.K. 2012. Current and emerging screening methods to identify post head-emergence frost adaptation in wheat and barley. Journal of Experimental Botany (doi:10.1093/jxb/ers215) 	
	<ul style="list-style-type: none"> Three journal publications on different applications of Near Infrared Technology the areas of wheat, barley and sorghum 	Dr Glen Fox
	<ul style="list-style-type: none"> The taxonomy of an important group of plant pathogens, Ustilago-Sporisorium-Macalpinomyces complex (Ustilaginaceae), has been completely revised and this work is published in three papers: 	Dr Andrew Geering
	<ul style="list-style-type: none"> McTaggart A, Shivas R, Geering A, Vanky K, Scharaschkin T (2012) A review of the Ustilago-Sporisorium-Macalpinomyces complex. Persoonia-Molecular Phylogeny and Evolution of Fungi 29: 55-62 	
	<ul style="list-style-type: none"> McTaggart AR, Shivas RG, Geering ADW, Callaghan B, Vanky K, et al. (2012) Soral synapomorphies are significant for the systematics of the Ustilago-Sporisorium-Macalpinomyces complex (Ustilaginaceae). Persoonia-Molecular Phylogeny and Evolution of Fungi 29: 63–77 	
	<ul style="list-style-type: none"> McTaggart AR, Shivas RG, Geering ADW, 	



HORTICULTURE

Vanky K, Scharaschkin T (2012) Taxonomic revision of *Ustilago*, *Sporisorium* and *Macalpinomyces*. *Persoonia-Molecular Phylogeny and Evolution of Fungi* 29: 116-132

- QAAFI Principal Research Fellow Dr David Jordan leads a program that licensed 123 sorghum parent lines to commercial seed companies.
- Prof. Geoff Norton leads a team designing, developing and implementing a software tool for scenario based learning (a collaboration between QAAFI/UQ and Institute of Natural Resources, College of Sciences, Massey University, Palmerston North, New Zealand).
- 'Determining crop acreage estimates for specific winter crops using shape attributes from sequential MODIS imagery', Reference: JAG675. *International Journal of Applied Earth Observations and Geoinformation*, Dr. Andries B. et. al. Online publication: 30 Nov 2012 DOI information: 10.1016/j.jag.2012.09.009
- 'Spatial impact of projected changes in rainfall and temperature on wheat yields in Australia', *Climate Change*. 'Online First' on SpringerLink: <http://goo.gl/l6BzR>
- Northern IWM fact sheet 'Best Weed Management Guide for Flaxleaf Fleabane' <http://goo.gl/OocpK>
- Northern IWM fact sheet 'Double knock for controlling flaxleaf fleabane' <http://goo.gl/OocpK>
- Assessment of genetic diversity in the Australian National Mango Genebank using genetic fingerprinting
- Improved methods for genetically engineered virus resistance
- New diagnostic assay for a plant virus
- New molecular tools to visualise protein-protein interactions in living plant cells

Dr David Jordan

Prof. Geoff Norton

Dr Andries Potgieter

Dr Steve Walker

Dr Ralf Dietzgen

ANIMAL SCIENCE

- Anderson, JM, Pegg, KG, Scott, C Drenth A, 2012. Phosphonate applied as a pre-plant dip controls *Phytophthora cinnamomi* root and heart rot in susceptible pineapple hybrids. *Australasian Plant Pathology* 41:59-68
- Cook, DC, Liu, S, Edwards, J. Villalta, ON, Aurambout, JP, Kriticos, DJ, Drenth, A and De Barro, PJ. 2012. Predicting the Benefits of Banana Bunchy Top Virus Exclusion from Commercial Plantations in Australia. *PLoS ONE* 7 (8)e 42391 ; doi:10.1371/journal.pone.0042391
- Akinsanmi, OA, Topp, B, Drenth, A, 2012. Pericarp retained in the tree canopy and stomatal abundance are components of resistance to husk spot caused by *Pseudocercospora macadamiae* in macadamia. *Euphytica* 185:313-323
- Vo J, Campbell P, Barnard R, Thomas J, Geering A (2012), 'Characterisation of the Banana streak virus coat protein and linear epitope analysis using a pepscan approach', in '10th Australian Plant Virology Workshop'. p23. (Hanmer Springs, New Zealand)
- Developed a new methodology for electrotransformation of *Haemophilus parasuis*: - Chen, L. Wu, D., Cai, X., Guo, F., Blackall, P.J., Xu, X. and Chen, H. (2012) Electrotransformation of *Haemophilus parasuis* with in vitro modified DNA based on a novel shuttle vector. *Vet. Microbiol.* 155, 310-316
- Prediction of weight in female beef cattle using linear and subjective measures
- Patents: Filed 4 July 2012
- Title Recombinant low virulence bovine herpes virus 1 Vaccine vectors Inventor: T J Mahony
- Cavallaro AS, Mahony D, Commins M, Mahony TJ, Mitter N Endotoxin-free purification for the isolation of Bovine Viral Diarrhoea Virus E2 protein from insoluble inclusion body aggregates 2011; *Microbial Cell Factories* 10:2 57.
- Roura, E.; B. Shrestha; Yi Zeng; D. Zhang & S. Diffey (2011). A method to evaluate piglet preferences specific to taste. Editor: R. van Barneveld, "Manipulating Pig Production XIII", Australasian Pig Science Association Conference, Adelaide, p. 87.
- New diagnostic method reported to the funding body (results of a 1.5 year project)

