



Australian Government

Grains Research and Development Corporation

GRDC
Stakeholder Report 2011-12



GRDC
Grains
Research &
Development
Corporation

www.grdc.com.au

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 6166 4500
Facsimile: 02 6166 4599

© Grains Research and Development Corporation May 2011

This publication is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without permission from the Grains Research and Development Corporation.

Table of Contents

1. Executive Summary	4
2. Grower Engagement and GRDC Accountability	5
3. GRDC Strategy	7
4. 2011-12 R&D Portfolio	11
<i>New Investment</i>	<i>11</i>
<i>Continuing Investments</i>	<i>12</i>
5. Projected 2011-12 Budget Analysis	16
<i>Overview</i>	<i>16</i>
<i>Revenue Forecast</i>	<i>16</i>
<i>Expenditure</i>	<i>18</i>
New Investments	19
Continuing Investments	19
Employee and Supplier Expenses	19
Expenditure by Panels and Lines of Business/Output Groups	19
<i>Sensitivity Analysis</i>	<i>20</i>
Baseline	21
Pessimistic	22
Optimistic	23
6. The Proposed Grains Levy Rate for 2011-12	24
Attachment A – Growers’ Report 2009-10	
Attachment B – GRDC Revenue Forecast Assumptions	

1. Executive Summary

The GRDC Stakeholder Report 2011-12 provides crucial information to GRDC stakeholders including Grain Producers Australia (GPA) and its members. The Report is one of a suite of formal and informal measures utilised to ensure effective communication and accountability to Australian grain growers. In conjunction with the *GRDC Annual Report* and the *GRDC Growers' Report* it provides an overview of GRDC activities, key achievements and an analysis of revenue and expenditure estimates for 2011-12. This information is provided to enable GPA as the currently nominated representative organisation under the relevant legislation to make an informed decision and recommendation on the GRDC levy rate for 2011-12.

Effective engagement with and accountability to grower stakeholders is priority. GRDC has a transparent and comprehensive system of formal planning and reporting to ensure growers have direct input into determining the research, development and extension (RD&E) priorities of the organisation.

Investments planned in 2011-12 are aligned with regional grower and Australian Government priorities, the GRDC's corporate strategies and Line of Business (LOB) strategies. The 2011-12 investment portfolio addresses industry challenges including the need to drive productivity and profitability, increasing global food demand, potential adverse impacts of climate change, volatile grain markets, and the implementation of a national grains RD&E strategy.

Projected revenue and expenses are also outlined in this report. GRDC's current forecast is based on wheat production of 24.3mt and barley production of 8.9mt for 2011-12, with revenue estimated at \$156.9 million. Actual revenue will depend on the volume of crop production, grain price fluctuations, the value of the Australian dollar, changes in the farm business mix, the degree of on-farm storage, and decisions by growers on when and how to sell (e.g. cash markets or pools). The volume of crop production is very much dependent on conditions during the growing season and pest or disease outbreaks. Operating expenditure is estimated at \$164.6 million in 2011-12.

The GRDC representative body is required to recommend any desired change in the levy rate to the Minister for Agriculture Fisheries and Forestry each year. The amount of levy revenue received each year depends on a number of variable factors as outlined. These factors all impact on GRDC's ability to fund RD&E for a profitable and environmentally sustainable grains industry. The GRDC has carefully managed its reserves to maintain RD&E capacity and ensure that its investments and partnerships continue to deliver value to grain growers.

Based on the analysis of current revenue and expenditure forecasts and the level of accumulated reserves, the GRDC recommends that the current levy rates be maintained. Levies are 0.99 percent for all leviable crops excluding maize which is levied at 0.693 percent.

2. Grower Engagement and GRDC Accountability

The GRDC works closely with its two key stakeholders: Australian grain growers and the Australian Government.

Grain grower interests are represented through GRDC's national and regional panels, and through the consultation and reporting relationships established between GRDC and GPA.

GRDC has a comprehensive system of engagement with growers and works at all levels to ensure emerging issues are identified and directly inputted into the RD&E investment priorities. GRDC welcomes feedback from the Australian grains industry and actively engages in extensive consultation through formal and informal channels and mechanisms. These include Regional Advisory Committees, Regional Panels, growers on the GRDC Board, a national system of Grower and Adviser Updates, panel and Board tours throughout grain growing areas, attendance at field days, consultation and support with grower groups, farming system groups and industry associations, and participation at industry conferences, workshops and forums.

The *GRDC Stakeholder Report 2011-12* is a formal planning and reporting tool designed to provide crucial information to GPA and its affiliates. It is part of a suite of formal and informal measures GRDC utilises to ensure effective communication and accountability to Australian grain growers.

Formal accountability and reporting obligations for the GRDC are set out in the *Primary Industries and Energy Research and Development (PIERD) Act*, and the *Commonwealth Authorities and Companies (CAC) Act*.

Under the CAC Act, the GRDC is obliged to:

- prepare an annual report (in the prescribed form, including a report of operations), and to give it to the responsible minister by 15 October each year (section 9)
- ensure that any subsidiary's financial statements are audited by the Auditor-General and provide them to the responsible minister by 15 October each year (section 12(1))
- prepare and provide to the responsible minister interim reports during a financial year, if required by the Finance Minister by notice in the Gazette (section 13)
- prepare and provide budget estimates (section 14)
- provide the responsible minister (in writing) with particulars of any proposal of the GRDC to undertake any one of a number of significant events (section 15)
- keep the responsible minister informed of the operations of the GRDC and its subsidiaries and provide such reports, documents and information as that minister or the Finance Minister requires (section 16)
- ensure that the general policies of the Australian Government as notified to the Corporation and applicable General Policy Orders made by the Finance Minister are carried out (sections 28 and 48A).

Table 1 shows the elements of the approach the GRDC adopts to meet its corporate planning and reporting obligations as a statutory corporation.

