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**GRDC
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INDUSTRY**

Western Panel

Diverse rainfall characterised another testing year for WA graingrowers in 2007, with many crossing their fingers for kinder conditions in 2008.

The south east agricultural region had good opening rains and then a low spring rainfall.

In the central agricultural region rainfall was below average, except in the Avon where there was average to above average rainfall and corresponding yields.

Great Southern growers had good production conditions and subsequently high yields.

A failure of winter rain in the northern agricultural regions saw many crops established on rainfall events of less than 10 mm and failure to receive adequate spring rain meant some crops were not harvested.

Production figures from CBH indicate 8.5 million tonnes of WA grain in the bins at 2007–08 season's end, compared with the state's 11 million tonne average.

2008 PRIORITIES

Current priorities continue, with additional focus on maximising fertiliser efficiency as a breeding objective and within on-farm practices. Integrated pest management will receive greater attention in an attempt to reduce reliance on pesticides. Rapid testing to establish grain varietal identity and purity are important in the current market and will be pursued. Remote sensing of crop diseases will have great benefit if cost can be kept low and accuracy high.

Sustainable futures



Neil Young,
Western Panel Chair.

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

The focus is 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.

GRDC-supported University of Western Australia researcher, Dr Louise Barton, measured annual nitrous oxide emissions in the wheatbelt to determine the influence of WA's grain production on global greenhouse gas emissions.

Louise found that extrapolating international emission factors to estimate nitrous oxide from the WA wheatbelt was not appropriate due to differences in soil type, climate and nitrogenous fertiliser management.

The international default value overestimated greenhouse gases from wheat production at a site in Cunderdin.

The R&D five year plan includes looking at the impact of elevated atmospheric carbon dioxide on grain yield and quality and developing more accurate measurements of carbon sequestration and greenhouse gas emissions.

With the Australian Centre for Plant Functional Genomics, the GRDC continues to invest in developing more resilient drought and frost tolerant grain varieties.

Developing an operational regional forecasting system that is more responsive to local factors is well underway.

GRDC-supported DAFWA researcher, Dr David Stephens, provided the first step in better long-lead rainfall outlooks for much of Australia's cropping areas. He developed the El Niño-Southern Oscillation (ENSO) Sequence System (ESS), an analogue system that predicts growing season rainfall with skill and lead-time.

The GRDC has targeted a 10 per cent increase in water use efficiency in certain agro-ecological zones by 2012, which would significantly lift productivity and profitability of the grains industry.

Working more closely with government, industry, research partners and other RDCs ensures a national collaborative approach to climate change and will help turn climate-related risks into opportunities for growers.

A GRDC funded research project has generated and tested daily climate files for current conditions and for the middle of the 21st century.

Principal researchers, Dr Imma Farre and Dr Ian Foster, both of DAFWA, used the data to identify changes in wheat production, or quality, from current to future climate.

Simulated climate data demonstrated that for the mid 21st century in southern WA, temperature and carbon dioxide concentrations would increase and growing season rainfall decrease.

Imma and Ian also found that total annual rainfall reductions tended to be higher in the high-rainfall locations. The highest seasonal rainfall reduction was predicted for April to June, resulting in later sowing opportunities and decreasing expected yields.

Yield consistently declined in the low rainfall zones and increased in some high rainfall locations and waterlogging-prone soils. Heavier soil types, such as clay, were more



GRDC Western Panel members Professor Richard Oliver (seated foreground) of Murdoch University and Professor Robert Belford (seated left) of Curtin University/Muresk travelling from one trial site to another during the 2007 GRDC Panel Spring Tour in Esperance.

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vulnerable to climate change than lighter soils.

GRDC National Panel visited the central wheatbelt and saw the GRDC supported WANTFA long-term trial site at Cunderdin Agricultural College, which is trying to understand how to optimise profitability without compromising sustainability within a cropping system. This large-scale project looked most promising.