Dr Andre Drenth

Dr John Thomas

Dr Pat Blackall

**Dr Geoffry
Fordyce**

Dr Tim Mahony

Dr Neena Mitter

Dr Eugeni Roura

Dr Conny Turni

FOOD SCIENCE

- Information about alpha-particle binding in glycogen and implications for potential drug targets for diabetes. Published in 'Molecular insights into glycogen alpha-particle formation.' MA Sullivan, MJ O'Connor, F Umana, E Roura, K Jack, DI Stapleton, RG Gilbert. *Biomacromolecules* 13 3805-13 (2012)
- New method for finding amylose content and evaluation of current standard methods. Published in 'Amylose content in starches: towards optimal definition and validating experimental methods.' F Vilaplana, J Hasjim, RG Gilbert. *Carbohydrate Polymers* 88 103-11 (2012)
- Use of natural antimicrobial extract formulations for shelf life extension of seafood - Seafood CRC Project No: 2010/707 milestone report done in collaboration with DAFF
- New procedure for the extraction and identification of recalcitrant humin fraction of soil organic matter

Prof. Robert (Bob) Gilbert

Dr Yasmina Sultanbawa

Prof. Roger Swift



ABOVE: Professor Robert Henry (left) and Dr Agnelo Furtado took away the "People's Choice" and "Runner Up" awards at the Trailblazer final in Sep, before a large and distinguished audience of academics, lawyers and investment managers

Book chapters

Henry, Robert J. (2012). Genomics for bioenergy production. In Chittaranjan Kole, Chandrashekhar P. Joshi and David R. Shonnard (Ed.), *Handbook of bioenergy crop plants* (pp. 21-29) Boca Raton, FL, United

Conference publications

Lopez-Sanchez, P., Bialek, L., Farr, R., Schumm, S. and Langton, M. (2012). Structuring properties of plant particles as a result of physical treatments. In: Peter A. Williams and Glyn O. Phillips, Proceedings of the 16th Gums and Stabilisers for the Food Industry Conference. 16th Gums and Stabilisers for the Food Industry Conference, Wageningen, Netherlands, (317-329). 28 June-1 July 2011.

Journal articles

1. Al-Rabadi, G. J., Torley, P. J., Williams, B. A., Bryden, W. L. and Gidley, M. J. (2012) Particle size heterogeneity in milled barley and sorghum grains: Effects on physico-chemical properties and starch digestibility. *Journal of Cereal Science*, 56 2: 396-403.
2. Assavacheep, Pornchalit, Assavacheep, Anongnart and Turni, Conny (2012) Detection of a putative hemolysin operon, *hhdBA*, of *Haemophilus parasuis* from pigs with Glasser disease. *Journal of Veterinary Diagnostic Investigation*, 24 2: 339-343.
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4. Basu, Urmila, Guan, Le Luo and Moore, Stephen S. (2012) Functional Genomics Approach for Identification of Molecular Processes Underlying Neurodegenerative Disorders in Prion Diseases. *Current Genomics*, 13 5: 369-378
5. Bellgard, Matthew I., Moolhuijzen, Paula M., Guerrero, Felix D., Schibeci, David, Rodriguez-Valle, Manuel, Peterson, Daniel G., Dowd, Scot E., Barrero, Roberto, Hunter, Adam, Miller, Robert J. and Lew-Tabor, Ala E. (2012) CattleTickBase: An integrated Internet-based bioinformatics resource for *Rhipicephalus* (Boophilus) microplus. *International Journal for Parasitology*, 42 2: 161-169.
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7. Besford, Quinn A., Sullivan, Mitchell A., Zheng, Ling, Gilbert, Robert G., Stapleton, David and Gray-Weale, Angus (2012) The structure of cardiac glycogen in healthy mice. *International Journal of Biological Macromolecules*, 51 5: 887-891.
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12. Cavanagh, Heather M. A., Mahony, Timothy J. and Vanniasinkam, Thiru (2012) Genetic characterization of equine adenovirus type 1. *Veterinary Microbiology*, 155 1: 33-37.