Table 1: Elements of the planning and reporting approach

Element	Purpose
Annual operational plan	Specifies the annual budget, resources and research priorities that give effect to the strategic R&D plan during a given financial year
Annual procurement plan	Makes procurement information publicly available through the Australian Government's AusTender procurement management web site
Annual report	Provides information on R&D activities and their performance in relation to the goals set in the annual operational plan and portfolio budget statement for a given financial year
Growers' report	Provides performance information to growers on R&D activities for a given financial year
Investment plan	Informs potential research partners about some of the GRDC's new investment priorities for the next financial year and invites interested parties to submit research proposals
Portfolio budget statement	As part of the Australian Government budget process, summarises the planned outputs, outcomes, performance information and financial statements for a given financial year
Stakeholder report	Meets legislative requirements for reporting to the grains industry's representative organisation, Grains Producers Australia
Strategic R&D plan	Sets out the GRDC's high-level goals, strategies and performance measures for a five-year period, developed in consultation with stakeholders and approved by the Minister

This Stakeholder Report also includes the *GRDC Growers' Report 2009-10* (Attachment A), specifically developed to provide key performance information and sent to all growers. This provides a concise summary of the achievements and activities of the Corporation during the year including:

- ✓ Report from the Chair and Managing Director (page 3)
- ✓ GRDC financials at a glance (page 7)
- ✓ Reports from the GRDC regions (page 8)
- ✓ Investment highlights of Varieties, Practices, New Products, and Communication and Capacity Building Output Groups (page 14)
- ✓ Commercialisation (page 30)
- ✓ The GRDC Team (page 31)
- ✓ The GRDC Board (page 33)
- ✓ The GRDC investment process (page 34).

3. GRDC Strategy

The GRDC's primary objective is to support effective competition by Australian grain growers in global grain markets, through enhanced profitability and sustainability. Figure 1 shows how GRDC's four corporate strategies and associated Line of Business (LOB) strategies support this primary objective. The four underlying corporate strategies are:

- ❖ To coordinate and facilitate a national approach to grains R&D.
- ❖ To deliver against the Australian Government priorities. The Australian Government is a major stakeholder contributing about 40% of GRDC funding.
- ❖ To grow and leverage the total investment in grains R&D. This involves co-investing with our R&D partners, collaboration and co-investing with other RDCs, leveraging additional funding sources such as the government's Caring for Country program, and investing with private sector enterprise.
- ❖ To ensure all R&D is market driven. This means:
 - the R&D must have clearly defined outputs/deliverables that will benefit the Australian grains industry
 - there must be whole of industry involvement in determining the R&D agenda
 - where the primary beneficiaries of the R&D outcome are post farm gate, these beneficiaries should contribute to the R&D
 - the GRDC will work with private capital partners where this involvement enables a technology to be brought to growers in a more effective way.

2011-12 is the fifth and final year of implementation of the GRDC's Strategic R&D Plan 2007-12. Proposed investments for 2011-12 are aligned with the GRDC's corporate strategies, LOB strategies and regional grower and Australian Government (including responsible Minister) priorities.

The GRDC determines its investment priorities jointly with grain growers, government and research partners and acts in partnership with private and public researchers, other R&DE funding organisations and agribusiness.

The strategies of GRDC to leverage its investment with public and industry research funding, national coordination and extension provide continuing scientific and management breakthroughs for grain growers. This translates into sustainable productivity gains essential in maintaining competitiveness in world markets.

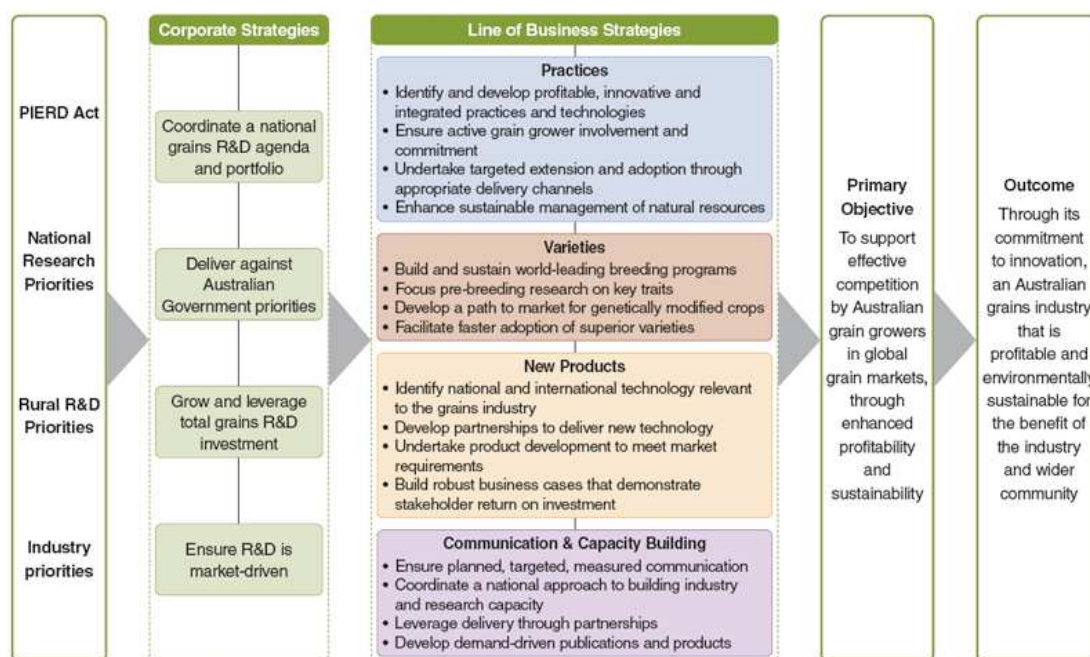


Figure 1: Overview of R&D strategies, 2007-12

To ensure that its strategies remain relevant, the GRDC continually monitors and reviews changes in its business environment. Table 2 lists the main factors expected to influence the business environment and explains some of the implications for GRDC and its budget.

Table 2: Factors Expected to Influence the Business Environment

Factors expected to influence the business environment	Implications for GRDC
The continuing importance of demonstrating the impact of RD&E on productivity, profitability and sustainability	GRDC undertakes several impact assessment studies each year as part of its ongoing evaluation process. As the importance of demonstrating impact increases, the need for more extensive performance information and data collection will increase. GRDC is also part of the Council of Chairs' Evaluation Working Group (CCEWG). The Productivity Commission has requested the CCEWG to better quantify the environmental and social value of R&D ¹ . Valuing social and environmental services R&D provides has proven difficult due to a lack of a market for such goods and services and the challenges of attributing such benefits to agricultural R&D. Demonstrating impact is likely to require significant expertise in economics, environmental science and sociology to move forward in this area. Therefore as this area of work evolves, it will require further resources from GRDC.
Continuing change in characteristics of the Australian and global grain markets, including changes to grain-marketing arrangements, the global economy,	Price volatility and continual change in the characteristics of grain markets will impact on growers' profitability. Therefore growers need an effective business and risk management strategy. Volatility makes it more challenging to estimate GRDC's future revenue streams leading to a need to have sufficient levels of financial reserves to mitigate the impact of any downturn. This makes planning for RD&E investment more challenging. Changes in global grain markets can also create opportunities for new