InterGrain launch

InterGrain, the new WA wheat breeding company and corporate product of a long term partnership between DAFWA and the GRDC, was launched in October.

It made an immediate impact in the market by the release of two outstanding new varieties, the high yielding Australian Premium White (APW) variety, Magenta and the premium quality udon noodle grade variety, Yandanooka.

Both are expected to have major market impact in WA and, in the case of Magenta, also in South Australia and Victoria.

According to Dale Baker, InterGrain's Chairman and former Western Panel Chairman, forming the company is in keeping with changing times and the trend for wheat breeding to be run as a business.

Seed of Light

PestFax Editor Peter Mangano of DAFWA received the GRDC 2007 *Seed of Light* Award at the GRDC-supported 2007 Agribusiness Crop Updates at Burswood.

Started by DAFWA's entomology section, PestFax initially focussed on major insect incidence in the wheatbelt, with early field reporting largely from entomologists in major regional centres, with some input from regional advisors and researchers.

I had the pleasure of presenting Peter the Award for Excellence in Communication and I pointed out to the Updates' audience that Peter's weekly series of pest news updates was high impact extension and communication with direct financial benefit for growers.

Peter also had a good rapport with the major agronomist networks of agribusiness companies such as Landmark, Elders, UFC and CRT and with chemical company field representatives and researchers, leading to a high incidence of timely reporting of pests and diseases by their staff.

Nuffield scholars

Mark Graham and Simon Tiller were recipients of 2007 Nuffield scholarships, supported by the GRDC.

Popanyinning-based Mark Graham will use his scholarship to determine the opportunities and risks for Australian agriculture in the changing energy market, with a focus on broadacre cropping.

He will examine how the changing price of energy affects prices of grain, fuel, fertiliser, chemicals and land.

Esperance-based Simon Tiller will investigate farming systems that add value to, or recycle, many or all of their products and byproducts.

He will assess biofuel technology, hay, straw and grain use and processing, feed lotting, feed grain and fodder production and integrated storage systems

Harvest Calculator

A Harvest Calculator and High Moisture Harvesting Booklet developed over two years by South East Premium Wheat Growers Association (SEPWA) Projects Officer,

Nigel Metz, will help growers make decisions on the associated costs and benefits of harvesting at higher grain moisture levels to maximise returns.

They were produced by CBH and SEPWA, with assistance from the GRDC and DAFF.

Nigel indicated that data in the booklet substantiates the economic benefits of harvesting at higher grain moisture levels. Most growers, irrespective of growing region, experience grain moisture issues at some stage.

Primarily a management tool, the calculator can determine if more rapid harvest, via additional harvest hours, with associated costs of blending, aerated storage or drying, is a better option than more traditional harvest methods.

New lupin

New lupin variety, Jenabillup, was launched at the Esperance Downs Station Field Day during the Western Panel 2007 Spring Tour.

Dr Bevan Buirchell, Senior Lupin Breeder at DAFWA, indicated Jenabillup should perform well in high rainfall areas of the south coast and reasonably well in low rainfall areas. Performance would not be as good in areas with moderate rainfall.

Jenabillup is not susceptible to black pod syndrome (BPS) and will increase yield by five per cent and by up to 30 per cent in areas with BPS.

Bevan said the new variety has poor tolerance to metribuzin and only moderate resistance to anthracnose and may not suit areas where this is a high risk factor.

Frost risk

A comprehensive and practical guide to frost risk management was released to help growers minimise and manage frost risk.

Managing Frost Risk, a joint publication between ConsultAg in WA and SARDI, is the outcome of five years of GRDC funded frost agronomy research.

The guide will help growers make frost management decisions on high-risk paddocks, especially in the southern and central wheatbelt.

Co-author Garren Knell of ConsultAg, WA, said it dis-

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GRDC Western Panel Chairman, Neil Young (left) of Kojonup and Panel member Ralph Burnett of Albany inspecting a canola trial during the 2007 GRDC Panel Spring Tour in Esperance.

