

# the Innovator

The Newsletter from the EH Graham Centre for Agricultural Innovation

SUMMER 2009 EDITION

## Message from the Director

Welcome to the first edition of *The Innovator* for 2009. We had a very busy and productive year in 2008 and this was evident with the well-attended End of Year Reflection held in early December at the CSU Convention Centre, Wagga Wagga. The objectives of the meeting were to celebrate the year's successes, give out staff and student awards, consider future R&D directions and staff and student needs. In addition, an after-dinner dinner address was provided by Professor Jim Pratley on the need for increased government and community support for Australian agricultural research, development and education in order to meet the challenges of food security and climate change.

It was pleasing to see that the End of Year Reflection outcomes aligned with the priorities we have identified and that our research is focussing on research in areas of national priority that will deliver real change. We will continue to respond to the needs identified by staff, students and stakeholders to improve the quality and relevance of our research and to increase our capacity to meet current and future challenges.

In this issue, a number of articles describe the importance of the human health benefits in both plant and animal food production. This addresses our 'Healthy Food' Initiative and will become increasingly important in the future.

Thank you to our staff and stakeholders for your ongoing support and contribution to the Graham Centre and we look forward to the next 12 months to continue our strong growth.

Happy New Year!

Professor Deirdre Lemerle



Lloyd Kingham facilitated a workshop 'Consider future R&D directions and staff and student needs' as part of the Graham Centre's End of Year Reflection. [Photo: Gordon Murray]

*The EH Graham Centre for Agricultural Innovation is a strategic alliance between the NSW Department of Primary Industries and Charles Sturt University. It aims to be the Australian Centre of Excellence in Mixed Farming Systems and undertakes world-class collaborative research and education with key partners to deliver productivity gains and environmental protection that address the challenges of climate change, water scarcity, food security, bio-security, and the skills shortages in agriculture.*

*Research undertaken at the Graham Centre will create solutions and opportunities by working with farmers to define limitations of current farming practices and develop resilient systems for the future.*

## Strategic Research Initiatives

**Conservation Farming and Stubble Management** to increase soil carbon and optimise nutrient use efficiency, improve water and air quality and human health.

**Utilising Sustainable Pasture Systems and Forage Conservation** to develop and deliver improved technologies for forage conservation to meet targets for livestock production, drought mitigation, water conservation and environmental protection.

**Canola Production** to improve the profitability of canola in a variable climate (water scarcity, frost and heat stresses), using genetic and management technologies.

**Healthy Food Products** to develop new plant and livestock products that have human health attributes for niche markets and value-add post farm gate.

**Weed Management** to develop chemical and non-chemical technologies for integrated management strategies in crops and pastures to reduce the impact and spread of weeds, reduce land managers' dependence on herbicides and retard the development of herbicide resistance.

**Australian Bio-Protection** to develop non-chemical control tactics for the significant pests of agricultural crops through the development of ecologically-based and new tactics; and quantify the impacts of agricultural practice on ecosystem biodiversity and environmental stewardship.

**Animal Parasites** to reduce the impact of internal parasites and chemical resistance by developing and incorporating parasite control into whole farm enterprises; provide disease surveillance, parasite diagnosis and control advice; and evaluate potential impacts from climate change and wildlife disease reservoirs.

### THIS ISSUE

- Strategic Research Initiatives
- RIGB Grants
- Travel Grant Reports
- Updates
- In the Limelight

### QUICK LINKS

- Centre Website
- Centre Diary
- Seminar Series
- CSU Website
- DPI Website

## Research & Infrastructure Block Grants (RIGB) Scheme at CSU

The Graham Centre has been successful in obtaining five CSU RIGBs to the value of \$490,000 for 2009.

The objectives of RIGB are to:

- enhance the development and maintenance of research infrastructure in Higher Education Providers for the support of high quality research in all disciplines
- meet project-related infrastructure costs associated with Australian Competitive Grants
- remedy deficiencies in current research infrastructure
- ensure that areas of recognised research potential, in which Higher Education Providers have taken steps to initiate high quality research activity, have access to the support necessary for development.

