



Australian Government
Grains Research and Development Corporation



Meeting Grower Needs through Innovation

Stakeholder Report
2007-08



Grains
Research &
Development
Corporation

Postal address

Grains Research and Development Corporation
P O Box 5367
KINGSTON ACT 2604

Location

Level 1
40 Blackall Street
BARTON ACT 2600

Telephone: 02 6272 5525

Facsimile: 02 6271 6430

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1. Executive Summary

Australia is experiencing one of the worst droughts in recorded history. Like everyone in the grains industry, the GRDC is also affected with a significant expected reduction in GRDC's levy-based income. This will also have a flow-on effect in reducing Government matching contributions over the next few years. Consequently, GRDC has put in place a 'drought strategy' and is implementing a number of steps to maintain, with research partners across the grains sector, an effective R&D program. The key objectives of the 'drought strategy' are to maintain as far as appropriate the existing R&D infrastructure, to minimise disruption to ongoing projects, and to prudently manage GRDC's reserves. Specific actions that GRDC has taken include:

- Approval by the GRDC Board to amend its reserves policy, from between 50 and 75% to between 40 and 70% of the next year's budgeted expenditure
- Cutting GRDC's operating costs
- Working closely with R&D partners to identify which new projects can be deferred or cancelled, and where savings can be made from existing projects

Section 2 of the 2007- 08 Stakeholder Report provides a summary of the GRDC's achievements in 2005-06. Section 3 describes GRDC's 2005-06 performance and how results achieved during 2005-06 relate to graingrowers and Australian Government priorities.

In 2005, the GRDC started implementing its strategic business plan *The Way Forward*. The business structure of the Corporation was reorganised into four lines of business (Varieties, Practices, New Products, and Communication & Customer Services) and two enabling functions (Corporate Services and Corporate Strategy and Program Support). In July 2006 the GRDC Board approved the Lines of Business strategies, which forms the building blocks for the Strategic R&D Plan (2007-08 to 2011-12).

Based on the Grower Survey conducted by independent consultants (Ipsos) in 2005-06, the proportion of growers rating GRDC performance as 'very high' rose for the first time since 2002. GRDC improved communication between its key customer groups, research partners, Board, Panel members and staff. As a result the awareness of regional panels among growers rose from 50% in 2005 to 58% in 2006. In addition, there was improved alignment between GRDC activities and the priorities of the growers, Australian Government, as well as other stakeholders including grower organisations and research partners.

The 2007-08 budget analysis is discussed in Section 4, and reflects some of the actions undertaken as part of the 'drought strategy'. Section 4 also looks at financial scenarios – baseline and Scenario 1. The baseline assumes wheat production of 25mt and barley production of 8.9mt in 2007-08 as well as a normal season in 2007-08. Scenario 1 assumes wheat production of 17.5mt and barley production of 6.2mt in 2006-07 and a normal season in 2007-08. With a levy rate of 0.99% in 2007-08, and expenditure level of \$110.0m in 2007-08, gross reserves are estimated to remain within the prudential limits in the baseline and just above the lower limit in scenario 1.

2. 2005-06 at a Glance

2.1 Implementing GRDC's strategic business plan—*The Way Forward*

In 2004 the GRDC conducted a significant strategy review that led to the release of the GRDC strategic business plan, *The Way Forward*, in January 2005. The plan is both supplementary and complementary to *Driving Innovation*, and encompasses issues highlighted in *Towards a Single Vision for the Australian Grains Industry: the Australian Grains Industry Strategic Plan 2005–25*.

The Way Forward also articulates the GRDC's responses to change in:

- the national and global agri-food sectors
- state-based departments of agriculture
- delivery channels to growers
- market penetration from competing countries
- input costs
- the profile of the Australian grain grower.

The strategic business plan identifies four principal pathways to market for R&D: better varieties faster; better farming practices adopted faster; new products; and building research capacity.

In 2005, as the first step towards implementing the strategic business plan, the GRDC reorganised its business structure to establish:

- four lines of business—Varieties; Practices; New Products; and Communication and Customer Services—each of which corresponds to one of the strategic pathways to market.
- two enabling functions—Corporate Services, which covers human resources, finance, information technology, compliance and legal matters; and Corporate Strategy and Program Support, which covers strategy development and budget forecasting and provides program and panel support.

In other steps towards implementing *The Way Forward*, the GRDC has:

- developed separate investment strategies for each line of business
- clearly identified two key customer groups— Australian grain growers and the Australian Government
- improved communication between its key customer groups, research partners, Board, panel members and staff
- articulated the roles and responsibilities of the national and regional panels
- simplified and streamlined the corporation's procurement guidelines
- developed a comprehensive risk register, comprising strategic and operational risks, and provided quarterly 'traffic light' risk reports (identifying levels of risk as red, amber or green) to the Board
- commissioned an off-the-shelf project management system, to which business processes will be aligned.

