



Australian Government  
Grains Research and  
Development Corporation

# GRDC Stakeholder Report 2008-09



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# 1. Executive Summary

The 2008-09 Stakeholders Report should be read in conjunction with the 2006-07 Growers' Report.

Section 2 refers to the Growers' Report which discusses the GRDC's achievements in 2006-07, provides an overview of financials, and highlights the challenges to be faced in the years ahead.

Section 3 focuses on the projected income and expenditure budget for 2008-09. It is expected that grain production will decline in 2007-08 relative to the 5 year average. GRDC's current forecast is based on wheat production of 26.0mt and barley production of 9.0mt for 2008-09 with income estimated at \$135.6 million. The estimated income is dependent on the seasonal rainfall, crop production and grain prices. Total expenditure in 2008-09 is proposed to be \$121.0 million. The current baseline allows GRDC to maintain its level of reserves within prudential limits. The pessimistic scenario described reflects a 30 percent decline in production and a 12 percent decline in prices from the baseline. This significantly reduces income but reserves still remain above the lower reserves limit.

Section 4 discusses the proposed levy rate for 2008-09 and the factors which will impact GRDC's ability to fund R&D for a profitable and environmentally sustainable grains industry. Based on current income and expenditure forecasts and the level of accumulated reserves the GRDC recommends that the levy rate of 0.99 percent be maintained for all leviable crops (excluding maize which should be maintained at 0.693 percent).

## 2. Growers' Report 2006-07

In November 2007 the GRDC released its Growers' Report for 2006-07 which provides a concise summary of the achievements and activities of the Corporation during the year. The Growers' Report is provided at **Attachment A** and includes:

- ✓ The Report from the Chairman of the GRDC Board and Managing Director (page 3)
- ✓ An overview of the GRDC structure and regional panel system (page 4)
- ✓ Where 2006-07 research dollars were invested in the regions (page 3)
- ✓ The GRDC drought strategy and financial overview (page 5)
- ✓ Key GRDC achievements in 2006-07 and challenges to be faced in 2007-08 (page 6)
- ✓ Investment highlights for the Varieties Line of Business (pages 7 to 9)
- ✓ Investment highlights for the Practices Line of Business (pages 10 to 13)
- ✓ Investment highlights for the New Products Line of Business (pages 14 to 16)
- ✓ Investment highlights for the Communication and Customer Services Line of Business (pages 17 to 19); and
- ✓ An overview of GRDC's approach to commercialisation of technologies (pages 20 to 21)

## **3. Projected 2008-09 Budget Analysis**

### **3.1 Overview**

The budget projections in this analysis are indicative only. Changes to the GRDC operating environment may require subsequent revisions to estimates in order to meet strategic objectives and comply with financial policy.

2008-09 is the second year of implementation of the GRDC's Strategic R&D Plan 2007-12. Investments in 2008-09 are aligned with the GRDC's corporate strategy, Lines of Business (LOB) strategies and regional and Australian Government priorities.

The 2008-09 projected income forecast is based on current production and price estimates. The actual 2008-09 income will be determined by rainfall during the growing season, grain prices, and the proportion of grain produced that is sold into pools. At this stage wheat production of 26.0mt and barley production of 9.0mt is estimated for the 2008-09 season.

The 2008-09 income forecast is based on estimates of the industry levy, the Australian Government contribution, and other sources of revenue (eg royalties, interest etc). Expenditure is determined by the expected income and GRDC's ongoing commitments in order to maintain future research capacity. Grains production estimates and related prices for 2007-08 and 2008-09 are derived from data sourced from ABARE, AWB, Profarmer, and GRDC estimates.

Total income for 2008-09 is estimated at \$135.6 million. This is made up of \$75.8 million from the industry levy, \$50.0 million from the Australian Government, and \$9.8 million from other income sources. The baseline case assumes 'status quo' levy rates. Total expenditure in 2008-09 is estimated at \$121.0 million with investment in research and development budgeted at about \$108.9 million.

GRDC monitors estimates of grains production and prices on a regular basis and makes necessary adjustments to the underlying key variables in its income projection model. GRDC also consults regularly with the Levies Revenue Service in the Australian Government Department of Agriculture, Fisheries and Forestry and other agricultural consultants to validate its levy projections.

GRDC maintains a level of reserves between 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. Based on current estimates the level of reserves is expected to remain within prudential limits in 2008-09.

