

operations has been identified as critical for the viability of the region.

In March 2009 the panel toured the South Burnett and central Queensland coastal regions with the view of assessing the potential for further farming systems R,D&E collaboration.

A joint initiative between GRDC and the SSRDC in late 2008 is supporting the linking of coastal farming operations with rotational legume cropping knowledge critical to the future viability of the region.

The Burnett and Southern Coastal Farming Systems project led by QDPI&F principal agronomist Dr Mike Bell will enhance soil health and ultimately impact on levels of fertiliser use in sugarcane.

Panel changes

July 2008 saw the three-year term of the Northern Panel come to an end. Every three years approximately half the panel is revolved.

The new panel members are:

- Jodi McLean, who brings a wealth of scientific background and understanding to the panel;
- Penny Heuston, a private agronomist in the Warren district who also has a great network around the NSW central west;
- Rob Taylor, a grower from Queensland's Darling Downs region. Rob has had a long association with local R&D in this area and brings a wealth of practical farming and farming systems knowledge to the panel; and,
- Aaron Sanderson, who has experienced farming in central Queensland and is now based in the Burdekin region. Aaron brings his knowledge of both regions to the panel. The Northern Panel recognises the issues associated with coastal farming systems and the potential for new and smaller crop types.

Growers Bill Yates, Garah, NSW and Richard Heath, Gunnedah, NSW remain on the panel, along with Brisbane-based scientist David Freebairn and Toowoomba, Queensland-based wheat researcher John Sheppard.

Looking forward

The Northern Panel's job continues to be focusing R&D to make sure it is meeting growers' needs now and building a strong research capacity to address longer term challenges.

As well as today's challenges, we need to picture what the farming system will be like in 20 years and to set up our R,D&E systems to meet these challenges and help keep growers profitable and viable.

We must scope what growers are likely to need in terms of technology and information but not be too prescriptive. Succession plans in key research areas are an important part of this process.

There are many challenges and opportunities for the grains industry to deal with in coming years such as climate change; government and environmental constraints; carbon taxes; emissions trading schemes; a deregulated wheat market; GM crops; changes to domestic and export supply chains; grain storage pests; and the potential rising prominence of legumes in rotations if fertiliser costs again become prohibitive.

James Clark
Chair, GRDC Northern Region Panel

Southern Region

Despite yet another promising start, the 2008 winter cropping season failed to deliver on expectations with tonnages in southern New South Wales, Victoria and South Australia falling well below average. An encouraging aspect of the season was that grain prices remained solid and many growers were at least able to achieve some value for their efforts. Forward forecasts for the industry's long-term prospects remain positive.



David Shannon.

Drought and increasing climate variability have prompted many growers to develop and implement low-input strategies to reduce costs. Coupled with market deregulation, this has led to a need for growers to improve their management, business and marketing skills. The GRDC is playing a key role assisting growers with whole-farm management, with publications providing information about low-risk farming, farming with limited finances and grain marketing options, as well as projects looking at benchmarking and the impacts of reduced inputs.

GM canola

Another positive in 2008 was the inclusion of GM canola in NSW and Victorian cropping systems. GM canola performed well in the difficult conditions. National Variety Trials (NVT) demonstrated that GM varieties were comparable to non-GM varieties in yield and quality. The experience of individual growers – some of which have been captured in the GRDC publication *GM Canola – Performance and Experience in 2008* – was that weed control was relatively easy, cheaper, safer and more effective.

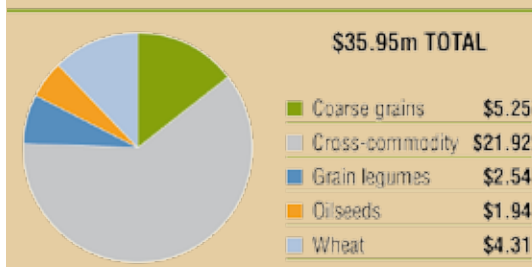
Varieties

There is much to feel positive about with regard to crop breeding.