2.2 Achievements in 2005-06

Key achievements for 2005-06 included:

- the proportion of growers rating GRDC performance as 'very high', rising for the first time since 2002, from 10 percent in 2004-05 to 14 percent in 2005-06
- awareness of regional panels rising from 50 percent in 2005 to 58 percent in 2006, and a higher proportion of growers interacting with panel members (up from 20 percent in 2005 to 23 percent in 2006)
- establishing the National Variety Trials (NVT) to provide nationally coordinated, independent and cost-effective information to Australian graingrowers on the performance of new crop varieties
- facilitating the formation of a single national barley-breeding program, Barley Breeding Australia
- facilitating the formation of a single national pulse-breeding program, made up of the GRDC, Pulse Australia and state government pulse-breeding agencies
- making substantial progress towards commercially sustainable, world-leading wheat breeding programs as well as working with industry to improve end point royalty collection
- entering into a joint venture with Philom Bios Inc. of Canada to commercially develop new soil inoculant products and to make these available to cereal and canola growers in Australia as quickly and as cost effectively as possible
- improving the alignment between GRDC activities and the objectives of our key customer groups—the Australian Government and Australian graingrowers—as well as other stakeholders, including grower organisations and research partners
- collaborating with the International Maize and Wheat Improvement Center (CIMMYT) in Mexico to speed up the introduction of genetic material through all stages, from quarantine to evaluation to incorporation into Australian breeding programs, and maximise the adoption of superior traits
- cooperating with other RDCs and providing information to the Department of Agriculture, Fisheries and Forestry regarding the Australian Government's Uhrig-based review of the governance arrangements for all statutory authorities
- receiving a silver award for our 2004–05 annual report, at the Fifty-sixth Australasian Reporting Awards in June 2006.

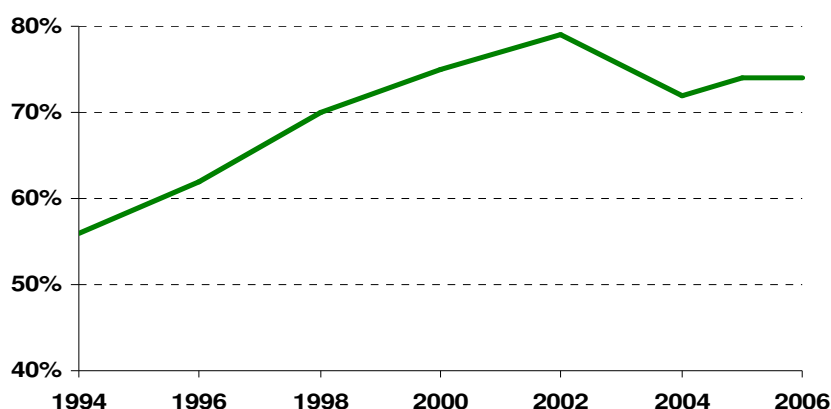
3. GRDC Performance Evaluation

3.1 Grower Survey

In 1992, the GRDC began conducting annual tracking surveys to measure grower adoption behaviour and attitudes, gauge the impact of grains industry research outcomes, and assess organisational performance against a range of indicators established in *Driving Innovation*.

The Grower Annual Indicator Survey 2006 showed that the corporation's overall performance rating (of 'very high' and 'fairly high') was unchanged in 2006, remaining at 74 percent. The proportion of growers rating GRDC performance as 'very high', however rose for the first time since 2002, from 10 percent in 2004-05 to 14 percent in 2005-06.

Figure 1:GRDC Performance: Percentage of growers rating GRDC performance as 'high'

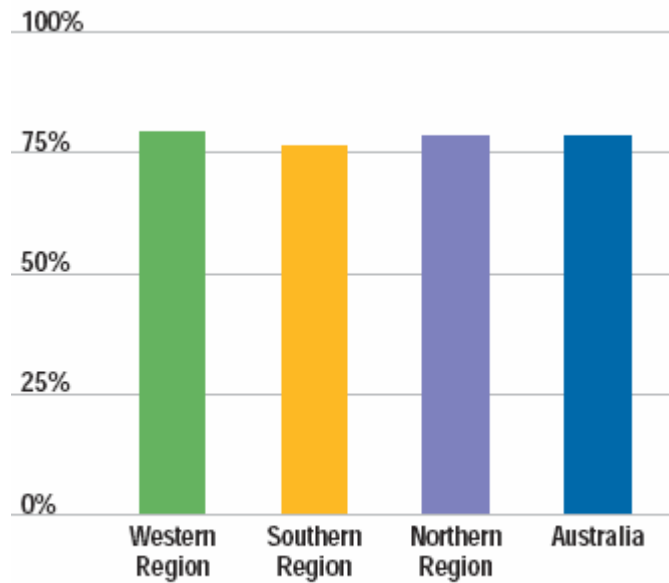


The survey also showed that awareness of regional panels rose from 50 percent in 2005 to 58 percent in 2006, and that a higher proportion of growers interacted with panel members (up from 20 percent in 2005 to 23 percent in 2006).

Regional breakdowns of the percentage of growers adopting new or improved agronomic practices and the percentage of growers directly benefiting from GRDC activities over the last five years are shown in Figures 2 and 3 respectively.

Figure 2: Australian Growers' Adoption

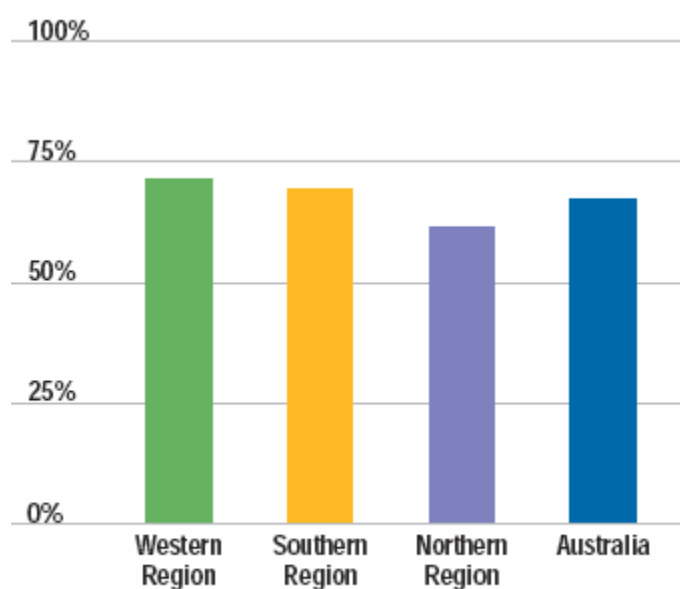
Percentage of growers adopting new or improved agronomic practices over the past five years