¹ Refer to "Public Support for Science and Innovation Research Report"(2007),Productivity Commission,p.321

Factors expected to influence the business environment	Implications for GRDC
global food security issues and high levels of volatility in grain prices and input costs	<p>investment enhancing grains industry productivity and profitability. The GRDC delivers products and services (both on farm and off farm) to assist growers to effectively compete in global grain markets. This is achieved by the New Products LOB and implementation of four strategies:</p> <ul style="list-style-type: none"> - Identifying national and international technology relevant to the grains industry - Develop partnerships to deliver new technology - Undertake product development to meet market requirements - Build robust business cases that demonstrate stakeholder return on investment. <p>GRDC may be approached to supply information for wheat stocks by State(see Final Report from the Productivity Commission Inquiry on Wheat Export Marketing Arrangements). If this eventuates, there will be a financial cost likely to be in the range of \$0.5M-\$1.5M per annum.</p>
Continuing progress on developing and implementing a National Grains RD&E Strategy	<p>GRDC is a partner in the implementation of the National Grains RD&E Strategy. To drive and execute the Strategy, a National Strategy Implementation Committee has been established with senior representation from the relevant Primary Industries Steering Committee (PISC) agencies, the university sector, CSIRO, GRDC and industry. The Implementation Committee is supported by an Executive Officer and will oversee working groups in which GRDC will have an ongoing role to implement five key strategies:</p> <ul style="list-style-type: none"> - Build on existing national collaboration - Develop effective relationship models for private-public coexistence - National research programs, national centres of research capability and regional networks of applied RD&E under the "Major-Support-Link" framework - National capability planning for human and physical infrastructure - Better ongoing alignment of stakeholder priorities and RD&E resource allocation <p>To build ownership and to work more effectively with the private sector, the Committee will undertake extensive industry and research provider consultation over the next 12 months. Included in the Implementation Committee's role is to develop a mechanism for review of national RD&E priorities for industry and government and to develop a plan to facilitate better coordination and alignment of investment and activities between RD&E providers.</p> <p>The National Grains RD&E Strategy will need to be integrated with other agricultural RD&E sectoral and cross-sectoral plans. The Implementation Committee will draw on the work being done under the PISC R&D Sub-Committee on the harmonisation of performance evaluation, intellectual property management, administrative systems and new approaches to extension. It is anticipated that organisations will reconfigure their investment to support areas in which they have greater capability, and can make significant impact, whilst drawing on research from other jurisdictions in areas of lesser need or capability.</p> <p>More information on the National Grains RD&E Strategy can be found at http://www.daff.gov.au/_data/assets/pdf_file/0007/1873654/npi-grains.pdf</p> <p>The impact of being aligned with the Strategy is likely to be a need for increased resources for coordination (e.g. partial support of the</p>

Factors expected to influence the business environment	Implications for GRDC
	Executive Officer, resources to free up GRDC staff to participate in working groups and the Implementation Committee and potentially budget implications if GRDC invests to secure future RD&E capacity).
The continuing need for greater understanding of both the impact of agriculture on greenhouse gas emissions and climate change and the impact of climate change on agriculture.	GRDC must maintain and build upon collaborative relationships including significant investment in programs such as Managing Climate Variability and the Soil Carbon Research Program. GRDC delivers and facilitates the adoption of practical approaches for minimising greenhouse gas emissions. GRDC is also working on understanding the impacts of elevated atmospheric carbon dioxide on yield and quality. The ability to respond to the opportunities and threats created by climate change and the potential move to a low carbon economy will require new skills to be developed within the grains industry. Regions and industry will need organisations, structures and skilled people to train and develop others.
The outcomes of the Productivity Commission review of the RDCs	The Productivity Commission (PC) Draft Report on the RDCs made several recommendations on the operational and funding aspects of the RDCs. The creation of a new RDC called Rural Research Australia (RRA) was recommended to undertake research solely of a public good nature with RDCs transferring those projects to RRA. GRDC has argued against this approach as cross-cutting projects such as water management, climate change and farming systems deliver both public good and private good benefits which are difficult to segregate and transfer to another organisation. Adoption pathways need to be in place for public good and industry RDCs to provide a strong interface with industry to support adoption. The Draft PC Report also recommended that government matching contribution be reduced by 0.025% each year for 10 years. If this recommendation was implemented, \$3 million would be reduced on the current budget estimates for 2011-12 and a reduction by about half in the matching contribution over 10 years. While GRDC could probably absorb the shortfall over the short to medium term by utilising its reserves, cutbacks in spending would be needed. Following the principle of beneficiary pays, this would lead to a shift away from the current level of GRDC investment in priorities of higher value to government to increased proportional investment into industry priorities.

Informed by its five-year strategies and by business conditions, the GRDC each year tailors its investment portfolio to best address:

- Australian grain grower priorities, as identified through consultation meetings held with GPA, local research advisory committees, grower groups, grower organisations and individual grain growers.
- Australian Government priorities, as identified by the National Research Priorities and Rural R&D Priorities and Minister's priorities
- National and international developments in agricultural technologies.

4. 2011-12 R&D Portfolio

Proposed investments are aligned with the Corporation's Strategic R&D Plan 2007-12 *Prosperity Through Innovation*. In developing investment priorities, regional panels (refer to page 4 of the Growers' Report) consulted extensively with growers and researchers through regional advisory committees, linkage groups and site visits. Drafting of the priorities presented in the Investment Plan 2011-12 began in early 2010 and took into account new investments being made in 2010-11, progress reports on existing investments, project reviews and other sources such as outputs from technical workshops. Panel members and GRDC management identified new opportunities for incorporation into priority development for 2011-12.

