

SECTION 4

GRDC
REPORT TO
INDUSTRY

GRDC investments and activities

The quality and extent of Australian grains research, extension and education is envied throughout the world. The unique method of public and industry research funding, national coordination and structure – and ultimately extension – provides continuing scientific and management breakthroughs for grain growers. This translates into productivity gains essential in maintaining competitiveness in world markets.

The grains industry, through the Grains Research and Development Corporation, invests over \$100 million each year on research which is funded by a combination of:

- Growers paying a statutory levy of 0.99 per cent of the net farm gate value of grain produced (25 grain crops come under the levy – see side panel); and,
- A sliding scale of matching contributions paid by taxpayers via the Australian Government. Depending on the prevailing market value of the various grains, this sliding scale means the government contributes around 30–40 per cent of the total levies collected.

This system of joint statutory collections raised over \$86 million in 2006–07 which was in turn invested back into the industry via the funding of hundreds of research projects. To give this an international context, in terms of research dollars generated per tonne of grain sold, this system raises annually about 10 times that collected in Canada.

So, what does the GRDC spend your money on?

The GRDC's role is to invest in R&D and related activities to benefit Australian grain growers, industry and the wider community. This means investing in research where obstacles to the industry's progress exist. Investment areas include:

- Investigating and evaluating the requirements for R&D in the grains industry;
- Coordinating or funding R&D activities; and,
- Helping the dissemination, adoption and commercialisation of the results of R&D.

Like all successful businesses, the GRDC periodically sets various goals and plans so your invested dollars are accurately aimed at favourable end results.

Key drivers of change in the new five year strategic R&D plan for 2007 to 2012 – *Prosperity through Innovation* – include water availability, productivity growth, growers' terms of trade, grain market dynamics, customer expectations and farm demographics.

The plan encourages stakeholders and research partners to meet clearly defined performance measures and outcomes. At the end of the day we need growers adopting technologies and practices to help them remain globally competitive.

Some of the five year plan performance targets include:

- A 10 per cent increase by 2012 in water use efficiency in certain agro-ecological zones.

- The proportion of growers taking up Precision Agriculture to represent at least 60 per cent of growers surveyed.
- The area of cropping land with retained stubble to increase by 10 per cent.
- The annual yields, as measured in National Variety Trials (NVT), to increase by: 1.0 per cent for wheat and barley; 1.5 per cent for a canola; 2.0 per cent for pulses; and, 1.5 per cent for sorghum.

The challenges of 2007

In 2006–07, Australia experienced one of the worst periods of drought in the country's recorded history. Drought conditions severely affected production of winter and summer crops. Grain growers also faced significant challenges in addition to the impact of the drought, such as higher energy costs, changing farm demographics and uncertainty in wheat export marketing arrangements.

The benefits of GRDC-supported grains R&D made a critical difference to many growers' circumstances. For example, crops that were grown under no-till regimes featuring stubble retention, which research has shown to preserve soil moisture levels, developed while many conventionally grown crops wilted. Robust crop varieties and the continuing refinement of agronomy and farming practices strengthened our capacity to withstand the challenging season of 2006–07.

GRDC's drought strategy

The GRDC, in collaboration with its research partners, implemented a number of actions to maintain an effective grains R&D program despite the effects of drought in 2006–07. In particular:

- The GRDC Board gave approval for the GRDC to lower its reserves target, from between 50 and 75 per cent to between 40 and 70 per cent of next year's expenditure;
- The GRDC's budgeted operating costs were reduced; and,
- The GRDC worked closely with its research partners to identify projects which could be deferred or cancelled, and cases where savings could be made from existing projects.

These actions reflect a determined approach to the management of the GRDC's reserves and an in-depth analysis of operating costs.

Recent GRDC achievements

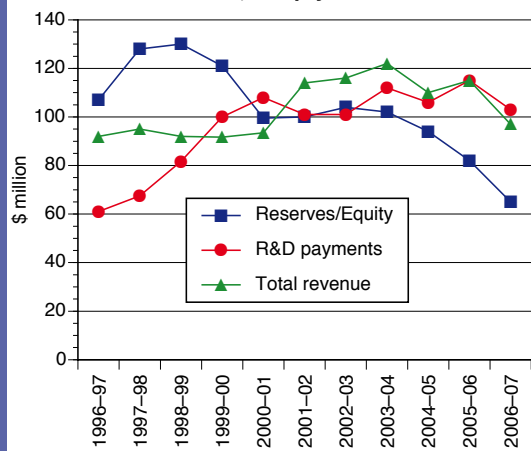
- The GRDC facilitated the formation of the National Wheat Breeders' Alliance which is establishing R&D priorities for pre-breeding in Australia. In its first year of operations, Barley Breeding Australia commenced implementing a national plan for breeding improved varieties to benefit the barley industry.
- The GRDC coordinated a national approach to reach agreement in developing the Australian Winter Cereals Pre-Breeding Alliance. This involved representatives of Australian Government and state government departments, breeding entities and major research organisations such as the Australian Centre for Plant Functional Genomics, the Value Added Wheat Cooperative Research Centre (CRC), the Molecular Plant Breeding CRC and CSIRO. The purpose of this inclusive alliance is to generate a greater level of communication, coordination

GRDC'S 25 LEVIABLE GRAINS

Wheat; coarse grains (barley, oats, sorghum, maize, triticale, millets/panicums, cereal rye and canary seed); pulses (lupins, field peas, chickpeas, faba beans, vetch, peanuts, mung beans, navy beans, pigeon peas, cowpeas and lentils); and oilseeds (canola, sunflower, soybean, safflower and linseed).