Barley Breeding Australia (BBA) is providing a platform to progress a national view on Australia's barley breeding needs. The three breeding nodes (BBA West, BBA South and BBA North) are progressing a steady stream of varieties that not only meet the needs in their own local region but also meet the domestic malting barley, feed and export markets in other areas. This national approach has resulted in the breeding of barley varieties not just relevant to the region they have been bred in but also able to meet the needs of other regions.

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BBA's first malting variety – Commander – is a high-yielding mid to late-maturing barley specifically suited to the Australian brewing industry. In NVT trials in southern NSW it achieved consistently high yields, including 2.43 tonnes per hectare at Lockhart.

Australia now enjoys a mature wheat breeding environment comprising competitive companies developing new varieties with good rust resistance, good yield potential and good quality. Some varieties released from breeding programs have performed extremely well in difficult conditions. A highlight in 2008 was the performance of Axe, an early-flowering variety, which achieved an average yield of 2.1 tonnes per hectare across trial sites in SA (9 per cent above Yitpi) despite a very poor finish to the season.

For other crop types, highlights include two new Desi chickpea varieties and two new lentil varieties with better resistance to fungal diseases such as ascochyta blight. Dune was also released, the first canola-quality 'Juncea' variety bred for drought tolerance and is suited to low rainfall areas.



The GRDC Southern Regional Panel (clockwise from top left): Richard Konzag, Andy Barr, Mark Peoples, Allan Mayfield, Peter Schwarz, Carolyn Pearson (Southern Regional Panel Support Officer), John Crosbie, Merna Curnow, Andrew Rice, David Shannon. Centre: Chris Blanchard. (Photo: www.geoffcomfort.com)

Rust

The GRDC is investing more funds in the ongoing war on cereal rust to keep ahead of changing strains. Last year was not a good one for rust. Australian farmers spent approximately \$45 million on fungicides in one of the most intensive epidemics in the disease's Australian history. The 2008 season saw the emergence of yet another new strain late in the season – the 'Jackie Yr27' pathotype.

Growers are nonetheless keeping pace with cereal rust thanks to new varieties with triple rust resistance and better management principles. The GRDC is not only investing heavily in these areas but has also joined the international effort to stop the spread of the Ug99 stem rust strain.

Biosecurity plan

With Plant Health Australia and the Grains Council of Australia, the GRDC recently launched the Grains Industry Biosecurity Plan comprising surveillance strategies, diagnostics protocols, contingency plans, an on-farm biosecurity program, the development of a farm biosecurity manual and the provision of grains biosecurity officers.

Climate and environment

In August the GRDC released its first-ever comprehensive environmental plan for the Australian grains industry.

The plan demonstrates the grains industry's commitment to environmental management, with grain growers leading the response to the challenges of a changing climate. It includes the compilation of data which demonstrates the level of environmental management practices already used on-farm. The plan aims to develop innovative solutions that are profitable, productive and sustainable; facilitate the recording, analysis and communication of the grains industry's green credentials; and, deliver environmental leadership through improved capacity, strong relationships and clear communication.

An interesting development in this area – and a highlight of the Southern Panel's 2008 Spring Tour – is the Free Air Carbon Experiment being run by the Victorian Department of Primary Industries (DPI) at Horsham, which is modelling crop growth under altered CO₂ conditions. The CSIRO has also done a great deal of work on the potential of broadacre cropping to sequester carbon in the soil.

Agronomy

Farming practices continue to evolve with Australian grain producers at the forefront of innovation. An important result of the drought has been the emphasis on the need for soil testing for nutrients in order to gain the most benefit from accurate applications of fertiliser. A highlight in this area is a new DGT (Diffusive Gradients in Thin-Films) test for phosphorus developed by Sean Mason at the University of Adelaide.

There has been a strong push in recent years to measure and improve water-use efficiency (WUE), with emphasis on maximising the yield potential of crops in high rainfall zones. Growers have made impressive gains in this area, and these gains have sometimes made the difference in an environment of reduced growing season rainfall and higher spring temperatures. The increase in WUE is a direct result of improved practices, including timeliness of seeding, effective summer weed control, stubble retention and flexible nitrogen management.