New Investment

New investment is allocated towards GRDC's programs of agronomy and soils, extension and grower programs, crop protection, new farm products, new grain products, germplasm enhancement, gene discovery, and communication and capacity building. Examples of new investments include:

- **Tactical Pesticide Registration Program:** The GRDC is co-investing with the National Working Party for Pesticide Application (NWPPA) consisting of multiple agricultural industries and pesticide registrants to develop predictive chemical spray drift reduction modelling tools. This will provide growers scope to use cost effective validated science based drift reduction technologies to mitigate the impacts of proposed new spray drift buffer zone regulations. The 'Pathways to Registration' program will be expanded to increase the rate of pesticide label improvement to broaden registered use options for generic pesticides. These pesticide programs combined with further investment in cultural non-chemical management tactics and improved genetic options will contribute to improved sustainable management of crop pests, weeds and disease.
- **GRDC Farm Business Management Initiative:** Grain growers across Australia face an increasingly complex and challenging business environment. It is widely recognised that there is now even more pressure on farm profitability with high fuel, fertiliser and labour costs and volatile world prices for commodities. This investment will enable farm business managers to make more effective decisions and take the appropriate action in uncertain regulatory, climatic, market and operational conditions.
- **Australian National Frost Program (ANFP)- Phenotyping:** The ANFP will provide for strong industry involvement through the formation of a consultative committee to facilitate collaboration between frost researchers and industry. The phenotyping project will form the backbone of the ANFP and will support other frost pre-breeding and breeding activities. The primary outcome of the program will be varieties with improved levels of frost tolerance.
- **Enhanced Crown Rot Resistance in Barley:** This investment aims to develop barley genetics giving both seedling and field resistance to Crown Rot infection. Grain growers will benefit through early access to varieties with enhanced crown rot resistance. Growing resistant varieties will not only reduce losses in both yield and quality of grains, but also reduce losses of follow-on crops as a result of reduced inoculum loads.

- **Pulse Breeding Australia (PBA):** This is an expansion of the current initiative. PBA's aim is to deliver superior pulse varieties for Australian growers to increase total pulse grain production and the total cropping area sown to pulses (to a national average of a minimum of 15% of total cropping area) and to ensure Australian pulse growers continue to meet market requirements.
- **Wheat Classification:** A shared funding model is proposed with GRDC providing support for the technical and extension activities of the wheat classification process. The primary function of wheat classification is to link wheat breeding with overseas and domestic markets. This is achieved by translating market signals into end-use quality attributes (e.g. dough strength, extensibility etc.) which then become wheat breeding objectives. New wheat varieties are classified according to their functional properties and grouped into distinct classes with known end use qualities which can then be traded.
- **A Bio-control Approach for Crop Protection:** This investment will look into developing new technologies for control of nematodes, Diamondback moth, and pathogenic fungi. A comprehensive business case will be prepared and, based on its outcomes, commercial partners will be sought for product development and accelerated delivery to market.
- **Safflower for Industrial Oil Production:** This investment is an essential component towards the success of the Crop Biofactories Initiative (CBI) which has chosen safflower as the crop platform for the delivery of genetically modified oilseeds with novel oils for industrial uses. Australia does not have an active safflower breeding program and no new safflower varieties bred in Australia have been released since 1987. This investment will acquire improved safflower varieties from overseas collections and test them under Australian field trials to identify improved varieties for use as parents in the CBI program and potentially as new direct safflower variety releases for growers.

Potential Implications for the Roll-out of the National Grains RD&E Strategy

Planned RD&E expenditure for 2011-12 includes \$0.25 million for National Grains RD&E Strategy implementation. There is the potential for significant investments in the proposed National Centre of Capability (Australian Export Grain Innovation Centre) in Western Australia and Regional Development and Extension Networks at Narrabri and on the Darling Downs. Investments in these centres would be dependent on a number of factors including:

- Consistency with the National Grains RD&E Strategy
- Consistency with GRDC's strategy
- The development of a robust business case
- The ability to access GRDC reserves as required.

GPA will be kept updated on these developments through membership of the National Grains RD&E Steering Committee and at industryConsult Meetings.

Continuing Investments

Examples of GRDC continuing investments with a particular emphasis on grain grower priorities are outlined in Table 3.

Table 3: Examples of GRDC continuing investments

Grain grower priorities	GRDC continuing investments
Environmental	
<i>Responses to climate change</i> <i>Improved water use efficiency</i>	GRDC has numerous investments providing grain growers with knowledge and technology to respond to the short-, medium- and long-term challenges that a changing climate represents. The GRDC provides support for: <ul style="list-style-type: none">• the Managing Climate Variability Program• the Soil Carbon Research Program• the Climate Change Research Strategy for Primary Industries• the nitrous oxide research component of the Department of Agriculture, Fisheries and Forestry Climate Change R&D Program• a project to develop and deliver salt tolerance and water use efficiency traits for durum wheat• a project to increase water use efficiency in mixed crop–livestock systems• a pre-breeding research project with CSIRO which has identified wheat germplasm that is more drought tolerant at the reproductive stage of plant growth.
<i>Sustainability and resource management</i> <i>Soil health and biology</i>	The GRDC provides support for: <ul style="list-style-type: none">• Grain and Graze program (Phase 2), through the Caring for our Country initiative• an investigation of potential uses of biochar in cropping systems—to improve soil health, crop nutrition and carbon sequestration• growth-enhancing phosphorous-solubilising microbial products for cereals and canola (e.g. Jumpstart)• projects within phase 2 of the Soil Biology Initiative (refer to section on “New and innovative product development” below)• the new Beneficial Microbes Program

Grain grower priorities	GRDC continuing investments
-------------------------	-----------------------------

Farm management

<p><i>Integrated farming practices and technologies</i></p> <p><i>Integrated management of weeds, diseases and pests</i></p> <p><i>Herbicide resistance management</i></p>	<p>The GRDC supports workshops and consultation between the National Integrated Weed Management Initiative, the National Invertebrate Pest Initiative and the Department of Agriculture, Fisheries and Forestry about the future of the Australian Weeds Research Centre, to identify gaps in RD&E, collaborate with other research partners where relevant and inform future investment plans.</p> <p>Projects supported by the GRDC include:</p> <ul style="list-style-type: none"> • implementation of forecasting systems for stripe rust and wheat streak mosaic virus in Western Australia and blackspot in field peas in Western Australia and South Australia, delivered via web-based mapping • agreement from an Australian Cereal Rust Control Program consultative committee, including breeders, to implement a national communications strategy to discourage production of wheat varieties susceptible to rust • preparation of information packages on disease resistance, ready for incorporation into integrated pest management of sclerotinia and white rust in canola • incorporation of validated field efficacy and performance data into a business plan for commercialisation of the Harrington Weed Seed Destructor. <p>The GRDC also invests in work to deliver:</p> <ul style="list-style-type: none"> • strategies for deployment of genetic resistance against Russian wheat aphid, barley stripe rust and stem rust (Ug99) • new approaches to weed seed bank management, including crop competition and competitive cultivars • research leading to herbicide label changes or acceptance of alternative modes of action.
--	--

Variety development

<p><i>Biotechnology for improving genetic gain</i></p>	<p>The GRDC supports work to evaluate the frost tolerance of pulse germplasm from the Australian Temperate Field Crops Collection and international sources, leading to the identification of tolerant and intolerant gene pools in field peas, lentils and chickpeas, and the incorporation of some field pea lines into the breeding program.</p> <p>A workshop was held to identify barriers to frost pre-breeding research progress, identify opportunities for future research and develop a national strategy for research coordination and collaboration. This initiative involves the development of an international collaboration with the International Centre for Agricultural Research in the Dry Areas to access potential sources of frost-tolerant cereal and pulse germplasm.</p>
<p><i>Superior new varieties</i></p>	<p>National Variety Trials (NVT) results for varieties released in 2009–10 showed that:</p> <ul style="list-style-type: none"> • the new wheat varieties yielded up to 12% more than current dominant varieties with comparable quality and disease resistance • the new barley varieties yielded up to 16% more than current

Grain grower priorities	GRDC continuing investments
--------------------------------	------------------------------------

dominant varieties

- over 90% of the canola varieties that were targeted at blackleg-prone areas had a blackleg resistance rating of 7 (moderately resistant) or above.