The levy for all crops is 0.99 per cent of the net farm gate value of grain produced, except for maize which is levied at 0.693 percent of net farm gate value.

GRDC reserves, R&D payments and revenue



GRDC REPORT TO INDUSTRY



GRDC-supported research has led to improved tolerance by wheat to both waterlogging and dryland salinity by introducing into the wheat genome all seven chromosomes from a native plant called sea barley grass. Here research project leader Dr Tim Colmer, from the Salinity CRC, inspects sea barley grass seeds.

and collaboration between research partners involved in pre-breeding.

- Pulse Breeding Australia was launched in March 2007 to coordinate Australia's pulse breeding efforts and create a world-class breeding and germplasm enhancement program to develop new, superior varieties more quickly for Australian growers.
- A GRDC-supported lucerne breeding program at the New South Wales Department of Primary Industries (NSWDPI) released Pegasus – a lucerne variety developed exclusively for short-term lucerne rotations and sustainable cropping systems. Pegasus will be the first lucerne variety to be released through the Australian Lucerne Alliance – a partnership between the NSWDPI, the GRDC and Seedmark.
- InterGrain – a Western Australian commercial entity responsible for the future breeding and selection of superior WA wheat varieties – was established by the WA State Government and the GRDC in October 2007. InterGrain will provide high-performance, cost-effective cereal crop breeding services to the Western Australian and the Australian grains industry. Two new high performance InterGrain wheat varieties named Magenta and Yandanooka were released for WA farmers.

Challenges ahead

In 2008–09, the GRDC expects change in its business environment to be driven by factors including:

- The continuing need for greater understanding of both the impact of agriculture on climate change and the impact of climate change on agriculture.
- Competition for grains, between domestic traders, the livestock industry and the emerging biofuels industry, affecting domestic grain prices.
- The importance of demonstrating the impact of R&D on productivity performance and profitability.
- Continuing change in the characteristics of the Australian grains market.
- The need for many growers to develop a new set of business skills to maintain their industry capacity.
- Rationalisation of grains industry R&D investments, particularly in clarifying the roles of public and private investments in strategic, basic and applied research.
- Customer preferences regarding quality and segregation.

Priorities for 2008–09 include

- **Climate change** – developing more resilient grain varieties, including drought tolerant and frost tolerant varieties, under predicted climate change scenarios, and working on *CropMate*, the climate information management tool for crop production.
- **Greenhouse gas emissions** – studying paddock-based greenhouse gas emissions from Western Australian grain production, to allow assessment of greenhouse gas emissions throughout the life cycle from wheat to bread.
- **Weed management in changing farming systems** – identifying the likely impact of weed threats and developing appropriate methods for managing weeds.
- **Water use efficiency** – establishing a national approach to achieve improvements in water use efficiency, focusing on creating partnerships between growers, research organisations and agribusiness.
- **Barley Breeders Australia** – developing a productive, profitable and sustainable Australian barley industry supported by the release of targeted-to-market, elite cultivars of malting barley and feed barley.
- **National Durum Wheat Improvement Program** – developing a profitable, internationally competitive and ecologically sustainable Australian durum wheat industry.
- **Australian Winter Cereals Pre-Breeding Alliance.**
- **Crop improvement of grain sorghum** – developing improved germplasm that will benefit grower profitability by increasing sorghum yield and value of the grain while reducing production costs and losses.
- **Post-harvest grain hygiene** – working to integrate and focus fumigation and insect management research.
- **New grain quality testing** – developing a rapid replacement for the 'falling number test'.
- **Capacity building** – building skills, training and education in agriculture.

These priorities are part of the GRDC's core strategy of coordinating a national approach to grains R&D, which includes an emphasis on reducing duplication and fragmentation.

A team effort

The GRDC's achievements depend on the effective and timely implementation of its strategies, which in turn depends on the cooperation of the Board, panel members and staff, and strong relationships with key customer groups and research partners. As it implements its core strategies, the GRDC will continue to build relationships with grain growers, the Australian Government and research partners.

We thank them for their significant contributions to grains industry R&D.

Keith Perrett – Chair

**Peter Reading –
Managing Director**



Keith Perrett



Peter Reading

GRAINS INDUSTRY PRODUCTION 2007–08

After a very promising opening to the winter cropping season, national production of winter grains and oilseeds in 2007–08 was around 22.6 million tonnes – a 30 per cent increase on 2006–07 but still well below the five year average of 35 mt.

But after a wet summer in much of the northern region, the current forecast for the 2007–08 summer crop is one of our best ever at 3.2 mt.

