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attendance figures rise every year, and that record numbers attended the Adviser Updates in Adelaide and Ballarat in February this year.

The updates will continue to be an effective conduit of information to Australian growers while the GRDC looks to new and additional ways of interacting with growers, researchers and the industry. This year will see the first series of technical workshops held in the Southern Region. The workshops will have a more specific focus on particular topics to compliment the more broad agendas at updates.

The Southern Panel

As we are in the final year of the current panel's three-year term, growers can expect to see a few new faces on the GRDC Southern Regional Panel when we embark on our 2008 Spring Tour. I've been privileged to work with the growers, scientists and industry representatives on this panel. They have undertaken a considerable effort to liaise with growers and the research sector, and have achieved important outcomes benefitting growers. To date there have been many high quality applications for positions on the panel, and I look forward to working with the successful applicants.

The panel has also been delighted with the appointment last year of NSW grower Keith Perrett as the GRDC's Chairman. Keith has had extensive experience representing growers' interests with the NSW Farmers Association and the Grains Council of Australia, and he has brought a unique perspective and range of important skills to the GRDC Board.

**David Shannon, Chairman
GRDC Southern Panel**



GRDC Southern Panel members Mark Peoples and David Shannon examine a plot of Federation wheat on a visit to the Victorian DPI Research Station at Walpeup during the 2007 Spring Tour.

Northern Panel

It has been a year of contrasts across the Northern Region with drought and floods driving home the enormously variable conditions under which our grain growers operate.

The challenges of crown rot and stripe rust continue to present the greatest disease challenges and the Research Advisory Committees (RACs) have specifically requested a continued focus on Rutherglen bug management as part of QDPI&F's GRDC-supported integrated pest management project.

Looking ahead, a new panel will be in place by July 2008 and after a decade on the GRDC Northern Panel I finished my term in April.

Northern Grower Alliance

The successful GRDC initiative, Northern Grower Alliance (NGA), was launched in May 2006 in response to grower needs in north western NSW and southern Queensland for additional on-farm validation of new agronomic tools.

NGA, led by chief executive officer Richard Daniel and drawing together some of the region's leading agronomists, aims to:

- Take promising research to commercial validation earlier, resulting in more rapid uptake and improved levels of commercial adoption;
- Provide additional grower/industry-driven feedback on needs to researchers; and,
- Address both short term responsive and longer term strategic production constraints.

NGA hit the ground running with trials to validate the benefits from inter-row sowing for crown rot management; 'at planting' stripe rust management; and the impact of timing and product choice for foliar stripe rust management.

Other trials included assessing the economic benefits from fungicide application to control spot form of net blotch (SFNB) in barley – a greater northern region risk than other areas due to dry winters with low rates of stubble breakdown, combined with an increase in stubble retention for moisture benefits.

The western NSW projects are now being complemented with collaborative canopy management trials between NGA, NSW DPI and several Liverpool Plains-based grower groups.

Crown rot research gains

NGA trials on inter-row planting to combat crown rot aimed to determine the yield and economic benefits of inter-row planting, provide additional disease information and to ensure that inter-row sowing is used in the most appropriate situations.

Further research showed a potential management benefit by keeping new cereal rows as far away from infected stubble as possible through inter-row planting.



**Ian Buss, Northern Panel
Chair (term completed April
2008).**

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NGA's 2007 research trials have shown crown rot has a much bigger impact on barley yield than previously thought – an average loss of 360 kg per hectare or 20 per cent in barley yield over 11 trials and a drop of 340 kg, or 25 per cent, in wheat.

Stripe rust management

GRDC is promoting a three-pronged rust management strategy of green bridge control, rust-resistant varieties and seed dressings.

In the past there has been very little information on the economics of treating for stripe rust in northern NSW, with most decision support tools and trial results being generated in southern Australia where climatic conditions are generally quite different.

Stripe rust management, in the northern grains region, has often previously been seen as of questionable value. Generally it was expected that our rapidly increasing spring temperatures would help limit the spread and damage due to this rust in wheat. When combined with the relatively high cost of foliar fungicides, the common strategy was to wait as long as possible before spraying – if at all.

Three key changes have occurred in recent years

- The 'WA strain' of stripe rust became well established from 2003 onwards with higher virulence (more aggressive and damaging) than previous strains and affecting more varieties;
- The cost of foliar fungicides has substantially decreased; and,
- Registration of new seed or fertiliser options with greatly increased lengths of stripe rust control and suppression.

GRDC-supported research shows applying foliar fungicides early in a stripe rust outbreak is critical, especially in more susceptible varieties, as the disease will continue to develop for a few days after application, depending on the 'kick-back' activity of the fungicide. Delaying application means that more active ingredient is consumed in destroying the increased fungal growth and pustules that develop in leaves. 'Cleaning-up' these more advanced infections potentially reduces both the kick-back activity and length of protection of the fungicide.

Herbicide resistance

Herbicide resistant wild oats are rapidly becoming one of the key threats to a sustainable northern farming system. Resistant wild oats pose management problems in any crop where these herbicides have previously been relied upon, but the threat appears greater to chickpea production.