Trial results also showed that 90% of wheat second-year entries (retentions) in NVT trials met current regional minimum disease standards for rust resistance.

New and innovative product development

The GRDC is contracting projects within phase 2 of the Soil Biology Initiative, including development of improved microbial formulations and the Beneficial Microbes Program, a screening program for novel isolates for the control of soil-borne disease. A multiparty agreement was reached with CSIRO, Flinders University, Murdoch University and the South Australian Research and Development Institute to deliver the Beneficial Microbes Program.

The GRDC is contracting:

- work by the Scottish Agricultural College to investigate the potential of biopolymers
- a number of projects investigating the use of fungal and nematode isolates as biological control agents for target pests.

Other research in new product development includes:

- identification of a range of potential partners, and commencement of negotiations, for the commercialisation of the grain fumigant GLO2
- identification of a potential water use efficiency project for investment in 2011–12, through the Cooperative Research Centre for Polymers
- collaboration with the University of Melbourne and a commercial enzyme company to develop enzymes to increase sorghum digestibility.

Capacity building

Improving skills, training and education in agriculture
Farm business management

The GRDC's support for industry capacity building includes:

- commencing grain storage extension training
 - implementing precision agriculture training
 - developing a training program for up-skilling extension providers
 - scoping a new two-day training workshop for grains' industry advisers on cereal foliar disease management
 - engaging with national and regional agribusiness reference groups to prioritise extension activities.
-

5. Projected 2011-12 Budget Analysis

Overview

The GRDC is primarily funded by a levy on the farm gate value of production on 25 leviable grains and a matching contribution from the Australian Government (currently capped at 0.5% of gross value of production). GRDC's revenue stream is subject to the volatility of international grain markets and the production impacts of droughts and other weather related events, diseases and pest outbreaks. Growers' decisions on when to sell, to whom, and which marketing product is used also impact on the amount and timing of the levies received. Farm gate costs can also vary significantly for different grain growers. These factors create a high level of uncertainty in the GRDC revenue base.

To maximise benefits to grain growers the GRDC focuses on maintaining critical long term RD&E capacity. Large fluctuations in RD&E expenditure can lead to destabilisation within the industry as research providers face a more uncertain future. To counteract the fluctuating seasonal variances in revenue the GRDC maintains a certain level of financial reserves. Reserves are held in accordance with the *Commonwealth Authorities and Companies Act*. Current financial policy is to aim for liquid reserves in any one year between 40 percent and 70 percent of the following year's expenditure level. The use of financial reserves is governed by the GRDC Board, within government imposed constraints.

The GRDC derives grain production estimates and price data from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), Australian Crop Forecasters (ACF), and Profarmer. GRDC also consults regularly with other agricultural commodity consultants and the Levies Revenue Service in the Australian Government Department of Agriculture, Fisheries and Forestry in the development of its forecasts.

Revenue for 2011-12 is budgeted at \$156.9 million. This is made up of \$84.8 million from the industry levy, \$55.6 million from the Australian Government, \$3.3 million in grants, and \$13.2 million from other sources. This assumes current levy rates and production of approximately 24.3mt of wheat and 8.9mt of barley. At this time production and price forecasts are highly uncertain.

Operating expenditure in 2011-12 is estimated at \$164.6 million with investment in RD&E of \$148.6 million (excluding asset write-downs). Expenditure may change depending on the actual revenue outcome and as more becomes known of the operating environment likely to exist.

Revenue Forecast

Table 4 shows the GRDC's financial results for the previous three years, the revenue and expenditure forecast for 2010-11 and the revenue and expenditure budget for 2011-12. The major price and production assumptions used for the revenue estimates are shown at Attachment B – GRDC Revenue Forecast Assumptions. Projected revenue in 2011-12 is based on the levy rate of 0.99 percent of farm gate value of all grains except for maize² and continuance of the prevailing Australian Government contribution. At this stage, GRDC's 2011-12 revenue is estimated at \$156.9 million. This estimate is highly dependent on the

² Levy rate for maize is at 0.693 percent

volume of grains production, grain prices, the proportion being sold into pools versus the cash market, the timing of growers' decisions to sell, and the payment terms selected by growers.

Table 4: GRDC 3 Years Financial Results, Forecast 2010-11 and Budget 2011-12 (\$m)³

	Actual	Actual	Actual	Forecast	Budget
	2007-08	2008-09	2009-10	2010-11	2011-12
Grain Grower Levy	76.6	89.2	74.1	82.7	84.8
Australian Government ^a	37.6	43.9	50.1	54.9	55.6
Grants ^f	0.4	2.6	8.9	5.8	3.3
Interest, Royalty & Other ^b	12.5	14.7	10.8	11.4	13.2
Total Revenue^c	127.2	150.4	143.8	154.7	156.9
Research and Development	89.1	106.3	116.8	141.8	148.6
Employees	5.8	6.1	6.5	6.9	7.6
Suppliers	5.7	5.6	5.9	6.3	6.9
Write-down and Impairment of Assets	1.9	3.3	4.2	2.0	1.5
Total Expenses^g	102.5	121.3	133.4	157.0	164.6
Share of (deficit) of associates and joint ventu	-0.6	-0.7	-0.6		
Surplus/Deficit	24.1	28.5	9.8	-2.3	-7.7
Gross Reserves ^d	89.7	118.7	128.5	126.2	118.5
<i>Less Property Plant & Equipment</i>	<i>6.1</i>	<i>7.6</i>	<i>7.2</i>	<i>6.3</i>	<i>6.3</i>
<i>Less Shares in unlisted companies</i>	<i>5.3</i>	<i>7.6</i>	<i>8.4</i>	<i>7.6</i>	<i>6.7</i>
Liquid Reserves^e	78.3	103.5	112.9	112.4	105.5
40% Lower Limit Reserves					57.3

^a GRDC's levy revenue is matched by the Australian Government at a level up to 0.5 percent of the gross value of grains production (three year rolling average), provided the Government contribution does not exceed grower levies for the relevant year.