### 3.2 GRDC Income Forecast

Table 1 shows the GRDC's projected income and expenditure budget for the periods 2007-08 and 2008-09, based on **Attachment B** – GRDC Income Forecast Assumptions. The projected GRDC income in 2008-09 is based on the 0.99 percent industry levy rate on all grains except for maize<sup>1</sup> and continuance of the prevailing Australian Government contribution. At this stage, GRDC's income is projected to be \$135.6 million in 2008-09. This estimate is highly dependent on the volume of grains production, prices, and grain marketing arrangements.

**Table 1: Indicative Income and Expenditure Budget 2007-08 to 2008-09 (\$m)<sup>2</sup>**

	<b>2007-08</b>	<b>2008-09</b>
Grain Grower Levy	72.0	75.8
Australian Government*	36.7	50.0
Interest, Royalty & Other**	10.0	9.8
<b>Total Income***</b>	<b>118.8</b>	<b>135.6</b>
Ongoing Commitments	73.1	84.5
New Research Investment	22.6	24.4
Employees	5.8	6.0
Suppliers	5.9	6.1
<b>Total Expenditure</b>	<b>107.5</b>	<b>121.0</b>
Surplus/Deficit	11.3	14.6
Gross Reserves ****	76.6	91.2
40% Lower Limit Reserves	48.4	57.2

\* GRDC's levy income is matched by the Australian Government at a level 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 for the relevant year.

\*\*"Other" includes penalties and project refunds.

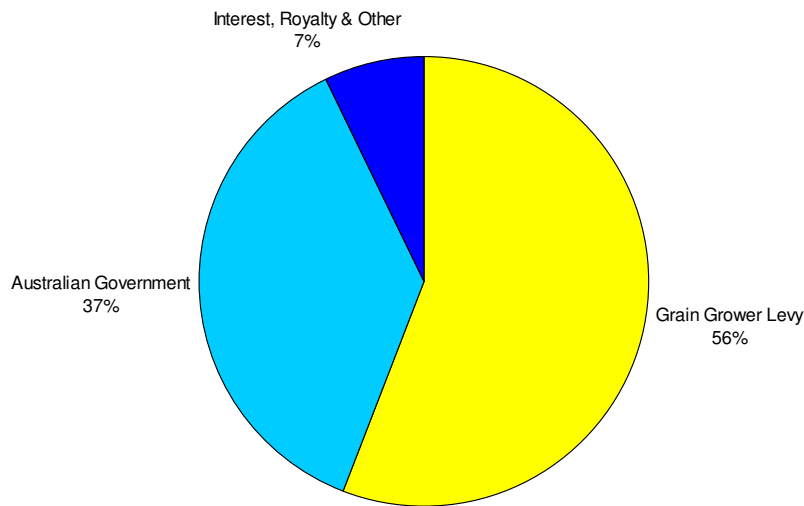
\*\*\*Indicative income in 2008-09 highly depends on grains production, prices and grain marketing arrangements.

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

<sup>1</sup> Levy rate for maize is at 0.693 percent

<sup>2</sup> Figures are subject to rounding differences

The break-up of the GRDC's forecast income (baseline) for 2008-09 is shown in Figure 1.

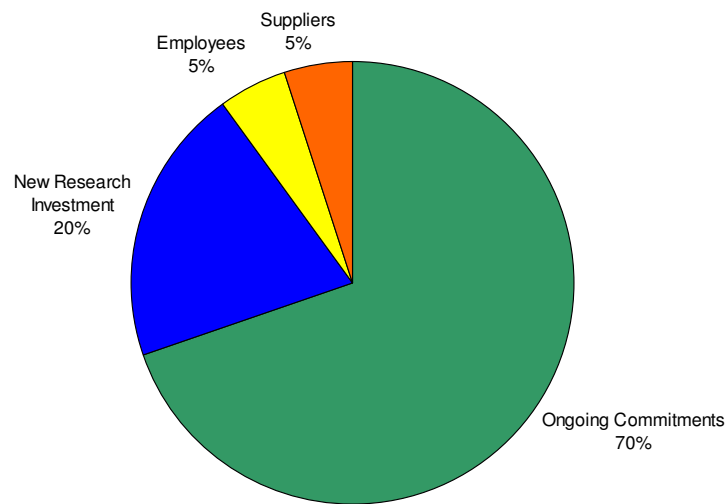


**Figure 1: Break-up of the GRDC's Forecast Income for 2008-09 as a percentage of Total Income**

### **3.3 GRDC Expenditure**

Annual expenditure has been budgeted at \$121.0 million for 2008-09. The percentage break-up of this into new investment, ongoing commitments, employees and suppliers is shown in Figure 2. It is estimated that \$24.4 million will be expended on new research investment; \$84.5 million on ongoing research commitments, and \$12.1 million for employee and supplier expenses.