Source: The Grower Annual Indicator Survey 2006

Figure 3: Australian Growers' Benefits

Percentage of growers directly benefiting from GRDC activities over the past five years



Source: The Grower Annual Indicator Survey 2006

Of the 1,151 growers surveyed by Ipsos Australia in 2006:

- 71% had grown new wheat varieties in the past five years—compared to 72% of all growers surveyed in 2005
- 41% had grown new barley varieties in the past five years—no change from 2005
- 18% had grown new oat varieties in the past five years—a slight drop from 22% in 2005
- 9% had grown new triticale varieties in the past five years—a slight increase from 7% in 2005
- 35% had grown new varieties of pulses in the past five years—an increase from 27% in 2005
- 34% had grown new varieties of oilseeds in the past five years—unchanged from 2005
- 11% had grown new varieties of sorghum—a slight decrease from 12% in 2005
- 59% felt that the new varieties met expectations—a slight increase from 58% in 2005
- nine in ten (89%) claimed to use variety information or yield data for decision-making purposes
- 77% believed that they had directly benefited from grains R&D in the past five years—the same percentage as in 2005
- 68% believed that they had benefited from GRDC activities in the past five years—a slight increase from 66% in 2005.

The survey also showed that GRDC continues to have a greater influence in the adoption of actions relating to long-term sustainability on the farm—up from 40% in 2005 to 45% in 2006. Of the growers surveyed in 2006, 79% claimed to have taken actions to adopt new or improved farming practices.

Adoption levels of innovative farm practices included:

- gypsum—49%
- lime—39%
- controlled traffic—20%
- variable rate technology—20%
- other precision agriculture (such as GPS guidance, direct drill or yield mapping)—29%
- nutrient budgeting—54%
- risk management tools—27%
- monitoring available water content—32%
- monitoring depth to the water table—24%.

Of the growers surveyed in 2006, 89% were undertaking activities or initiatives to ensure the long-term sustainability of their farms.

3.2 Revenue and Expenditure

The following information is provided on GRDC revenue and expenditure for 2005-06.

Figure 4 shows that GRDC income increased from \$110m in 2004-05 to \$115.1m in 2005-06, primarily due to higher gross value of grains production in 2005-06. In addition, the Australian Government matching contributions increased by 20% in 2005-06.

Figure 4: Income

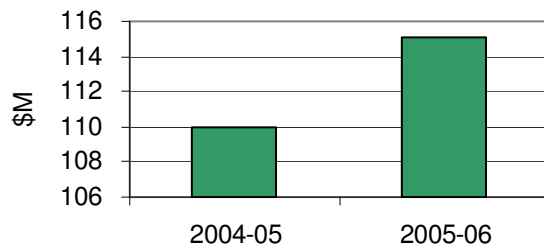
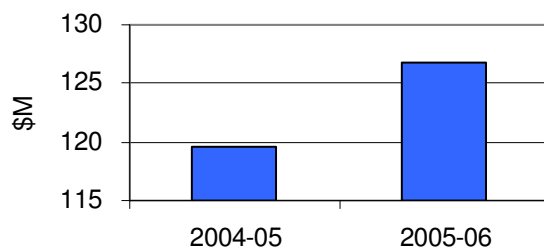


Figure 5 shows that GRDC expenditure increased from \$119.5m in 2004-05 to \$126.7m in 2005-06. The underlying driver for the \$7.2m increase was a rise of \$9m or 8% in R&D investment from \$106.4m in 2004-05 to \$115.3m in 2005-06.

Figure 5: Expenditure



3.3 Graingrowers' Priorities

Similarly to previous years the GRDC tailored its investment portfolio in 2005-06 to best address the research priorities identified by its stakeholders. The key graingrowers' priorities, identified through consultation with the Grains Council of Australia and through graingrower workshops, were also incorporated into the GRDC's Annual Operational Plan 2005-06.

Table 1 illustrates the interrelationship between graingrower priorities and government research priorities and how the GRDC achieved results in relation to these priorities during 2005-06.