^b "Other" includes penalties and project refunds.

^c Revenue estimates for 2010-11 and 2011-12 are indicative only. Revenue is highly uncertain due to grain price fluctuations and seasonal influences on production.

^d Gross reserves means net assets (i.e. total assets less total liabilities).

^e Liquid reserves are net assets which are easily convertible to cash.

^f Grants are contributions from other organisations for implementation of R&D programs

^g R&D expenditure may be revised

³ Figures are subject to rounding differences

The proportional break-up of the GRDC's forecast revenue for 2011-12 is shown in Figure 2.

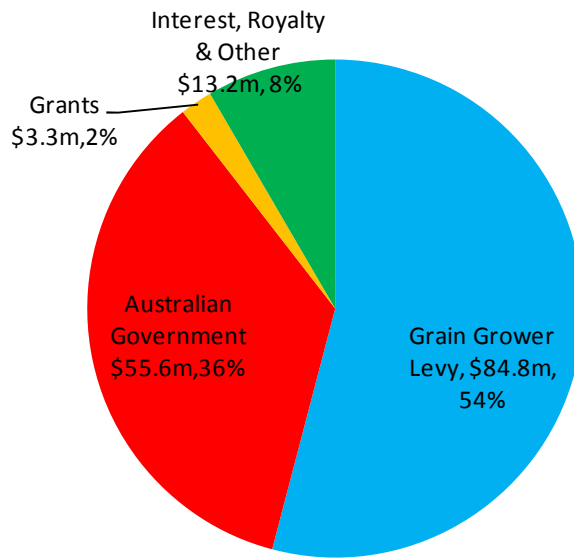


Figure 2: Break up of GRDC's Forecast Revenue for 2011-12 as a Percentage of Total Revenue

Expenditure

Planned operating expenditure for 2011-12 is \$164.6 million and \$0.6 million has also been estimated for capital expenditure. The percentage break-up of this into new investment, continuing commitments, employees and suppliers is shown in Figure 3. It is estimated that \$28.6 million will be invested in new research commitments; \$120 million in ongoing research commitments, and \$14.5 million for employee and supplier expenses.

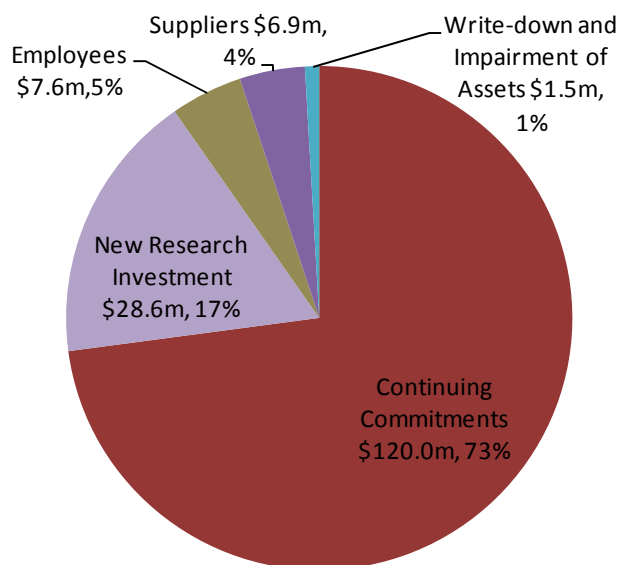


Figure 3: Break-up of the GRDC's Expenditure for 2011-12 as a Percentage of Total Expenditure

New Investments

New investment is budgeted at \$28.6 million. This makes up about 17 percent of the total budget shown in Figure 3.

Continuing Investments

GRDC manages approximately 600 ongoing projects in its portfolio. The GRDC's total expenditure budget for 2011-12 for ongoing commitments is \$120.0 million which represents 73 percent of total operating expenditure (shown in Figure 3).

Employee and Supplier Expenses⁴

Employee and supplier expenses in 2011-12 have been projected to increase from 2010-11 due to the higher level of R&D projects coming on-line. However employee and supplier expenses as a proportion of total expenditure will be at 9 percent which is comfortably within a target range of 8 to 11 percent.

Expenditure by Panels and Lines of Business/Output Groups

Figure 4 shows the percentage break-up of proposed 2011-12 RD&E investment among the GRDC Panels. Please refer to page 4 of the Growers' Report for an explanation of the panel system and how it is used to ensure investments meet the interests of GRDC stakeholders. The National Panel investments comprise the national components of the GRDC's RD&E investment across Australia. Figure 5

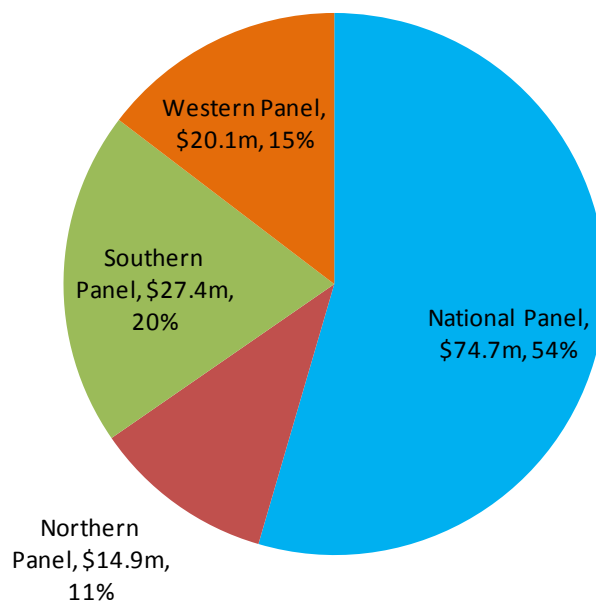


Figure 4: 2011-12 Proposed R&D Investment by Panels⁵

⁴ 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

⁵ Excludes strategic investments not allocated to Panels of \$10 million for National Grains RD&E Strategy, emerging issues, project variations, project reviews, board decisions, and impact assessment. Also excludes \$1.5 million for corporate level communications.