Chief Investigator	Project Title	Amount
Prof Leslie Weston	Procurement of a State of the Art Analytical LC MS System with Downloadable Library for Research in the Life Sciences at CSU	\$170,000
Prof Deirdre Lemerle	Agricultural Computer Vision and Image-Processing Infrastructure	\$40,000
Prof Geoff Gurr	Taking Orange into the 21 <sup>st</sup> Century: Plant Growth Analysis System for Sustainable Agriculture Research	\$110,000
Dr Nigel Urwin	Equipment for the Animal Molecular Research Group.	\$100,000
Prof Peter Wynn	Equipment to Support Analytical Needs for Research, Clinical Services and Teaching of Animal Endocrinology and for Plant Physiology	\$70,000

## Travel Grant Reports

### 12<sup>th</sup> International Lupin Conference, Fremantle 14 – 19 September 2008

**Ray Cowley, PhD Student and Technical Officer, NSW DPI**

The 12<sup>th</sup> International Lupin Conference was held in Fremantle, only the second time that the conference has been in Australia, and was attended by approximately 160 delegates. The full program showcased the depth of research being carried out on lupins internationally. Most of the research focused on narrow-leafed lupin, but the other domesticated lupins species were also well represented. The theme for the conference was “Lupins for health and wealth”, and claims for both benefits were well covered in the conference. Perhaps the most fitting presentation was the final presentation of the conference delivered by Mark Sweetingham who outlined disease, changing climate, rising production costs – especially for weed control – and difficulty in accessing the lucrative soy dominated markets, as the next set of challenges to be overcome if lupin cropping is to expand globally.

The conference began fittingly with a testimonial lecture detailing the life's work of Dr John Gladstones, regarded by many to be the ‘father’ of the lupin industry. Whilst most of the conference was focused on narrow-leafed lupin, *L. angustifolius*, a considerable number of seminars concentrated on *L. albus*, *L. luteus*, and other lupin species with agronomic potential.



*Dr Roger Jones explaining screening trials for BYMV resistance to attendees of the Lupin Pathology post-conference tour.*

One of the stand-out plenary presentations was from Colin Hughes, University of Oxford, England. He took the delegates on a whirl-wind tour of the diversity within the genus *Lupinus*. The quality of his photos was outstanding. His research on both old and new world species has enabled new insights into the phylogeny of the various lupin species.

The first plenary presentation was delivered by a leading farmer, Clancy Michael, from the Mingenew region of Western Australia. His presentation set the scene for the conference by outlining from a grower's perspective the advantages of lupins in his cropping system. In a 1.0 t/ha lupin crop Mr Michael calculated that nitrogen assimilation from the lupins produces 20 kg/ha of N in the following wheat crop.

A recurring theme through the conference was that lupins are lupins and should not be viewed as merely a non-GMO alternative to soy-bean protein. A number of presentations demonstrated that the protein profile of lupins is different from both soy and peanut. This presented the attendees with the option of either trying to capture a small portion of the soy-based protein market, or to be innovative and create new markets for lupin protein by highlighting how lupin protein added to products can improve the product quality. This was especially so for the use of lupins in the human-consumption market, but applied equally to aquaculture and more traditional lupin markets. The extremely strong demand for protein in the Asian market was identified as a key area where lupins should play a major role.

Many researchers highlighted their work involving biotechnology and molecular technologies, principally in narrow-leaf lupin. It seemed to me that in this field Australia was leading the world. Much more emphasis would be needed in this area in the future.

The organising committee of the conference was warmly congratulated on their selection of location and on the overall success of the event.

## 14<sup>th</sup> Australian Agronomy Conference, Adelaide, 21 – 25 September 2008

The Graham Centre sponsored the attendance of a number of participants at this conference. The following report and overview was submitted by students Joe Moore and Felicity Gummer, and Professor Ted Wolfe.