**Figure 2: Break-up of the GRDC's Expenditure for 2008-09 as a percentage of Total Expenditure**



### **New Research Investment**

GRDC's investments in 2008-09 are aligned with the Corporation's Strategic R&D Plan 2007-12. In developing investment priorities for 2008-09, 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 2008-09 began in early 2007 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 2008-09.

New research investments in 2008-09 include:

- ***Emerging weeds in changing farming systems:*** This project aims to identify the impact of weed threats such as wild radish and mallow, and summer weeds such as flea bane and Salsola, and develop appropriate methods for management of those weeds in changing Western Region farming systems.
- ***Realising yield potential through farming systems RD&E:*** This investment will establish a national approach focusing on the creation of partnerships between growers, research organisations and agribusiness to develop strategic projects and monitor overall progress in each region to achieve improvements in water use efficiency.

- **Validating cropping in catchments:** Individual projects within this investment will bring together researchers, leading agronomists, grower and resource management expertise to undertake participatory research, development and extension (RD&E). The issues that are most constraining farming system performance and farm profitability will be identified and addressed to achieve environmental outcomes. Grain growers in each catchment will benefit through the accumulation and integration of knowledge and management skills and hence enhance economic, environmental and social outcomes.
- **Optimising cereal profitability in the high rainfall zone through integration of disease management and canopy management:** This project will provide increased understanding of the impact and relevance of canopy management in a range of farming systems. Improved adoption will deliver improved production outcomes in relevant agroecological zones.
- **Rotation of wheat varieties in wheat on wheat systems:** This investment will provide regionally specific information on the use of various wheat cultivars in wheat-on-wheat systems and how this can lead to improvements in crop productivity.
- **Regional frost: Calibration of frost chamber to encompass all Australian conditions:** This investment will identify the differences of frost intensity and its impact on crop productivity. This research will benefit industry through the development of varieties which are more tolerant to frost at flowering.

### Ongoing Commitments

While the GRDC's R&D budget for 2008-09 is estimated at \$121.0 million, 70 percent of this expenditure is required to maintain the GRDC's investment in its ongoing R&D activities (shown in Figure 2). GRDC's ongoing commitments as a percentage of total expenditure will increase slightly in 2008-09 relative to the previous year. Some of these ongoing commitments include:

- **Water balance of conservation farming systems:** This project aims to quantify the risk of accelerated leakage due to greater ground cover, by intensively monitoring soil water contents (patterns of water infiltration) and total evapotranspiration. An understanding of the conditions leading to increased risk of groundwater recharge will allow the development of strategies to manage leakage risk associated with conservation farming systems.
- **CropMate - climate information for crop production:** The program will collate climate, weather, soils, crop and economic data associated with the decision points in a grain production system in a particular locality. The major output will be an interactive web based decision support system designed to be used by growers and agronomist across the grains industry.