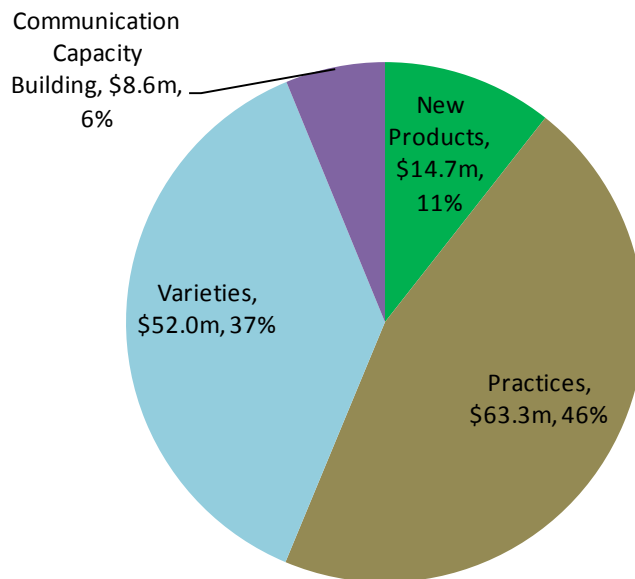


Figure 5: 2011-12 Proposed R&D Investment by Line of Business/Output Groups⁶

shows the percentage break-up of proposed 2011-12 RD&E investment among the GRDC Lines of Business (LOB)/Output Groups. Significant capacity building for industry and researchers also occurs directly through each of the LOBs. Key performance indicators for GRDC's output groups are published in the Corporation's Strategic R&D Plan 2007-12 (pages 21-29).

Sensitivity Analysis

GRDC's revenue forecast is highly dependent on production levels, grain prices, and growers' decisions on when to sell and which marketing product to use. Given the uncertainty in these variables, GRDC undertakes sensitivity analysis to examine the possible impact of more optimistic and pessimistic scenarios on GRDC reserves and its ability to maintain a satisfactory level of RD&E investment. GRDC aims to manage its liquid reserves between an upper limit of 70% and lower limit of 40% of the following year's expenditure. Table 5 shows the results of the sensitivity analysis and the underlying assumptions which were varied.

Table 5: Sensitivity Analysis on Forecast Revenue 2011-12⁷

	Forecast	Pessimistic	Baseline	Optimistic
	2010-11	2011-12	2011-12	2011-12
Projected Revenue	154.7	117.2	156.9	171.7
Expenditure	157.0	164.6	164.6	164.6
Surplus/Deficit	-2.3	-47.4	-7.7	7.1
Liquid Reserves ⁸	111.3	65.3	105.5	119.8

⁶ Excludes strategic investments of \$10 million for National Grains RD&E Strategy, emerging issues, project variations, project reviews, board decisions, and impact assessment.

⁷ Figures are subject to rounding differences

⁸ Liquid reserves are net assets which are easily convertible to cash

Table 5 cont: Underlying Assumptions by Scenario

	Pessimistic	Baseline	Optimistic
Wheat Production in 2011-12 (mt)	11.4	24.3	24.3
Barley Production in 2011-12 (mt)	4.7	8.9	8.9
Sorghum Production in 2011-12 (mt)	1.3	2.4	2.4
Canola Production in 2011-12 (mt)	0.8	2.2	2.2
Oats Production in 2011-12 (mt)	0.8	1.3	1.3
Wheat Price (APW) in 2011-12 (\$/t)	251	251	301
Wheat Price (APH) in 2011-12 (\$/t)	276	276	331
Malt Barley Price in 2011-12(\$/t)	243	243	262
Feed Barley Price in 2011-12(\$/t)	187	187	217
Sorghum Price in 2011-12(\$/t)	205	205	245
Canola Price in 2011-12(\$/t)	548	548	587
Oats Price in 2011-12(\$/t)	219	219	180

Baseline

The baseline scenario outlined above assumes a 0.99 percent levy rate on farm gate value for 24 grains and a 0.693 percent levy rate on farm gate value for maize, operating expenditure of \$157.0 million in 2010-11 and \$164.6 million in 2011-12. The baseline scenario is depicted in Figure 6 below.

The baseline shows projected revenue of \$154.7 million in 2010-11 and \$156.9 million in 2011-12. Liquid reserves as at the end of the 2011-12 financial year are projected to be slightly above the target range of reserves.

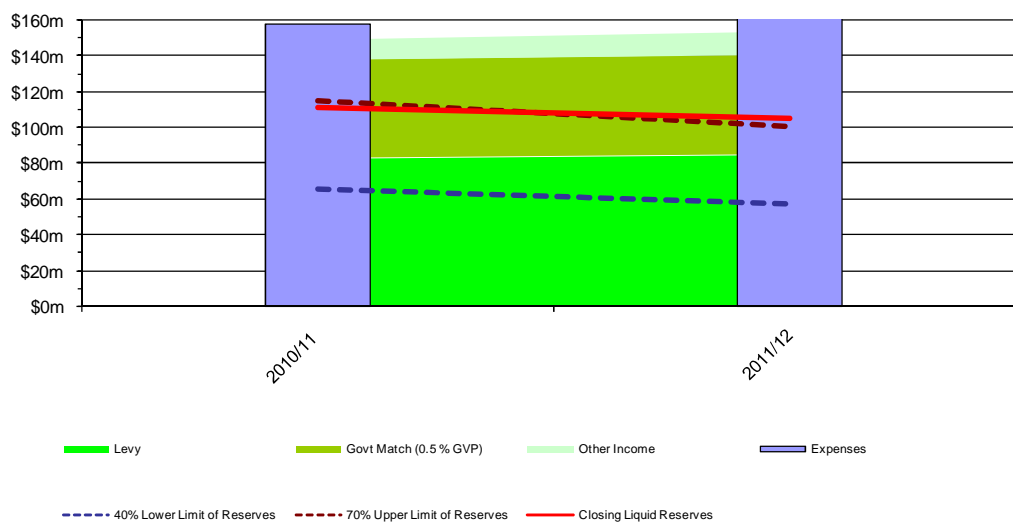


Figure 6: Baseline Scenario

Pessimistic

The pessimistic scenario for 2011-12 assumes low crop production volumes. Prices for the major crops of wheat, barley, sorghum, canola, and oats are assumed to stay as per the Baseline scenario due to a high Australian dollar and a significant level of world stocks.

This scenario shows projected revenue of \$154.7 million in 2010-11 and \$117.3 million in 2011-12 (refer **Table 5**). Liquid reserves decrease to \$65.3 million. As can be seen in Figure 7, under the pessimistic scenario reserves move within the threshold of the target range of GRDC's reserves policy. This indicates the proposed expenditure level would be sustainable under such a scenario although new investment may need to be curtailed in the following year.