On-farm storage

Market deregulation would appear to have led to a sudden rise in demand for on-farm grain storage, and the GRDC has responded with the development of a program aimed at providing growers with information about best practice on-farm storage. Silos are a significant investment for growers and the program is intended to assist them in maximising the benefits while managing the risks.

Spring tour

The Regional Panel Spring Tours were held in early September, and the Southern Panel enjoyed a busy week with panel members dividing into two groups – one covering South Australia and Victoria, and a second eastern leg covering New South Wales and the ACT.

The annual Spring Tours are the opportunity for panel members to consult extensively with researchers, growers, advisers and industry representatives, on a wide range of emerging grains issues. This consultation with industry forms the platform for setting our research priorities and future benchmarks.

New Southern Panel members

The Spring Tour was the first for four new panel members, whose wide variety of expertise in research, industry and farming is adding considerably to our efforts to prioritise research in the southern region. In addition to the re-appointments of Dr Mark Peoples, Merna Curnow, Andrew Rice, Dr Allan Mayfield and Dr Andy Barr, the following members were newly appointed to the panel in 2008:

- Peter Schwarz, an irrigation farmer at Naringaningalook north of Shepparton in Victoria, chairman of the Victorian Irrigated Cropping Council, deputy chair of the Goulburn Murray Landcare Network and treasurer of the Irrigated Cropping Forum.
- Richard Konzag, a farmer at Mallala in SA, a member of the SA Advisory Board of Agriculture (Executive) and chair of the 'Achieving an informed and supportive Government' working group.
- Dr Chris Blanchard, senior lecturer at Charles Sturt University's School of Biomedical Sciences, a graduate of the Australian Rural Leadership Program and former chair of the Royal Australian Chemical Institute (Cereal Chemistry Division).
- John Crosbie, a supply chain, logistics and change management consultant based in Victoria, former director of the Quality Wheat CRC, Graingene, and Export Grain Logistics Pty Ltd.

David Shannon
Chair, GRDC Southern Region Panel



GRDC Southern Panel Deputy Chair, Mark Peoples and Chair, David Shannon on Spring Tour. (Photo: Porter Novelli)

Western Region

WA's grain growers in 2008 may well have thought themselves recipients of the Chinese curse 'may you live in interesting times'.

The 2008–09 grain harvest of 13 million tonnes was the second highest on record, achieved despite multiple challenges, including unseasonal rain, hail, dry periods and frost. One –40°C frost event on the night of September 22 caused many Great Southern growers to lose up to 90 per cent of their crop.

With a rust epidemic occurring in the eastern states, WA growers were warned to be vigilant, but rust, when and where it occurred, was well contained.

In addition, there were changes in grain marketing, considerable debate over GM crops, issues associated with raising and maintaining soil organic carbon, climate change, and much discussion about future carbon accounting legislation. Crops planted on record grain prices and high fertiliser and fuel costs were harvested on falling grain prices.

Despite all these factors, WA growers continue to demonstrate that they're at the forefront of productivity and efficiency in their industry.

2009 priorities

Breeding crops more tolerant to drought and disease, improving seasonal forecasting and providing tools and services to growers to manage climate risk are key strategies of the GRDC's current Strategic R&D five year plan 2007–2012, *Prosperity Through Innovation*.

With the focus on proactively addressing climate variability and sustainability issues, part of the plan is to deliver and facilitate adoption of practical approaches to minimise nitrous oxide emissions, including more efficient application of nitrogenous fertilisers. Water use efficiency will also be addressed.

Integrated pest and weed management will receive greater attention in an attempt to reduce reliance on chemicals and prevent development of resistant plant and fungal species.

Dr Richard Oliver and his team at the Australian Centre for Necrotrophic Fungal Pathogens (ACNFP), Murdoch University, will survey growers to determine the extent of resistance in fungal diseases of grain.

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