Table 1: GRDC Achievements under Stakeholder Priorities, 2005-06

Priorities	Relevant GRDC investments
<p>Industry 1: Sustainability and resource management:</p> <ul style="list-style-type: none"> • farming systems and rotations to protect and enhance the soil and water resource base • genetic improvement for sustainability <p>NRP 1: An environmentally sustainable Australia RRDP 1: Sustainable natural resource management</p>	<p>To improve the sustainability of farming operations, the GRDC supported projects with a particular emphasis on:</p> <ul style="list-style-type: none"> • developing and communicating precision agriculture and zone cropping methods • communicating the findings of the Soil Biology Initiative through better soil management packages • identifying priority areas to assist in lifting grain yields closer to potential water-limited yield across agroecological zones and 80 statistical local areas • identifying economic options for the removal of subsoil constraints • improving understanding of the drivers of climate variability, through the Managing Climate Variability Program • developing and communicating management packages for pulses and oilseeds • communicating methods for the measurement of crop water use • developing strategies to achieve high cereal yields in rotation with cotton • developing approaches to better integrate livestock into cropping systems, through the Grain and Graze Program.
<p>Industry 2: New and innovative product development:</p> <ul style="list-style-type: none"> • identify premium markets to enhance grower returns • ensure flow of market signals <p>NRP 2: Promoting and maintaining good health RRDP 2: Improving competitiveness through a whole-of-industry approach RRDP 3: Maintaining and improving confidence in the integrity of Australian agricultural food, fish and forestry products</p>	<p>GRDC investments to improve the industry's competitiveness in new markets included:</p> <ul style="list-style-type: none"> • a study to identify the most suitable oilseed crops to be used as a platform for the development of industrial oils from the CSIRO–GRDC Crop Biofactories Initiative • a study to identify commercial opportunities in the developing biofuels industry in Australia and North America • a collaborative project with animal industries to improve the use and value of feed grains by creating calibrations to determine the digestible energy in grain • Cooperative Research Centre (CRC) for Innovative Grain Food Products projects on Bioprocessing, Healthy Foods and Fibre, and Fodder to Food • a project to identify potential economic benefits from novel oilseeds with altered oil profiles for use in the human food and animal feed markets. <p>The GRDC also supported research to:</p> <ul style="list-style-type: none"> • develop objective grain quality testing technologies, such as an on-farm, near-infrared spectroscopy (NIR) moisture meter • manage the quality of barley in storage • develop leading-edge technologies to assess grain quality at receipt • develop a risk assessment and other strategies for the management of mycotoxins in maize • establish the 'no observable effect' levels of common toxins found in grains.
<p>Industry 3: Develop new alliances and links to market RRDP 4: Improved trade and market access</p>	<p>GRDC activities to foster market alliances included:</p> <ul style="list-style-type: none"> • establishing a jointly owned company, Philom Bios (Australia) Pty Ltd, to commercialise a range of new soil inoculants • agreeing to enter into an incorporated joint venture with CSIRO and Groupe Limagrain of France to complete the development and commercialisation of high-amylose wheat.
<p>Industry 4: Bringing biotechnology to bear on sustainability and consumer benefit outcomes, to support profitable farming systems and</p>	<p>GRDC support for the exploration of frontier technologies included:</p> <ul style="list-style-type: none"> • work by the Australian Winter Cereals Molecular Marker Program, focusing on the validation and implementation of markers for wheat and barley breeding • research to discover genes for plant improvement and crop

Priorities	Relevant GRDC investments
<p>access to premium markets NRP 3: Frontier technologies for building and transforming Australian industries RRDP 5: Use of frontier technologies RRDP 7: Creating an innovative culture</p>	<p>protection, through basic/strategic research projects that included partnerships in the Australian Centre for Plant Functional Genomics and the Grain Protection Genes program to develop novel approaches to abiotic and biotic stresses respectively</p> <ul style="list-style-type: none"> • work by the Molecular Plant Breeding CRC and the Value Added Wheat CRC to further enhance the technological base for cereal crop improvement. <p>The GRDC also commissioned a technology and market assessment study to identify investment opportunities and potential partners to develop technologies to assist growers to analyse soil and grain properties on-farm. This is in addition to ongoing work to further develop objective grain quality testing technologies, such as an on-farm NIR moisture meter.</p>
<p>Industry 5: Genetic improvement and regional adaptation of new grain varieties:</p> <ul style="list-style-type: none"> • improved resistance to biotic and abiotic stress • quality standards for specific end uses 	<p>The GRDC's investments in breeding programs for cereals, oilseeds and pulses delivered new varieties with enhanced performance:</p> <ul style="list-style-type: none"> • The sorghum-breeding program developed germplasm with increased genetic diversity, improved grain quality and significantly improved resistance to sorghum midge, drought and disease. • Ten new varieties of wheat with increased yield, disease and pest resistance, and tolerance to abiotic stresses, as well as improved quality and agronomic attributes, were made available to growers. • Six new malt varieties and two new feed varieties of wheat were released. One example, Flagship, was bred specifically for the large brewing and malting market in South-East Asia, China and Japan. • Two speciality high-oleic, low-linolenic (HOLL) canola cultivars were released—HOLL varieties produce oil with relatively low levels of unsaturated fats and enhanced frying stability. • The pulse-breeding program released several new varieties with higher yield, superior quality and improved disease resistance.
<p>Industry 6: Integrated pest management:</p> <ul style="list-style-type: none"> • to minimise total costs of pests, diseases and weeds • to maintain options and control strategies <p>NRP 4: Safeguarding Australia RRDP 6: Protecting Australia from invasive diseases and pests</p>	<p>The GRDC continued to support research to develop integrated approaches to the management of weeds, diseases and pests, and to communicate successful methods to growers. For example, a series of integrated weed management workshops demonstrated collaboration between the GRDC, the CRC for Australian Weed Management and a range of industry participants to promote effective and sustainable weed management practices.</p> <p>As a result of the GRDC's support for Plant Health Australia, protocols were set in place for the preparation of contingency plans for the highest priority emergency plant pests considered most likely to gain entry to Australia and affect the grains industry. Fifteen such plans will be completed in the next three years.</p> <p>With the support of Plant Health Australia, the CRC for National Plant Biosecurity and the GRDC, the New South Wales Department of Primary Industries developed a new, highly accurate molecular test for Karnal bunt. Misidentification of this disease in Pakistan threatened Australian exports in 2004, and the new test was developed to prevent such an emergency from re-occurring. The test will reduce the time taken to accurately identify the disease from two weeks to less than one day.</p> <p>A licence option agreement was put in place between CSIRO (on behalf of the GRDC and the other co-owners of the technology) and BOC Ltd to undertake the evaluation and registration of carbonyl sulphide and ethyl formate for use as grain fumigants.</p>
<p>Industry 7: Effective and targeted transfer and adoption</p>	<p>Mechanisms in place to deliver targeted information to meet stakeholder needs included:</p>