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Annual survey results of external funding agencies

IN early 2013, QAAFI surveyed its major funding agencies to gauge their level of satisfaction. The survey attracted feedback from key representatives in the following organisations:

- Grains Research and Development Corporation (GRDC)
- Meat and Livestock Australia (MLA)
- Australian Centre for International Agricultural Research (ACIAR)
- Science Faculty, University of Queensland
- Horticulture Australia (HAL)
- Sugar Research and Development Corporation (SRDC)
- The Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- Poultry Cooperative Research Centre
- Avocados Australia

All respondents reported that the quality of QAAFI's scientific output had 'met or exceeded' their expectations in 2012. Similarly it was also noted that QAAFI's scientific output had 'met or exceeded' expectations, when asked to compare the institute with other leading Australian research organisations.

Each respondent was satisfied with the level of engagement they had experienced with QAAFI research scientists. A clear majority of respondents (~ 90 per cent) were satisfied with QAAFI's ability to consistently meet or exceed project outcomes.

Selected respondent feedback ...

"While QAAFI and/or UQ have expertise in the following areas, it is critical that these be maintained: reproductive physiology, ruminant nutrition, animal health. An area needing further development is systems analysis and modelling."

"Focus area of new research should be 'consumer research'."

"Continue to emphasise research on issues of regional importance (sub-tropics and tropics) and not duplicate research going on elsewhere in the country in temperate agriculture. Lead the way in forming partnerships in the region, these should be based on where there is the best skill complementation across institutes."

"I think the Northern Beef Research Alliance between QAAFI and CSIRO can fundamentally change the way we discover, develop and deliver genetic and nutritional services for animal production enterprises across northern Australia."

"QAAFI has demonstrated that achieving critical research mass through the combination of government and university scientists delivers outcomes beyond those that would have been achieved by the same scientists in their old working arrangements. Serious consideration should be given to extending the QAAFI concept beyond its initial boundaries. The omission of soil science/ landscape management from the agricultural grouping is an obvious weakness in the QAAFI structure ... Soil scientists from DSITIA and DERM would considerably strengthen the crop science capacity of QAAFI and may also make a useful contribution in the animal science area."



Level of satisfaction by industry (based on feedback from industry representatives on Advisory Board)

Key findings

To gauge their level of satisfaction, each of QAAFI's Advisory Board members were interviewed by a senior staff member. A majority of the board (QAB) expressed confidence in the institute's ability to meet or exceed its objectives. The board members acknowledged and praised several existing engagement activities, which they perceived to be highly successful. These included:

- The 2012 Annual Research Meeting
- Interaction with Agforce
- Interaction with the North Australia Beef Research Council (NABRC)
- Participation in industry-level framework and planning discussions.

Members of the advisory board offered several suggestions to improve QAAFI's industry engagement in the future. Below is a selection:

- Facilitate workshops, seminars, form alliances and deliver at 'coal face' or alternatively encourage QAAFI researchers/representatives to deliver/present to producers on the ground at field days etc. to embed in industry further(e.g. Agforce conference)
- Encourage UQ staff who do not have government experience to attend industry events, become part of the network and be more recognised
- Replicate the existing engagement and interaction with Agforce with other relevant industry groups
- Encourage media outlets to promote QAAFI or its projects.
- Research planning days that develop linkages within QAAFI and reach out to external members, are a good way to demonstrate QAAFI's strengths.