The 14<sup>th</sup> Australian Agronomy Conference was held on September 21 – 25 in the Adelaide Convention Centre and was attended by students Jeff McCormick, Felicity Gummer, Joe Moore and Estela Pasuquin, with presentations from several Graham Centre members. The conference in Adelaide covered a very broad range of issues including variability in production, climate change and the need for increased production to meet the world population growth. The conference also covered a number of specific topics including pasture production, managing subsoils, assessing yield potential, incorporating rotations, crop protection



*The Adelaide Convention Centre, venue for the 14<sup>th</sup> Australian Agronomy conference. [Photo: Ted Wolfe]*

and the use of biotechnology for agriculture. On the last day of the conference field trips were undertaken, with the majority of EH Graham Centre participants going on the Mid North and Hart field site Tour. The conference was followed by a dinner held at the Adelaide Wine Centre on North Terrace, in a beautiful location, adjacent to parklands, the river Torrens and surrounding heritage buildings.

The theme of the conference was “Global Issues – Paddock Action”. Slightly over 300 participants enjoyed a well-organised program of activities and social events. On the last day, four field trips were offered to show participants aspects of agriculture in different directions from Adelaide (Low Rainfall Mallee Farming, Mid-North Crop and Livestock Systems, Pasture Focus, Intensive Cropping).

In a word, the conference had ‘balance’, which was evident throughout the event. Six plenary sessions, held in the main hall with participants conveniently seated at tables, were off-set with five concurrent sessions,

which offered a choice of four or five themes, and three poster sessions. The plenary sessions were stimulating so it was just as well that the breaks between sessions were sufficiently long to comfortably gather food/drink, talk and reflect.

Most of the plenary addresses and all of the papers (concurrent and poster) are available on the conference CD and online at [www.regional.org.au/au/asa/2008/](http://www.regional.org.au/au/asa/2008/). It is also good news to hear that papers presented at the 1<sup>st</sup> to the 7<sup>th</sup> Australian Agronomy Conferences will be digitised and added to the website. The online proceedings are being developed by the Regional Institute with support from GRDC and ASA. They will be searchable by author, topic or year, and papers will be available in HTML or PDF formats - an invaluable public resource particularly for younger agronomists and farmers. Additional information can be found on the Society's website at [www.agronomy.org.au](http://www.agronomy.org.au).

## Nutrition Society of Australia National Scientific Meeting, Glenelg, 30 November – 3 December 2008

### Dr Edward Clayton, Livestock Research Officer, NSW DPI

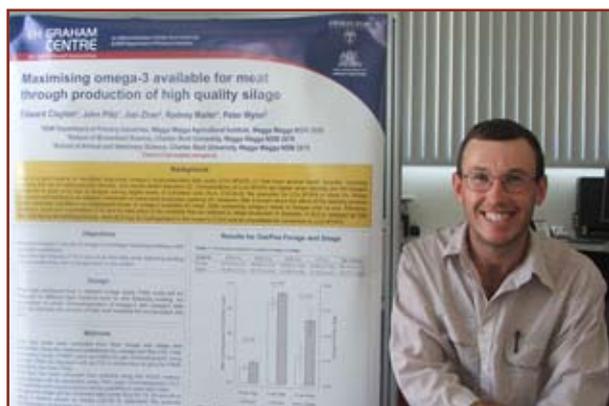
Ed travelled to Adelaide for the Nutrition Society of Australia National Scientific Meeting which was held from Sunday, 30 November – Wednesday, 3 December. The conference was attended by approximately 300 delegates from throughout Australia and internationally. The theme of the conference ‘Thoughtful Food’, included sessions on food sustainability, selenium for animal and human health, functional foods, dairy foods and health, gut function, omega-3 fatty acids and cognitive function and metabolism and health.

The conference was extremely stimulating with many ideas for new projects arising. The conference provided an opportunity to meet with research leaders from a number of national institutions, including Newcastle University, Melbourne University and Deakin University as well as Victorian DPI (Werribee) as well as international researchers. There is potential to develop collaboration, in particular, with Dr Eric Ponnampalam who has a specific interest in health aspects of lean red meat. A number of other researchers are also interested in collaborating with our projects, including Prof Frank Dunshea, University Melbourne and Prof Andy Sinclair, Deakin University.

The meeting allowed extensive discussions to be held with several leading researchers facing similar issues and will enable Ed to make informed decisions on how to integrate relevant findings into our current research programs. This will greatly assist in allowing us to submit world class competitive funding applications.