Priorities	Relevant GRDC investments
<p>of technology and knowledge for Australian growers</p> <p>RRDP 7: Creating an innovative culture</p>	<ul style="list-style-type: none"> • a communication plan, developed and implemented in collaboration with the National Variety Trials (NVT) service provider, the Australian Crop Accreditation System, to deliver the first year's results from the NVT—this included development of the website www.nvtonline.com.au • grower and adviser research updates, involving GRDC-funded researchers and international speakers, to transfer knowledge on investment outputs • 18 grower workshops, conducted across Australia by the Australian Centre for Intellectual Property in Agriculture, to raise awareness and understanding of plant breeder's rights, End Point Royalties and related contractual issues. <p>Information, products and services developed for the GRDC's customers included:</p> <ul style="list-style-type: none"> • a joint project with the Kondinin Group to revise <i>The Wheat Book</i>, an educational resource for children aged between ten and 14 years • the development of an audio CD presenting the latest grains industry technical and agronomic information from the 2005 GRDC research update series, targeting over 1,000 advisers and industry specialists • <i>Driving Agronomy</i>, an audio CD on new research initiatives, distributed to over 38,000 growers and advisers • a booklet on cereal growth stages that includes management strategies for disease control and canopy management • maize and sorghum <i>Ute Guides</i> for growers in the northern region.
<p>Industry 8: Independent variety evaluation</p>	<ul style="list-style-type: none"> • NVT sites were successfully established across all the major grain-growing regions of Australia. Variety data for ten winter crops (including wheat, barley and canola) from 482 GRDC-funded trials were processed. Trial results are published online at www.nvtonline.com.au.

* Notes: 'Industry' priorities are the eight grains industry priorities identified through consultation.

'NRP' priorities are the Australian Government's four National Research Priorities.

'RRDP' priorities are the seven Ministerial Priorities for Rural R&D Corporations and Companies.

4. Projected 2007-08 Budget Analysis

4.1 Overview

Australia is experiencing one of the worst droughts in recorded history. Grains production in 2006-07 is expected to fall significantly below ABARE projections made in March 2006. The Stakeholder Report 2007-08 focuses on the current year i.e. 2006-07 and the budget year 2007-08. The Report addresses the planned reduction of the 2006-07 budget. The projected budget figures reflect the current drought conditions and at this stage assume a normal season in 2007-08.

The 2007-08 revenue budget is based on estimates of the industry levy, the Australian Government contribution, and other sources of income (royalties, interest etc). Expenditure is determined by the expected revenues and GRDC's forward commitments in order to maintain future investment capacity. Grains production estimates and related prices for 2006-07 and 2007-08 are derived from data sourced from ABARE, AWB, Profarmer, and estimates agreed by the GRDC Board.

Revenue for 2007-08 is estimated at \$102.9m. This is made up of \$56.0 million from the industry levy, \$38.5 million from the Australian Government, and \$8.4 million from other income. The baseline case assumes 'status quo' levy rates. Total expenditure in 2007-08 is estimated at \$110.0 million. Investment in research and development is budgeted at about \$98.0 million.

GRDC monitors estimates of grains production and prices on a regular basis and makes necessary adjustments to the underlying key variables in its Revenue Projection Model. GRDC consults regularly with the Levies Revenue Service in the Department of Agriculture, Fisheries and Forestry and validates its levy projections.

In 2006 the GRDC Board requested Acumen Alliance (Acumen) consultants to review the corporation's existing reserves policy. Acumen recommended that the reserves be lowered from minimum and maximum thresholds of 50 percent and 75 percent respectively to levels of 40 percent and 70 percent of planned expenditure in the following year. This is to provide a sufficient lower limit of reserves necessary as a buffer in low production years and an upper limit so that funds are primarily utilised for R&D investment. The GRDC Board has accepted the recommendations of Acumen. Based on current estimates, the level of reserves is expected to remain above the revised lower prudential limit in 2006-07 and 2007-08.

4.2 GRDC Income Forecast

GRDC's revenue forecast for 2006-07 and 2007-08 (Baseline) is based on the production and price estimates shown in **Table 2**.

Table 2: GRDC's Forecast Income Assumptions - 2006-07 and 2007-08

Production (mt)	2006-07	2007-08
Wheat	9.8	25.0
Barley	3.7	8.9
Sorghum	1.0	2.1
Canola	0.5	1.5
Prices (\$/t)	2006-07	2007-08
Wheat-APW	238	228
Wheat-APH	253	251
Feed Barley	313	209
Malting Barley	352	226
Sorghum	257	221
Canola	520	442

Sources:

Production (mt)	2006/07	2007/08
Wheat	"Australian Commodities", ABARE, March quarter 07.1	"Australian Commodities", ABARE, March quarter 07.1
Barley		
Sorghum		
Canola		
Prices (\$/t)		
Wheat-APW	AWB Media Release 13 March 2007	Average of prices quoted in Profarmer 8 March 2007.
Wheat-APH		Based on 10% premium on APW
Feed Barley	Average of prices quoted in Profarmer 8 March 2007.	Average of prices quoted in Profarmer 8 March 2007
Malting Barley		
Sorghum		
Canola		

Wheat production has been estimated at 9.7mt for 2006-07 in the baseline. AWB's estimate of the APW price in 2006-07 is \$238 per tonne, while the estimate of the APH price in 2006-07 is \$253 per tonne. The prices of malting and feed barley have been estimated to be \$352 per tonne and \$313 per tonne respectively in 2006-07.