QAAFI Advisory Board

Mr Robert Antonio	McLean Farms, Pittsworth, Qld
Professor Kaye Basford	UQ researcher in applied statistics in agricultural science
Mr Wayne Carlson	A retired NAB national agribusiness manager with 35 years' experience in the agribusiness and finance sector
Mr Rob Clark	Lanoma Estate, Tasmania
Mr Peter Lancaster	Chairman of 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 of the North Australian Beef Research Council
Professor Beth Woods	Chief Scientific Officer, Queensland Government, Department of Agriculture, Fisheries and Forestry



RIGHT: *Senior Research Fellow, Dr Tim Mahony works to improve disease control in production animals with a strong focus on the viruses that infect cattle.*



ABOVE: *A team led by QAAFI has developed a comprehensive research program aimed at protecting Australia's \$450 million banana industry.*



QAAFI annual research meeting 2012



ABOVE: Senior Research Fellow, Dr Geoffry Fordyce discusses female and bull cattle fertility during a breakout session at the 2012 QAAFI annual research meeting.

MORE than 120 delegates from across the agriculture/food sciences and industry attended QAAFI's annual research meeting at the Gold Coast on 10–11 July.

A comprehensive two-day program covered topics ranging from the latest in gene technology to practical problems facing key industries.

The conference included several extended sessions in which QAAFI scientists showcased their latest research; plus a series of industry-based briefings.

In his keynote address, QAAFI Director Professor Robert Henry (above) told delegates that one of the institute's key roles was to emphasise the importance of agriculture and food science within The University of Queensland.

'Agriculture, plant and food science have been part of UQ since its inception,' Professor Henry said.

The digital age had presented many challenges to the traditional university-education model. QAAFI's mission was to build on what had already been gleaned during Queensland's long and impressive history of agriculture and food science, he said.

According to Professor Henry, The University of Queensland sees a strong future in science programs that will 'feed, fuel and heal a growing and ageing population in an environmentally sustainable way'.

'A large part of that can be found in the research that QAAFI does,' he said.

The conference was also an opportunity for industry representatives to meet with science leaders.

Industry sessions focussed on crop improvement in the northern region; building collaborative projects for northern beef research and research opportunities in macadamia. ■



QAAFI research scientists

Director

Prof. Robert Henry

Centre Directors

CPS – Prof. Graeme Hammer

CNAFS – Prof. Mike Gidley

CAS – Prof. Stephen Moore

Research staff

Dr Agnelo Furtado (CNAFS)

Dr Ala Lew-Tabor (CAS)

Dr Andre Drenth (CPS)

Dr Andrew Geering (CPS)

Dr Andrew Borrell (CPS)

Dr Andries Potgieter (CPS)

Dr Ashok Shrestha (CNAFS)
– until Feb 2012

Dr Athol Klieve (CAS)

Dr Barbara Williams (CNAFS)

Dr Bernadine Flanagan (CNAFS)

Dr Brian Burns (CAS)

Dr Bruce Topp (CPS)

Dr Carol Petherick (CAS)

Dr Conny Turni (CAS)

Dr Craig Hardner (CPS)

Dr Daniel Rodriguez (CPS)

Dr David Jordan (CPS)

Dr Deirdre Mikkelsen (CNAFS)

Dr Elizabeth Dann (CPS)

Dr Erik van Oosterom (CPS)

Dr Eugeni Roura (CNAFS)

Dr Femi Akinsanmi (CPS)

Dr Geoffry Fordyce (CAS)

Prof. Geoff Norton (CPS)

Dr Glen Fox (CNAFS)

Dr Heather Smyth (CNAFS)

Dr John Christopher (CPS)

Dr Jess Morgan (CAS)

Dr Jim Hanan (CPS)

Dr John Thomas (CPS)

Dr Jose O. Payero (CPS)
– until May 2012

Dr Jovin Hasjim (CNAFS)

Dr Karine Chenu (CPS)

Dr Kinnari Shelat (CNAFS)

Dr Lee Hickey (CPS)

Dr Manuel Rodriguez-Valle
(CAS)

Dr Marina Fortes (CAS)

Dr Mary Fletcher (CAS)

Dr Matt Kelly (CAS)

Dr Michael (Mike) Bell (CPS)

Dr Morgan Tizzotti (CNAFS)
– until March 2012

Dr Neena Mitter (CPS)