Ed presented a poster on 'Maximising omega-3 in meat through innovations in silage production' and an oral paper examining blood concentrations of long-chain omega-3 polyunsaturated fatty acids (LCn-3PUFA) in children and adolescents with juvenile bipolar disorder.

Some of the highlights of the conference included presentations by several researchers on the possible benefits of omega-3 fatty acids and how to incorporate higher levels of omega-3's into human diets. Ed also attended a very stimulating symposium on food sustainability. In addition, there were several 'social' functions where it was possible to chat more informally to people about their research and ways to develop links between organisations.



Dr Ed Clayton with Poster Presentation: 'Maximising omega-3 in meat through innovations in silage production'

The travel was aligned with two Graham Centre Strategic Research Initiatives, including the 'Utilising Sustainable Pasture Systems and Forage Conservation' initiative and the former 'Healthy Food Products' initiative. The primary objective of Ed's current research program is to develop new methods of silage production and feeding that will produce meat with superior nutritional quality high in beneficial omega-3 PUFA. This project is part of a larger research initiative within the Graham Centre examining omega-3 concentrations in meat and possible health benefits to humans. Two of the aims of this project are:

1. Publish results on the quality of omega-3 in silage in an internationally recognised journal.
2. Develop pilot data that will be used to attract further competitive funding to develop new methods of silage production and feeding that will produce meat with superior nutritional quality high in beneficial omega-3 PUFA.

The conference enabled:

- Data peer reviewed for a nationally recognised conference.
- Presented pilot data that will be used in an application to gain national competitive funding to further the work.
- Increased the profile of the Graham Centre as leaders in forage conservation and omega-3 research in Australia.

The Nutrition Society of Australia conference is a nationally recognised meeting in the field of animal and human nutrition and was attended by experts in the field and industry representatives. Presenting at the conference raised the profile of the Graham Centre and helped establish credibility for the current research project. Papers from the conference are also published in the internationally recognised journal *Asia Pacific Journal of Clinical Nutrition*, which has a wide readership in the field. Experiences gained during the conference will assist me in preparing an ARC linkage grant application to be submitted in 2009.. Further information: Dr Edward Clayton, [edward.clayton@dpi.nsw.gov.au](mailto:edward.clayton@dpi.nsw.gov.au), ph 02 6938 1971.

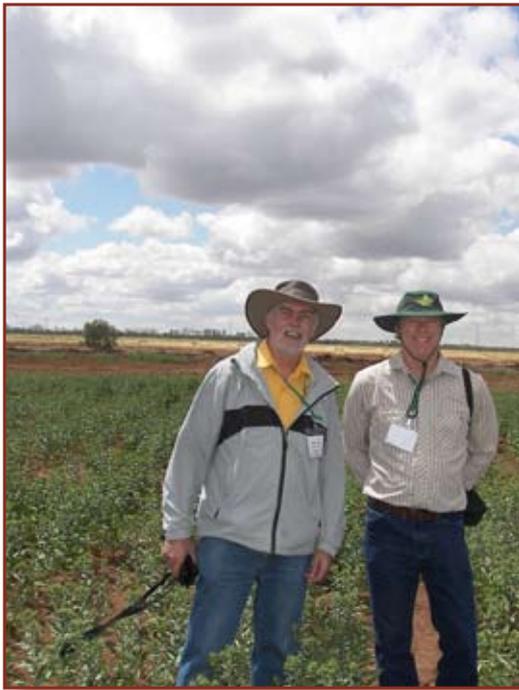
## Updates

### Optimising the quality and yield of spelt under organic production in SE Australia

Spelt (*Triticum aestivum* var. *spelta*), an ancient relative of modern bread wheat, is one of the oldest cultivated grains. Organically produced spelt is in high demand in the health food industry due to its nutritional, milling and taste attributes. However, supply constraints are frustrating industry expansion. Our research aims to identify new and higher yielding cultivars of spelt, better adapted to organic production and which exhibit superior quality attributes. Trials conducted during 2006 – 2007 at Cootamundra and Yanco in south western NSW and Rutherglen in northern Victoria, evaluated the agronomic and quality characteristics of 20 spelt genotypes (from an initial selection of 82) compared with reference crops of common wheat, barley and triticale, when grown in an organic production system. Results showed differences between the agronomic indicators (phosphorus uptake, disease response, maturity, and yield) and quality (milling) characteristics between spelt genotypes and reference crops.