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cussed the economic impact of frost for growers, focusing heavily on maximising returns and minimising risk.

Growers face sudden crop death with frost, compared to drought, which they can see develop and put plans in place. The booklet details how to avoid or minimise frost and assess damage, explaining what growers can do with frosted crops to maximise returns that year or beyond.

It also explores options for frost management, highlighting crop choice, sowing time and variety selection as the most important management factors.

Although there's no 100 per cent protection against frost, the booklet provides WA growers with support, guidance and comfort to reduce frost's impact.

Spring tour

The impression the Western Panel gained during the 2007 Spring Tour was that graingrowers in the areas visited were optimistic and having a good season.

One tour group travelled to Esperance, Munglipup, Ravensthorpe, Lake King, Cascade and Wittenoom Hills, where the Panel visited a range of National Variety Trials sites, plus joined SEPWA, DAFWA and RAIN grower field days.

A second tour group went to Salmon Gums and Grass Patch, met with the Liebe Group and travelled to Cascade and onto Wittenoom for the SEPWA variety trial.

GRDC Western Panel members, executive management and GRDC Board Director Philip Young met with researchers and growers at trials and discussed the progress of current research and prospective outcomes.

Panel thanks

Sincere thanks to all Panel members who contributed their skills and knowledge in 2007: Ruth Young, Merrie Carlshausen, Ben Curtis, Ralph Burnett, Professor Robert Belford, Professor Richard Oliver, Dr Iftikhar Mostafa and Vince Logan, along with David Capper who resigned in January 2008.

Southern Panel

Grain growers in the Southern Region were understandably disappointed with a second consecutive year of low rainfall and reduced yields across most districts, especially after such a promising early start. Many crops were cut for hay.

Although grain tonnages rose significantly in Victoria and South Australia they were still well down from those achieved in 2005, while in southern New South Wales production fell even from the previous year's low figures.

Another development we noted in 2007 was that many growers in the Southern Region experienced difficulties with their marketing programs, particularly with regard to forward selling.

In a quick response to the poor season and marketing problems, the GRDC-funded Low Rainfall Collaboration Project gathered together a group of farmers, researchers, consultant, advisers, bankers and marketing experts for a workshop in November 2007 to develop tools and guidelines that could assist growers in reducing their level of risk. The result of the workshop was the publication of the *GRDC 2008 Planning Guide for Low-Risk Farming*.

The guide is designed to help growers work their way through a decision-making process that will lead to the best possible outcomes for the 2008 cropping season. It was launched during the GRDC Adviser Updates and we urge growers to obtain their copy.

GM canola

There has been considerable debate regarding the decisions taken in NSW and Victoria to lift those states' moratoria on commercial production of GM canola. The GRDC itself has supported informed debate on the issue that ultimately facilitates grower and consumer choice regarding GM technology.

An important challenge for the GRDC will be to assist growers and the industry with the introduction of GM canola into NSW and Victorian farming systems. This will include researching and providing data on how GM canola fits into crop rotations, ensuring growers are aware of their obligations regarding regulations and protocols, and providing information about matters such as glyphosate use to facilitate the preservation of GM technology.

Glyphosate resistance

Managing the looming threat of glyphosate-resistant weeds will be a high-level priority for the GRDC. More populations of glyphosate-resistant weeds are being discovered in the Southern Region. The GRDC's concern is that glyphosate resistance does not adversely impact on no-till systems and stubble retention systems so that growers can continue to realise the many benefits such as moisture conservation, improved soil biological activity and reduced topsoil erosion.



David Shannon,
Southern Panel Chair



Inspecting a cereal trial at Esperance during the 2007 GRDC Western Panel Spring Tour (L to R): Julia Polkinghorne, GRDC Canberra and Philip Young, GRDC Board Director, with Panel members Neil Young of Kojonup, Ben Curtis of Esperance, Merrie Carlshausen of Wubin and Ralph Burnett of Albany.