Dr Pat Blackall (CAS)

Dr Patricia Lopez-Sanchez
(CNAFS)

Dr Peter Sopade (CNAFS)

Dr Peter James (CAS)

Dr Purnima Gunness (CNAFS)

Dr Ralf Dietzgen (CPS)

Dr Rao Rachaputi (CPS)

Dr Rob Dixon (CAS)

Prof. Robert Gilbert (CNAFS)

Dr Roger Stanley (CNAFS)

Prof. Roger Swift (CPS)

Dr Steven Underhill (CPS)

Dr Steven Walker (CPS)

Dr Stuart McLennan (CAS)

Dr Sushil Dhital (CNAFS)

Dr Tamsin Barnes (CAS)

Dr Tim Holten
– until July 2012

Dr Tim Mahony (CAS)

Dr Tim O'Hare (CPS)

Dr Yasmina Sultanbawa
(CNAFS)



QAAFI research affiliates

UQ Title	Name	Centre
Affiliated Associate Professor	Bernie Carroll	CPS
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
Affiliated Senior Research Fellow	Madan Gupta	CAS & CPS
Affiliated Senior Research Fellow	Margaret Hardy	CAS
Affiliated Senior Research Fellow	Mark Dieters	CNAFS
Affiliated Senior Research Fellow	Mark Turner	All 3 Centres
Affiliated Associate Professor	Max Shelton	All 3 Centres
Affiliated Professor	Melissa Brown	All 3 Centres
Affiliated Professor	Michael D'Occhio	CAS
Affiliated Senior Research Fellow	Michael Furlong	CPS
Affiliated Professor	Michael Holland	CAS



Affiliated Professor	Michael McGowan	CAS
Affiliated Professor	Neal Menzies	CPS
Affiliated Professor	Nick Shaw	CNAFS
Affiliated Research Fellow	Olivia Wright	CNAFS
Affiliated Research Fellow	Paul Dargusch	CPS
Affiliated Associate Professor	Peer Schenk	CNAFS & CPS
Affiliated Professor	Peter Gresshoff	CPS
Affiliated Professor	Ross Barnard	CAS & CPS
Affiliated Senior Research Fellow	Shaniko Shini	CAS & CNAFS
Affiliated Professor	Shu Fukai	CPS
Affiliated Research Fellow	Simon Quigley	CAS
Affiliated Senior Research Fellow	Stephen Anderson	CAS & CNAFS
Affiliated Associate Professor	Stephen Barker	CAS
Affiliated Professor	Steve Adkins	CPS
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

BELOW: Attendees and judges at an industry sponsored poster event organised by QAAFI's Centre for Animal Science: (L-R, back row) Mr Wayne Hall (MLA), Mr Kim Agnew (Llanco), Ms Kelly Graham (Virbac Australia) and Mr Justin Balley (Novartis), (L-R, front row): Dr Peter Johnston (DAFF), Professor Stephen Moore (Director, CAS) and Dr Joanne Meers (The University of Queensland, School of Veterinary Science).



QAAFI adjunct appointments

Title	Name
Adjunct Senior Fellow	Barry Blaney
Adjunct Professor	Dr Blake Simmons
Adjunct Professor	Prof. Colin Wrigley
Adjunct Research Fellow	Dr Diane Ouwerkerk
Adjunct Associate Professor	Dr David Butler
Adjunct Associate Professor	Dr Emma Mace
Adjunct Fellow	Frances Shapter
Adjunct Professor	Dr Graeme Wright
Adjunct Senior Research Fellow	Dr Jagger Harvey
Adjunct Professor	Prof. John Skeritt
Adjunct Associate Professor	Dr Kevin Thiele
Adjunct Research Fellow	Dr Lisa Gulino
Adjunct Associate Professor	Dr Michael Mackay
Adjunct Senior Fellow	Dr Michael Netzel
Adjunct Senior Fellow	Richard Silcock
Adjunct Research Fellow	Dr Rosalind Gilbert
Adjunct Senior Fellow	Santosh Taware
Adjunct Fellow	Dr Selina Ossedryver
Adjunct Professor	Prof. Scott Chapman
Adjunct Associate Professor	Dr Stephen Miller
Adjunct Research Fellow	Wayne Jorgensen
Adjunct Associate Professor	Dr Zivile Luksiene





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