Read more ... [http://www.regional.org.au/au/asa/2008/poster/emerging\\_opportunities/6235\\_neesonr.htm](http://www.regional.org.au/au/asa/2008/poster/emerging_opportunities/6235_neesonr.htm).

Further information: Robyn Neeson, [robyn.neeson@dpi.nsw.gov.au](mailto:robyn.neeson@dpi.nsw.gov.au), ph 02 6951 2735.



Conference delegates, Greg Buzza, NuFarm Pty Ltd, Melbourne, Australia with Art Weisker, Safflower Breeder, SeedTec, California, USA, at Coleambally. (Art Weisker's varieties are grown and marketed in Australia through Devexco International. [Photo: Sue Knights])

### 7<sup>th</sup> International Safflower Conference, November 2008

A unique oilseed event was held at Wagga Wagga on 3-6 November when the city hosted the 7<sup>th</sup> International Safflower Conference.

Under the conference theme "Safflower: unexploited potential and world adaptability", sessions were held on breeding, agronomy, quality, products and marketing. In addition, the program also included a field day at the Murrumbidgee Demonstration Farm, Coleambally, to showcase the latest varieties and agronomic practices.

More than 90 papers were submitted from around the world including Canada, USA, Italy, Turkey, India, Iran, Morocco, Spain, Chile, Lebanon and Mexico. The event was underwritten by the Australian Oilseeds Federation (AOF), for Australia's small but growing safflower industry to gain access to knowledge of international research, marketing and production of safflower.

Conference sponsors included Devexco International, Grains Research and Development Corporation (GRDC), Cargill, Goodman Fielder, Adams Australia, Twynam Agricultural Group, Cootamundra Oilseeds, CSIRO, Keith Seeds, Wagga Wagga City Council, Genstat and the EH Graham Centre.

Speakers included John Gilbert from the Adams Group in USA, Dr Nandini Nimbkar, President of the Nimbkar Agricultural Research Institute based at Phaltan, Maharashtra, Lorin DeBonte, Director of Research and Development,

Cargill's Specialty Oils, and David Hoffsten, Sales Manager of Adams Vegetable Oils.

The conference proceedings are available from the Australian Oilseeds Federation website <http://www.australianoilseeds.com/>. Further information: Dr Sue Knights, [sknights@vic.chariot.net.au](mailto:sknights@vic.chariot.net.au) ; ph 03 5382 5427.

### GM Breakfast & Seminar, November 2008

The Weed Society of NSW Inc, in conjunction with the Australian Institute of Agricultural Science and Technology, held a seminar on GM Crops: risks and benefits. Prior to the seminar held in Sydney, the Weed Society of NSW hosted Dr Suzanne Warwick, Principal Research Scientist with Agriculture and Agri-food Canada and keynote speaker at the seminar, on a tour of several agricultural regions of the state. Whilst in Wagga Wagga Suzanne and Murray Scholz, a local farmer and Nuffield Scholar, addressed an interested audience during a working breakfast organised by the Graham Centre. Attendees included farmers, consultants, researchers and students. The two speakers were able to inform the audience on the status of GM crops and herbicide use both in Canada and globally, together with market acceptance of GM products. After ten years of GM crops, Canadian farmers still see the technology as an important and useful tool in their integrated weed management strategies. Further information: Dr Rex Stanton, [rex.stanton@dpi.nsw.gov.au](mailto:rex.stanton@dpi.nsw.gov.au); ph 02 6938 1618.



Dr Suzanne Warwick, Principal Research Scientist with Agriculture and Agri-food Canada.