Table 2 shows the GRDC's projected income and expenditure budget for the periods 2006-07 and 2007-08, based on the assumptions in **Table 1 (Baseline)**. The projected GRDC income in 2007-08 is based on the 0.99 percent industry levy rate on all grains¹, and continuance of the prevailing Australian Government matching contribution. At this stage, GRDC's income is projected to be \$102.9 million in 2007-08.

¹ Levy rate for maize is at 0.693 percent

Table 3: Indicative Income and Expenditure Budget 2006- 07 to 2007-08 (\$M)

	2006-07	2007-08
Graingrower Levy	50.8	56.0
Australian Government*	37.8	38.5
Interest, Royalty & Other**	11.7	8.4
Total Income	100.3	102.9
Commitments	91.4	74.7
New Research Investment	17.7	23.3
Employees	5.5	5.8
Suppliers	6.0	6.2
Total Expenditure	120.6	110.0
Surplus/Deficit	-20.2	-7.0
Gross Reserves ***	62.2	55.1
40% Lower Limit Reserves	44.0	44.2

* GRDC's levy income is matched by the Australian Government up to 0.5 percent of the gross value of grains production (3-year rolling average), provided the Government contribution does not exceed grower levies.

**Other includes penalties and project refunds.

*** Gross reserves is total assets (including current and non-current assets) less total liabilities.

The break-up of the GRDC's forecast income (baseline) for 2007-08 is shown in **Figure 6**.

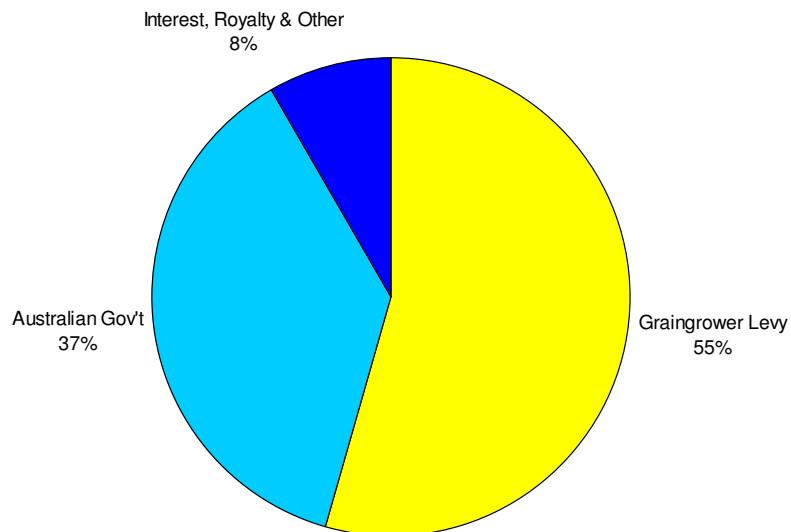
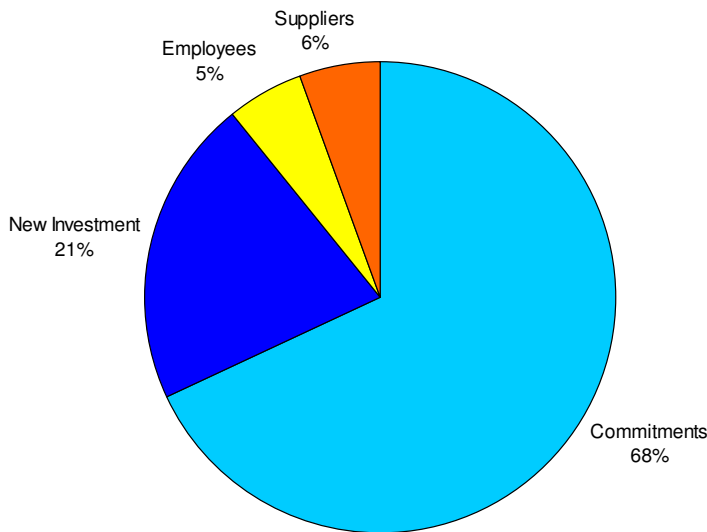


Figure 6: Break-up of the GRDC's Forecast Income for 2007-08 as a percent of Total Income

4.3 GRDC Expenditure

Annual expenditure had been budgeted at \$110.0 million for 2007-08. The percentage break-up of this into new investment, commitments, employees and suppliers is shown in **Figure 7**. It is estimated that \$23.3 million will be expended on new research investment; \$74.7 million on existing research commitments, and \$12 million for employee and supplier expenses.

Figure 7: Break-up of the GRDC's Expenditure for 2007-08 as a percent of Total Expenditure



New Research Investment

In developing investment priorities for 2007-08, the regional panels consulted extensively with growers and researchers through regional advisory committees, linkage groups, and site visits. Drafting of the priorities presented in the Investment Plan 2007-08 began in early 2006 and took into account new investments, progress reports on existing investments, project reviews and other inputs. Program teams identified gaps and opportunities, which fed into priority development for 2007-08. Alignment of the Investment Plan with the LOB Strategies was also undertaken.