- ***Effect of elevated carbon dioxide on wheat-based production systems under Australian field conditions:*** This project has designed and commissioned a national free air carbon dioxide enrichment (FACE) array consisting of a core facility at Horsham, which will be supplemented by six smaller systems located in regions of strategic significance to the grains industry. This facility will generate detailed data sets on the field response of wheat to elevated carbon dioxide levels including interactions with water, nutrition and temperature, and these data will then be made available to crop systems modellers to use to calibrate and extend existing crop simulation models to incorporate possible outcomes into future industry strategies.
- ***Measurement of paddock-based greenhouse gas emissions from wheat production to improve life cycle assessment of wheat products:*** Accurate and reliable data on paddock-based greenhouse gas emissions from West Australian grain production will allow a life cycle assessment of greenhouse gas emissions from wheat to bread to identify emissions from pre-farm, on-farm and post-farm elements. This will enable better targeting of greenhouse gas mitigation practices and identify areas of nitrogen use inefficiency, to increase grain production efficiency and profitability.
- ***Southern Queensland Farming Systems:*** This project is a collaboration between the GRDC, CSIRO, QDPI&F, Michael Castor and Associates and Ward Agriculture. The aim of the project is to work with growers and farming industry groups in southern Queensland to improve productivity and economic and environmental sustainability in mature, but evolving farming systems. Key activities include:
  - quantifying water evaporation in farming systems
  - examining the integration and agronomic management of chickpeas to build environmental sustainability
  - integrating short-term pasture phases into grain enterprises
  - improving the understanding of key soil nutrition deficiencies and interactions and developing suitable processes and tools to better manage these constraints
- ***Validation and integration of new technology through grower groups in north-west NSW and south-west Queensland grain growing zones:*** The Northern Growers Alliance (NGA) has been created to work in close collaboration with existing Research, Development & Extension providers in both the private and public sectors. The major aims of the Northern Grower Alliance are 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
  - address both short term 'responsive' and longer term 'strategic production constraints

- ***Drift Management Extension Strategy for the Northern Region:*** This project seeks to reduce the level of spray drift experienced in the Northern Region. Some key activities of the project include
  - making recommendations to improve the quality of information provided to participants on spray drift management
  - developing and delivering two specialised training packages on drift management;
  - subsidising training on efficacy and drift management to applicators
  - establishing a number of trial and demonstration sites to collect data on efficacy and drift management, with grower field days conducted at each site.
- ***Australian Cereal Rust Control Program:*** The program's objectives are to monitor and produce information on cereal rust pathogens throughout Australia, identify and characterise new sources of rust resistance in cereals and to assist Australian cereal breeders to incorporate rust resistance into new cultivars.
- ***Australian Centre for Plant Functional Genomics (ACPFPG):*** The ACPFG aims to develop cereal cultivars with increased tolerance to environmental stresses such as temperature, water logging, drought, salinity and mineral deficiencies or toxicities. The ACPFG aims to provide innovative and environmentally attractive solutions to the problems faced by cereal growers by developing varieties that allow more sustainable farming while generating economic, social and environmental benefits. This will also ensure Australia maintains its competitiveness in cereal cropping industries globally.<sup>3</sup>
- ***Barley Breeders Australia:*** The aim of this investment is a productive, profitable and sustainable Australian barley industry supported by the release of commercially successful, targeted-to-market, elite malting and feed barley cultivars.
- ***National Durum Wheat Improvement Program:*** The aim of this investment is to develop a profitable, internationally competitive and ecologically sustainable Australian durum wheat industry. New cultivars will be developed that can be cultivated in all appropriate production regions, are adaptive to a wide range of climatic, soil and cultural conditions, are resistant to significant diseases and pests, and meet and/or exceed process quality specifications.
- ***Australian Winter Cereals Pre-Breeding Alliance:*** The purpose of this alliance is to generate a greater level of communication, coordination and collaboration between research organisations involved in pre-breeding. This will benefit growers through better utilisation of resources to tackle significant issues affecting the grains industry, enhancing speed of delivery of research outputs to breeders, and enhancing linkages with the international pre-breeding community.
- ***Pulse Breeders Australia:*** This investment is a joint venture to deliver superior pulse varieties to growers and build a world class breeding and germplasm enhancement program.

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<sup>3</sup> Refer to <http://www.acpfg.com.au/about/aims.aspx> 10/12/2007

- **National Brassica Germplasm Improvement Program:** This investment is expected to provide advanced germplasm containing important new or improved traits to all Australian private canola breeding companies, to ensure that Australian growers have cultivars that allow them to compete effectively on world markets.
- **Crop Improvement of Sorghum in Australia:** The primary focus of this investment is the development of improved germplasm. This will benefit grower profitability by increasing yield and value of the grain and reducing production costs and losses.
- **Post-harvest grain hygiene – keeping costs to farmers down:** This investment will integrate and focus the research effort into fumigation and insect management in grain storage.
- **New grain quality testing:** This investment will develop a rapid replacement for the Falling Number test for grain when there is a wet finish to the season. This will benefit growers by avoiding significant delays in delivering their grain while samples are tested.

#### **Employee and Supplier Expenses<sup>4</sup>**

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 2008-09 have been projected to increase by about 4 percent over the figure in 2007-08. Employee and supplier expenses are estimated to be 10 percent of total expenditure in 2008-09.