### Silverleaf Nightshade Field Day, December 2008

A field day was held on Thursday, 4 December to present some of the Meat and Livestock Australia funded research work currently being undertaken on silverleaf nightshade by scientists at the EH Graham Centre. This is the first industry-funded research to be conducted for many years on this weed, and around fifty people attended the field day. Attendees came from as far as Hay, Ungarie, Forbes and Holbrook, indicating how new information on controlling this serious summer weed is desperately sought by farmers, weed control officers and consultants. Farmers accounted for 45% of the attendance at the field day. Over 75% of the attendees completed a survey

form at the conclusion of the field day to provide researchers with feedback on their current knowledge and use of control practices, as well as indicating how useful the current research project outcomes may be to them.



A good turnout at the silverleaf nightshade field day.  
[Photo: Rex Stanton]

Current control options were not considered effective by nearly 90% of the farmers present. The presence of silverleaf nightshade affected the decision process of 95% of farmers when planning paddock use, potentially preventing them from using their land efficiently. One farmer commented that *"this is silverleaf nightmare"* and was appreciative of any research being done to find new control options. Over 80% of all attendees were keen to see continued research on this weed, with one attendee strongly promoting the continuation of this project as *"it is the only advancement in control knowledge available to us"*.

Herbicides remain the most common control option used by both farmers and weed control officers. However, some farmers are trying to tackle the problem with alternative approaches such as pastures, slashing and in some instances even turning to fire. There was

widespread agreement by all attendees that an integrated management approach was needed to effectively control silverleaf nightshade. However, the list of options was short and some of the tactics do not provide adequate levels of control when used in isolation. The development and extension of a management plan, showing when and how to combine various tactics, was seen by one farmer as a necessary tool not currently available. Further information: Dr Rex Stanton, [rex.stanton@dpi.nsw.gov.au](mailto:rex.stanton@dpi.nsw.gov.au); ph 02 6938 1618.

### Survey to help develop biological control for fruit fly

A survey is underway in Wagga Wagga, Ganmain, Cootamundra, Lake Cargellico, Gundagai and Albury to help develop biological controls for fruit fly and decrease the reliance on pesticides. Jennifer Spinner, a PhD student with the CRC National Plant Biosecurity based at the EH Graham Centre at Wagga Wagga, said she planned to collect stone (peaches, plums, apricots, nectarines, etc) and pome (apples and pears) fruit, citrus, capsicum, tomato and grapes, which have been 'stung' by fruit fly primarily from home gardens and small orchards. The fruit will be returned to the laboratory at Charles Sturt University, Wagga Wagga, where it will be held in containers in a controlled temperature environment until the emergence of either fruit fly or parasitic wasp.

"The wasps which emerge will be kept in the lab and used for trials. Data from the surveys, small lab-based trials and literature review, will contribute to the decision of which single species will be chosen for more detailed study," Mrs Spinner said.

Parasitic wasps are small wasps (less than 2.6 cm), which lay their eggs inside another insect, and use this as a food source, ultimately killing it. If this host insect is a pest insect, then the parasitic wasp can be used to control the pest insect and is known as a bio-control agent.

"The ultimate aim of the project is to rear these tiny wasps in large quantities in the lab, so that growers may be able to utilise them in the control of fruit fly and decrease their reliance on pesticides," Mrs Spinner said.



Queensland fruit fly (*Bactrocera tryoni*) on a peach. [Photo: NSW DPI PhotoLibrary]

She said the current chemicals registered for fruit fly control were under review as they could be quite toxic to mammals if used incorrectly. "The community and the environment will both benefit from a reduction in the use of these chemicals if a suitable biological control can be found. There are also biodiversity benefits for the environment," Mrs Spinner said.

The survey will run until the end of February 2009. Further information: Jennifer Spinner, [jspinner@csu.edu.au](mailto:jspinner@csu.edu.au); ph 02 6938 4212.