New research investments in 2007-08 include:

- ◆ Managing climate variability
- ◆ Sub-soil constraints
- ◆ Integration of break crops into profitable wheat based system
- ◆ More profitable chickpeas through disease management
- ◆ Management of Fusarium diseases and common root rot of cereals
- ◆ Improving market signals for GRDC and the grains industry to enhance delivery to customers

- ◆ Diversity Arrays Technologies (DArT)
- ◆ CSIRO/Australian Cereal Rust Control Program (ACRCP) Triple Rust Resistance Initiative
- ◆ Frost Tolerance in Wheat and Barley
- ◆ Australian Faba Bean Breeding Program
- ◆ Australian Grain Sorghum Breeding Program
- ◆ Australian Canola Pre-Breeding Program
- ◆ Lupin Breeding
- ◆ Wheat breeding – durum
- ◆ Microbial Quality Assurance Program
- ◆ Microbial Tagging and Tracking
- ◆ Development of Novel Herbicide Actives from Plant Produced Metabolites
- ◆ Use of Pseudomonas as a Biocontrol agent for Snails
- ◆ BioFuels
- ◆ Greenhouse

Commitments

While the GRDC's R&D budget for 2007-08 is approximately \$98.0 million, 76 percent of this expenditure is required to maintain the GRDC's investment in its ongoing R&D activities (shown in **Figure 2**). GRDC's commitments as a percentage of total expenditure will decline in 2007-08 relative to the previous year.

Employee and Supplier Expenses²

Over the past five years, the GRDC's employee and supplier expenses have increased reflecting the growth of the corporation's overall expenditure and a notable broadening of the corporation's range of activities. However, with program investment increasing the corporation has achieved significant economies of scale. Employee and supplier expenses in 2007-08 have been projected to increase by about 4 percent over the figure in 2006-07. Employee and supplier expenses as a percentage of expenditure is projected to be 10.9 percent in 2007-08.

4.4 Sensitivity Analysis

Sensitivity analysis was undertaken by varying key production variables in 2007-08. Gross reserves remain within the revised prudential limits (refer section 4.1) for both scenarios.

If actual developments result in unacceptably low reserves then there are a number of options available to the Board other than curtailment of new investment, which include:

- seek and access other supplementary sources of revenue and/or leverage;
- withdraw from some existing commitments where the 'opportunity cost' of continuing becomes too high due to run down of reserves; and
- possibly borrow to cover existing commitments until the 'downside' factor(s) pass.

² Employee expense is employee remuneration. Suppliers' expense is the cost of the supply of goods and services, which primarily includes program support and also includes depreciation

Table 4 shows the underlying assumptions and the results of the sensitivity analysis.

Table 4: Sensitivity Analysis

	Units	Baseline		Scenario 1	
		2006-07	2007-08	2006-07	2007-08
Projected Revenue	\$m	100.3	102.9	100.3	92.3
Expenditure	\$m	120.6	110.0	120.6	110.0
Surplus/Deficit	\$m	-20.2	-7.0	-20.2	-17.7
Gross Reserve	\$m	62.2	55.1	62.2	44.5
Lower limit of reserves	\$m	43.6	44.2	43.6	44.2

Variables Changed

	Units	Baseline	Scenario 1
Wheat Production in 2007-08	mt	25.0	17.5
Barley Production in 2007-08	mt	8.9	6.2
Wheat Price(APW) in 2007-08	\$	228	251
Wheat Price (APH) in 2007-08	\$	251	276
Feed Barley Price in 2007-08	\$	209	230
Malt Barley Price in 2007-08	\$	226	249
*Baseline is as of 13 Mar 2007.			
** Rounding differences may occur			

Baseline

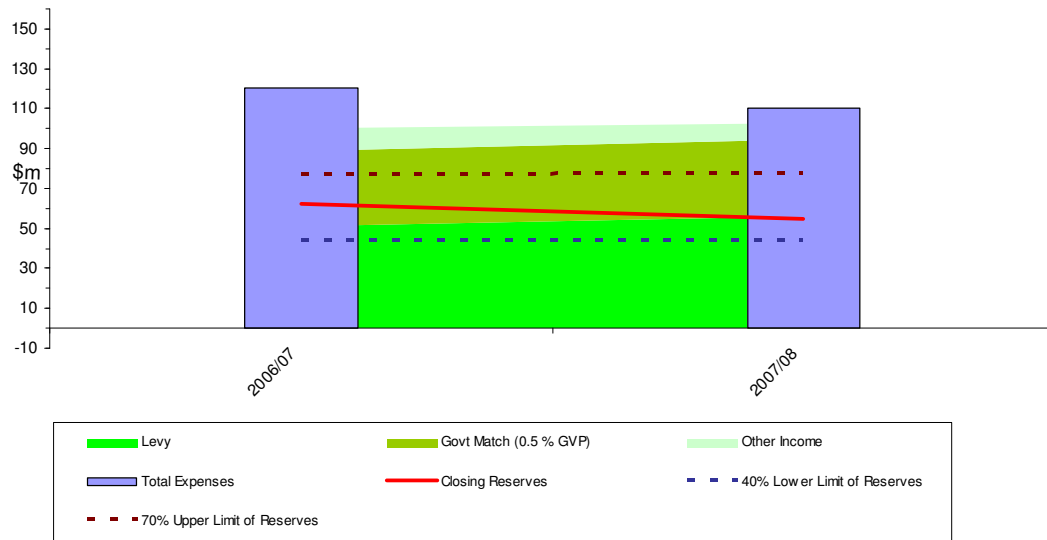
The baseline budget scenario outlined in Sections 4.2 and 4.3, assumes a 0.99 per cent levy on net farm value for 24 grains and a 0.693 percent levy on net farm value for maize, and an expenditure of \$110.0 million in 2007-08. The interest rate assumed in this analysis is the 10-year government bond rate as projected by BIS Shrapnel³.

The baseline shows that the projected revenue is \$100.3 million in 2006-07, which increases to \$102.9 million in 2007-08. The baseline shows that GRDC's gross reserves⁴ would remain within the upper and lower limits of the reserves policy in 2006-07 at \$62.2 million. Gross reserves would decline to \$55.1 million in 2007-08 (see **Figure 8** and **Table 3**) but remain above the lower reserves limit.