#### **Expenditure by Panels and Lines of Business/Output Groups**

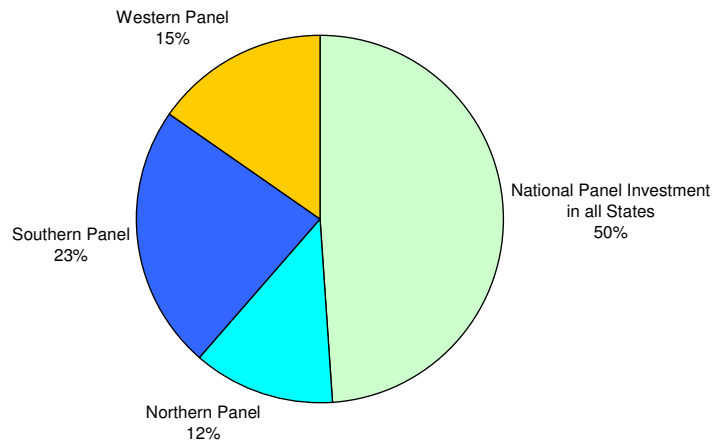
Figure 3 shows the percentage break up of 2008-09 proposed R&D investment among the GRDC Panels. The National Panel investments comprise the national components of the GRDC's R&D investment across Australia.<sup>5</sup> Figure 4 shows the percentage break up of proposed 2008-09 R&D investment among the GRDC Lines of Business (LOB)/Output Groups.

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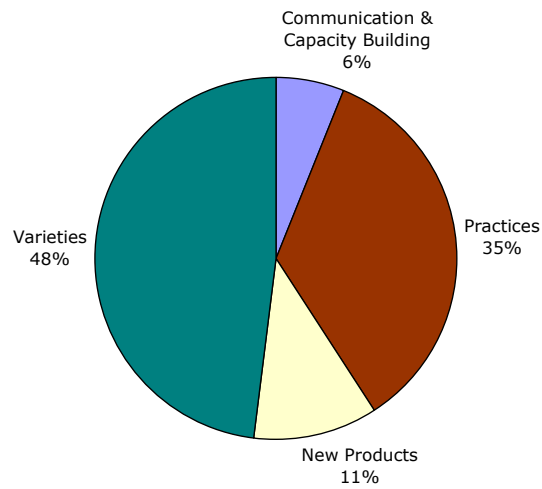
<sup>4</sup> Employee expense is employee remuneration. Suppliers' expense is the cost of the supply of goods and services, which primarily includes panel and program team support and depreciation

<sup>5</sup> Please refer to Growers' Report 2006-07 (page 4) for further explanation of the GRDC national and regional panel structure.

**Figure 3: 2008-09 Proposed R&D Investment by Panels**



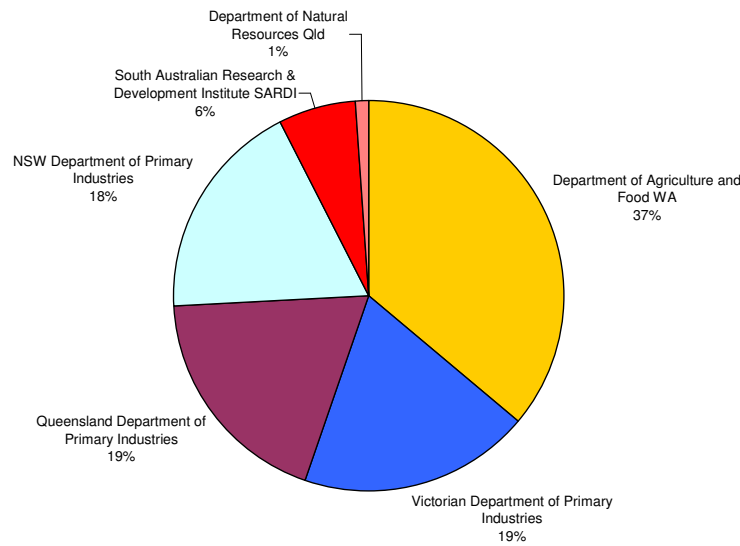
**Figure 4: 2008-09 Proposed R&D Investment by LOB/Output Groups**



### **Ongoing Commitments by States**

Figure 5 shows the percentage of ongoing commitments among State Governments in 2008-09.