## In the Limelight

### Dr Gaye Krebs

**Position:** Senior Lecturer Animal Nutrition & Welfare

**Organisation:** School of Animal & Veterinary Sciences, Charles Sturt University, Wagga Wagga

#### Career Brief

Upon completion of my PhD (way back in the 1980s) I took up a teaching position at the University of Technology at Lae in Papua New Guinea teaching animal nutrition and biochemistry. During my 2½- years stay in PNG I also took up some consultancy work, undertaking animal nutrition research for local feed companies as well as feasibility studies for the establishment of beef feedlots in different Provinces. My next move was to the DPI in Queensland, working for the sheep and wool branch but the lure was strong to return to academia and I starting working at Curtin University of Technology in 1993, teaching the majority of the animal subjects in the agribusiness degree. During my time at Curtin I was involved in the supervision of many Honours and Postgraduate students. I joined the School of Animal and Veterinary Sciences (SAVS) at CSU in January 2008.



#### Research and Teaching Activities and Interests

##### Research activities

My major focus in recent years has been the use of faecal analysis to determine diet composition in grazing animals, especially those grazing on the rangelands. The challenge in the rangelands are the tannin containing browse plants that animals consume – these confound existing methodologies for determining diet quality and composition from faecal analysis. Together with two other researchers from CSU, we are now extending this technology, especially that of faecal DNA to the area of diagnostics of plant poisoning in grazing animals. In 2009 my research activities will extend beyond grazing animals to include poultry nutrition, with again particular emphasis on tannin-containing feeds.

##### Teaching activities

Subject coordinator for Animal Nutrition 2 and Animal Structure & Function as well as teaching many other subjects where links to animal nutrition can be made.

##### Professional Links

- Australian Society of Animal Production.

**A typical day for me includes ...** teaching, reviewing chapters from postgrad students, working on papers for publication, marking student assignments.

**My main project at the moment is ...** publishing past research and applying for funding to extend the diet quality and faecal analysis work.

**My favourite part of my job is ...** interacting with students and doing research that has practical application.

**When I am not in the office I like ...** gardening.

**Current CD in my car would be ...** Kings of Leon.

## Dr Brian Dear

**Position:** Senior Principal Research Scientist (Pastures) with NSW DPI and Adjunct Professor at CSU

**Organisation:** NSW Department of Primary Industries, Wagga Wagga

### Career Brief

After graduating in Rural Science at the University of New England I joined a large group of other trainees at Yanco where I completed the Advanced Certificate in Irrigation. From there I was offered a position as a research agronomist working in the high country of the Monaro. Based at CSIRO Black Mountain in Canberra I was fortunate to work with leading scientists in plant breeding and plant nutrition and completed a Masters Degree in phosphorus nutrition of annual legumes. In 1984, I was asked to move to Wagga to run the subterranean clover breeding and selection program. My interests in pasture crop farming systems led to my PhD studies of annual-perennial pasture swards at the University of Western Australia. Most recently I have been a sub program leader in the CRC for Plant based Management of Dryland Salinity and a project leader in the CRC for Future Farm Industries.



### Research and Teaching Activities and Interests

#### Research activities

Introducing new species of cultivars of annual legumes to the mixed cropping zone has been a long term research interest. My more recent research has focussed on achieving more resilient mixtures of annual and perennial pasture species better able to cope with variable climates that are affecting the productivity of our traditional pastures.

#### Teaching activities

I have been supervising Masters and PhD postgraduate students for a number of years at Charles Sturt University. More recently I have been giving a series of lectures on pasture management to undergraduates at the University of Sydney.

#### Professional Links

- Member of the Australian Agronomy Society and NSW Grasslands Society
- Chair the DPI Research Scientists Vocation Branch

**A typical day for me includes ...** answering any email requests, writing up experimental results and preparing papers for publication.

**My main project at the moment is ...** leading a new project called EverCrop which is designed to explore new options for using perennial pasture species in the wheat-sheep belt.

**My favourite part of my job is ...** seeing my research findings being put into practice either in the form of new cultivars or changes in farming practices.

**When I am not in the office I like ...** enjoying my garden, travel, reading.

**Current CD in my car would be ...** usually an eclectic mix, currently 'Secret Garden'.

## Autumn Edition of The Innovator

The Autumn Edition of The Innovator will be released in mid April 2009. Submission of articles for this edition closes on **Friday, 20 March 2009**. Please email articles to **Sharon Kiss**.



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*Continuing 100 years of agricultural research*