³ "Economic Outlook", BIS Shrapnel, February 2007

⁴ Gross reserves is total assets (including current and non-current assets) less total liabilities.

Figure 8: Existing levy 0.99% and expenditure = \$110.0m in 2007-8. Wheat production = 9.8mt in 2006-07 and 25.0mt in 2007-08. Barley production = 3.7mt in 2006-07 and 8.9mt in 2007-08.



Scenario 1

In Scenario 1 wheat and barley production for 2007-08 has been reduced by 30%. Prices for wheat and barley have been increased by 10%.

This scenario shows projected income of \$100.3m in 2006-07 and \$92.3 million in 2007-08. Gross reserves remain slightly above the lower prudential limits in 2007-08 (see **Figure 9** and **Table 5**).

Figure 9: Existing levy 0.99% and expenditure = \$110.0m in 2007-08. Wheat production = 9.8mt in 2006-07 and 17.5mt in 2007-08. Barley production = 3.7mt in 2006-07 and 6.2mt in 2007-08

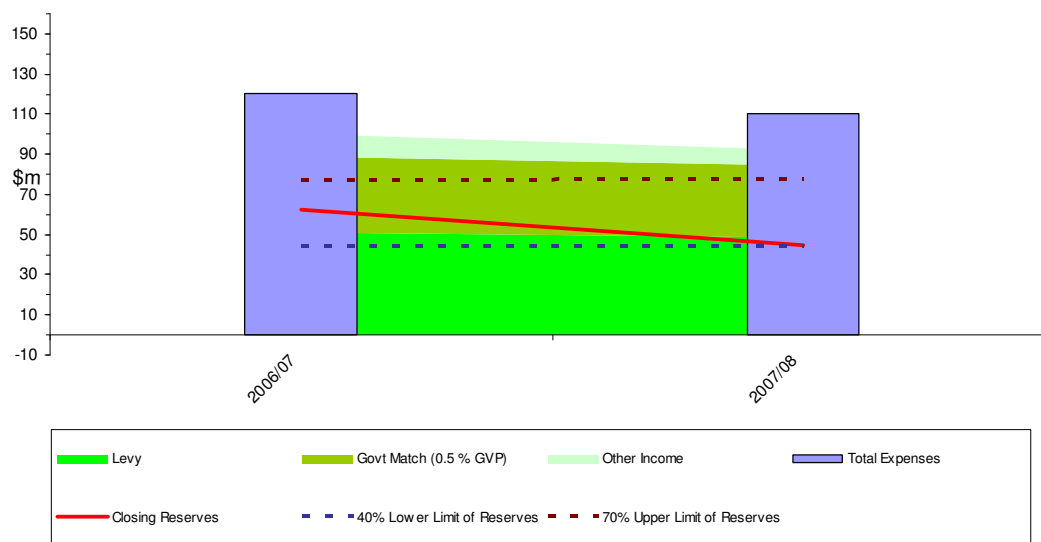


Table 5: Indicative Expenditure and Income Budget corresponding to Figure 9

	(\$M)	
	2006-07	2007-08
Graingrower Levy	50.8	48.6
Australian Government*	37.8	35.6
Interest, Royalty & Other**	11.7	8.0
Total Income	100.3	92.3
Commitments	91.4	74.7
New Research Investment	17.7	23.3
Employees	5.5	5.8
Suppliers	6.0	6.2
Total Expenditure	120.6	110.0
Surplus/Deficit	-20.2	-17.7
Gross Reserves ***	62.2	44.5
40% Lower Limit Reserves	44.0	44.2

* GRDC's levy income is matched by the Australian Government up to 0.5 percent of the gross value of grains production (3-year rolling average), provided the Government contribution does not exceed grower levies.

**Other includes penalties and project refunds

*** Gross reserves is total assets (including current and non-current assets) less total liabilities.

5. The Proposed Levy Rate for 2007-08

The levy rate is determined on an annual basis alongside consideration of planned expenditure, anticipated income and the level of the reserves. Historically, a 1 per cent levy rate has provided the GRDC with a stable resource base and the ability to confidently maintain sustainable growth in investments. At Grains Week 2003, the GCA decided to effectively decrease the levy rate to 0.99 percent for all grains (excluding maize) so as to accommodate the introduction of a 0.01 percent PHA (Plant Health Australia) levy. This rate was applied from July 2003. A rate of 0.693 percent was applied to maize from July 2003 for similar reasons.

Currently, the levy rate is 0.99 percent of net farm value for 24 grains and 0.693 per cent net farm value for maize. The GRDC's enabling legislation states that the levy is to be reviewed each year by the GCA.

A fluctuating levy rate may result in a more conservative and possibly limited approach to investment, consequently reducing current benefits arising to grain growers. The stable levy rate and the GRDC's financial reserves have allowed the GRDC to safeguard the industry's research investment in a volatile environment.

The GRDC believes that value can be delivered to growers through a sustained expenditure level of \$110.0 million in 2007-08. The sustainability of expenditure on a 0.99 percent levy rate is sensitive to grain prices, the exchange rate and drought. Moreover, the GRDC is facing a challenge in regard to entering long-term commitments while maintaining discretionary expenditure for innovation over the next 2-year period (2007-09).

Bearing in mind the constraints, the downside risks, the ongoing industry challenges, the opportunities to deliver value to graingrowers and the determination of the GRDC to implement the LOB Strategies and the next Strategic R&D Plan (2007-08 to 2011-12), the GRDC recommends a continuation of the levy rate of 0.99 percent for 24 grains and 0.693 percent for maize in 2007-08.