**Figure 5: 2008-09 Continuing R&D Investment in State Governments**



### **3.4 Sensitivity Analysis**

Sensitivity analysis was undertaken by varying key production variables in 2008-09. Gross reserves remain above prudential limits (refer section 3.1) for both scenarios described below.

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

- seek and access other supplementary sources of income and/or leverage, and
- withdraw from some existing commitments where the 'opportunity cost' of continuing becomes too high.

Table 2 shows the underlying assumptions and the results of the sensitivity analysis.

**Table 2: Sensitivity Analysis**

	Units	Baseline <sup>6 7</sup>		Scenario 1 <sup>7</sup>	
		2007-08	2008-09	2007-08	2008-09
Projected Income	\$m	118.8	135.6	118.8	105.0
Expenditure	\$m	107.5	121.0	107.5	121.0
Surplus/Deficit	\$m	11.3	14.6	11.3	-16.0
Gross Reserves <sup>8</sup>	\$m	76.6	91.2	76.6	60.6
Lower limit of reserves	\$m	48.4	57.2	48.4	57.2

**Variables Changed**

	Units	Baseline	Scenario 1
Wheat Production in 2008-09	mt	26.0	18.2
Barley Production in 2008-09	mt	9.0	6.3
Sorghum Production in 2008-09	mt	1.9	1.4
Canola Production in 2008-09	mt	1.4	1.0
Oats Production in 2008-09	mt	1.4	1.0
Wheat Price (APW)	\$/t	339	300
Wheat Price (APH)	\$/t	373	330
Malt Barley Price	\$/t	304	267
Feed Barley Price	\$/t	276	243
Sorghum Price	\$/t	248	219
Canola Price	\$/t	657	578
Oats Price	\$/t	203	179

<sup>6</sup> Baseline as of 18 March 2008

<sup>7</sup> Figures are subject to rounding differences

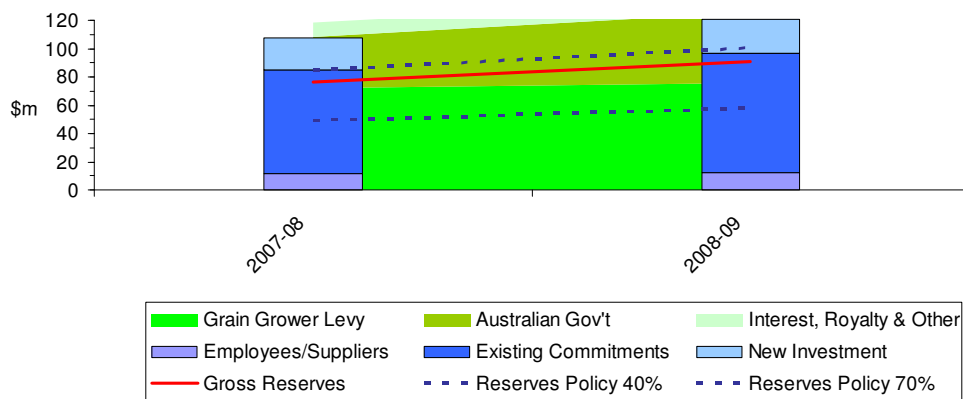
<sup>8</sup> Gross reserves is total assets (including current and non-current assets) less total liabilities

## **Baseline**

The baseline budget scenario outlined in Sections 3.2 and 3.3, assumes a 0.99 percent levy rate on net farm value for 24 grains and a 0.693 percent levy rate on net farm value for maize, and an expenditure of \$121.0 million in 2008-09.

The baseline shows projected income of \$135.6 million in 2008-09. Gross reserves increase to \$91.2 million in 2008-09 which is within upper and lower limits of reserves policy (see Figure 6).