Chickpeas are most at risk as they are a poor competitor and are often produced on wide rows, but also only have Group A herbicides available for post-emergent control. When coupled with the fact that chickpeas are the major northern winter rotation crop, any threat to chickpea production could have a major impact on our overall farming system.

Testing in recent seasons has confirmed rapidly increasing numbers of northern wild oat populations have resistance to Group A chemistry (both 'fops' and 'dims'). In itself this would be a major concern but it is alarming when populations are also being found with resistance to the only other post emergent selective options – the Group B and K herbicides.

The number one goal for any weed management is to



Ian Buss, GRDC Northern Panel Chair discusses the NSW DPI durum breeding trials with Ray Hare, NSW DPI wheat breeder, Tamworth.

reduce seedbank replenishment and consequently reduce the population level and impact. Rotation with summer crops will be the most effective option but there is obviously a limit to the number of paddocks which can be rotated to crops such as sorghum.

As an industry we also need to employ additional tools in or around our winter cropping program.

GRDC-supported work – led by Andrew Storrie, NSW DPI and Steve Walker, QDPI&F – continues to combat the problem head on.

Central Qld Sustainable Farming Systems Project

Over the past five years, grain growers in Central Queensland have adopted management practices that will increase profit by some \$10 million annually across the region, and provide significant environmental benefits.

They also have one of the world's highest rates of adoption...72▷



The GRDC Northern Panel toured the Liverpool Plains in August 2007. Back row: David Freebairn, James Clark, Chris Joseph, Graeme Wright, Greg Fraser, John Sheppard. Front row: Richard Heath, Ian Buss and GRDC Manager Validation and Adoption, Stuart Kearns. (Inset: Bill Yates)

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tion of zero and minimum tillage – now practiced on 95 per cent of the Central Queensland cropping area.

These were the impressive results of a survey carried out by the CQSFSP to assess the impact of its grower-initiated, practical on-farm research. GRDC approved a further three year's funding for the project.

Southern Qld 'mega project'

Two major GRDC-supported farming systems projects combined forces in late 2007.

The Western Farming Systems and Eastern Farming Systems projects were merged under a mega project known as the Southern Queensland Farming Systems (SQFS) project.

GRDC will support both short and long term activities under the SQFS project banner with research and extension projects running from one to three years. Collaborators include agribusiness consultants and growers.

Some of the activities include integrating short-term pasture phases into grain enterprises and investigating water balance.

- Other research will focus on:
- Chickpea agronomy;
- Soil nutrition;
- Quantifying water evaporation in farming systems; and,
- The profitability and sustainability of incorporating cover crops in the grain enterprise.

GRDC Updates

Key exit survey results show the early 2007 round of GRDC Grower and Adviser Updates hit the mark in providing cutting edge grain research findings directly to decision makers.

Close to 100 per cent of attendees believed the Updates provided new information of value to them in their grain and agronomy businesses.



GRDC Northern Panelists Ted Knights and Graeme Wright inspecting glasshouse trials.



Greg Fraser, GRDC Executive Manager – Practices and James Clark, GRDC Northern Panelist discuss Pursehouse Rural irrigation trial sites on the Liverpool Plains with local grower Grayson Gulliver, Dindly Station, Quirindi.

Two two-day Adviser Updates were held in February–March, at Dubbo (142 participants) and Goondiwindi (265). Four Grower Updates were held at Nyngan (80), Coolah (97), Narrabri (103) and Dalby (108).

In July, a highly successful two-day Update, run in conjunction QDPI&F at Emerald, focused on planning for summer crops.

Other Updates included fixtures at Moree and Spring Ridge, NSW.

Mike Bell, QDPI&F soil scientist was presented with the Seed of Light award at the Goondiwindi Update.

Spring Tour

The GRDC Northern Panel toured the NSW regions of Tamworth, the Liverpool Plains and Narrabri during late August 2007. As usual, the Spring Tour gave panelists the opportunity to discuss the threats and opportunities impacting on the grain industry with growers, researchers and fellow panel members.

Tamworth NSW DPI Research Station showcased research progress, including the national Desi chickpea program which has been making gains in disease resistance in new varieties.

Communication between GRDC and the researchers is a two-way street so a tour like this allows the researchers to get across some of the issues we are facing with our projects and how the research process works.

Three Tamworth-based value-added grain businesses hosted the Panel, including Bellata Gold pasta plant, Joe White Maltings and Ridley AgriProducts.

On the Liverpool Plains – which was experiencing its best season for three years – the Panel met with three grower groups running GRDC-supported trials.

The outgoing GRDC Northern Panel includes: growers James Clark (appointed new chairman effective April 1, 2008), Richard Heath, Bill Yates and Chris Joseph; scientists David Freebairn, Graeme Wright, John Sheppardson; and GRDC Executive Manager Practices, Greg Fraser. Gunnedah-based consultant Di Bentley also served on the Panel during its recent term, resigning in August 2007.

Ian Buss, Chairman (term completed April, 2008)
GRDC Northern Panel