**Figure 6: Baseline Scenario**

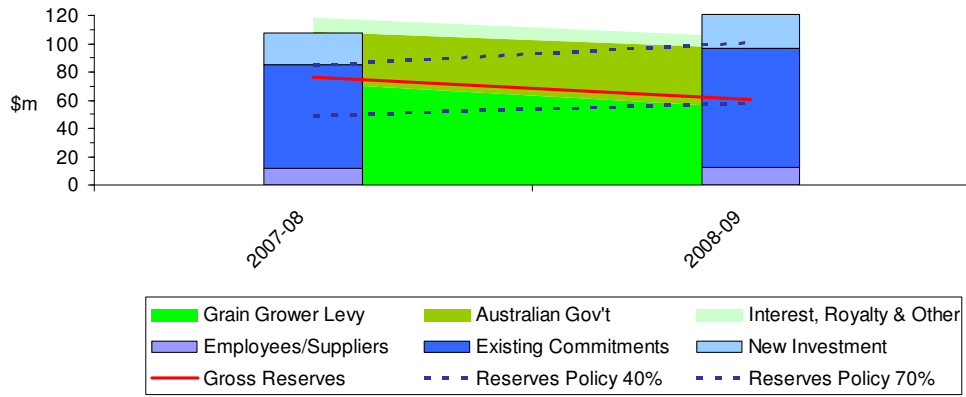


## **Scenario 1**

In Scenario 1, crop production for 2008-09 is assumed to be reduced by 30 percent from the baseline scenario. Prices for the major crops of wheat, barley, sorghum, canola, and oats are also assumed to have declined by approximately 12 percent.

This scenario shows projected income of \$105.0 million in 2008-09. Gross reserves remain above the lower prudential limit in 2008-09 at \$60.6 million (see Figure 7).

**Figure 7: Scenario 1**



## **4. The Proposed Levy Rate for 2008-09**

Currently, the levy rate is 0.99 percent of net farm value for 24 grains and 0.693 percent net farm value for maize. The GRDC's enabling legislation states that the levy is to be reviewed each year by the Grains Council of Australia (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 an expenditure level of \$121.0 million in 2008-09. The sustainability of expenditure on a 0.99 percent levy rate is sensitive to fluctuating grain prices and variability in production.

In consideration of the opportunities to deliver value to grain growers, the ongoing industry challenges, and the determination of the GRDC to implement the current Strategic R&D Plan 2007-12 and the LOB Strategies, the GRDC recommends a continuation of the levy rate of 0.99 percent for 24 grains and 0.693 percent for maize in 2008-09.



## **Attachment A - Growers' Report 2006-07**



## Attachment B - GRDC Income Forecast Assumptions

GRDC's baseline income forecast for 2007-08 and 2008-09 is based on the production and price estimates shown in Table B1.

**Table B1 GRDC's Price & Production Assumptions - 2007-08 and 2008-09**

<b>Production (mt)</b>	<b>2007-08</b>	<b>2008-09</b>
Wheat	13.1	26.0
Barley	6.0	9.0
Sorghum	2.5	1.9
Canola	1.1	1.4
Oats	0.8	1.4
<b>Prices (\$/t)</b>	<b>2007-08</b>	<b>2008-09</b>
Wheat-APW – Pool	440	339
Wheat-APW – Cash	399	339
Wheat-APH – Pool	455	373
Wheat-APH - Cash	405	373
Feed Barley – Pool	374	276
Feed Barley – Cash	345	276
Malting Barley – Pool	439	304
Malting Barley - Cash	399	304
Sorghum	292	248
Canola	634	657
Oats	253	203

### Sources:

<b>Production (mt)</b>	<b>2007-08</b>	<b>2008-09</b>
Wheat	GRDC estimates based on ABARE, Profarmer, ACF	"Australian Commodities", ABARE, March quarter 07.1
Barley		
Sorghum		
Canola		
Oats		
<b>Prices (\$/t)</b>		
Wheat-APW –Pool	AWB Media Release 17 March 2008	Estimate based on Profarmer prices November 2007 to February 2008
Wheat –APW-Cash	Average Profarmer prices July 2007 to February 2008.	
Wheat-APH - Pool	AWB Media Release 17 March 2008	
Wheat-APH - Cash	Average Profarmer prices July 2007 to February 2008.	
Feed Barley - Pool	Average Profarmer price 18 March 2008	
Feed Barley - Cash	Average Profarmer prices July 2007 to February 2008.	

<b>Prices (\$/t)</b>		
Malting Barley- Pool	Average Profarmer price 18 March 2008	Estimate based on Profarmer prices November 2007 to February 2008
Malting Barley- Cash	Average Profarmer prices July 2007 to February 2008.	
Sorghum		
Canola		
Oats		<i>"Australian Commodities"</i> , ABARE, March quarter 07.1