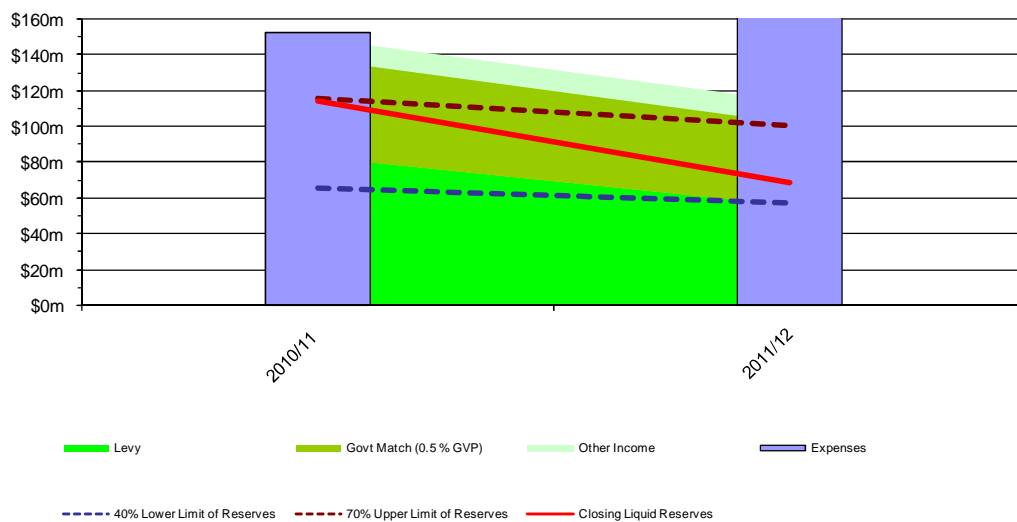


Figure 7: Pessimistic Scenario

Optimistic

The optimistic scenario for 2011-12 assumes crop production levels as per the Baseline scenario but prices for major crops of wheat, barley, sorghum, canola, and oats are assumed to be at similar levels to 2010-11.

This scenario shows projected revenue of \$154.7 million in 2010-11 and \$171.7 million in 2011-12 (refer **Table 5** and Figure 8). Liquid reserves increase to \$119.8 million. As can be seen in Figure 8 reserves would move above the upper bound of the target range of GRDC's reserves policy.

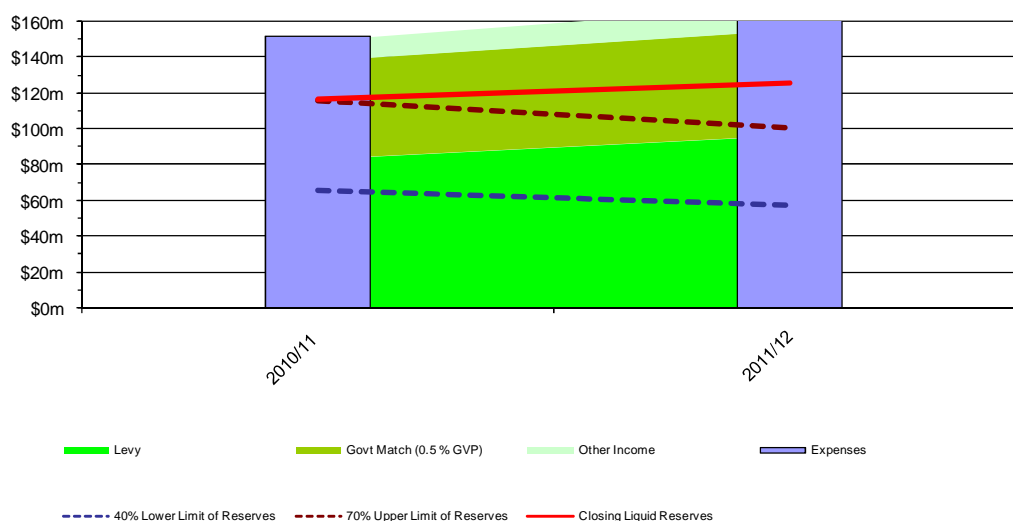


Figure 8: Optimistic Scenario

Similar to growers' income, GRDC's revenue is highly variable. The GRDC investment cycle generates more potential investments than what is normally contracted. Therefore in times of higher than expected income further investments can be made at fairly short notice. Potentially, in addition to the National Grains RD&E opportunities described above, there are options to invest in:

- Extension and adoption
- Preparation of background reports on the cost of certain issues to the Australian grains industry
- Preparation of literature reviews to summarise the status of RD&E in areas of importance to the industry, and
- Providing exchanges to encourage international collaboration.

6. The Proposed Grains Levy Rate for 2011-12

The GRDC's enabling legislation states that the levy is to be reviewed each year 'by the representative organisation', currently GPA. At present the levy rate is 0.99 percent of farm gate value for 24 grains and 0.693 percent of farm gate value for maize.

The levy rate of 0.99 percent has remained steady since 1991. The levy revenue received each year is difficult to predict as it is determined by grain prices which are heavily influenced by volatile world markets, crop production volumes affected by risks of drought and other weather events, pests and disease outbreaks, grower decisions on when and how to sell their grain, fluctuations in the value of the Australian dollar, and significant shifts away from grains in the farm business mix. Increasing trends towards delayed sales and on-farm storage can also have a material effect on the timing of GRDC levy receipts.

Further uncertainty in funding has been created through the Productivity Commission's draft recommendation of a 0.025 percent annual reduction in the Australian Government matching contribution cap. Such a reduction would lead to a \$3 million decline in GRDC revenue in 2011-12 in the baseline scenario discussed above.

The GRDC manages this uncertainty in delivering RD&E to the Australian grains industry through accumulation of reserves in years of high value production and utilising these reserves in leaner years when revenue is lower. Over the last few years grain prices have fluctuated markedly highlighting the volatility in the industry. As shown in the pessimistic scenario above, a drought production year can have a significant effect on GRDC reserves. In 2006-07 revenue fell by \$18 million from the previous year. A stable levy rate and the GRDC's financial reserves have allowed the GRDC to safeguard the industry's research investment through the drought years. A fluctuating levy rate may result in a more conservative and possibly limited approach to investment, consequently reducing benefits currently flowing to grain growers and the wider community.

GRDC's primary objective is to support effective competition by Australian grain growers in global grain markets through enhanced profitability and sustainability. To maximise value to grain growers through implementation of the current Strategic R&D Plan 2007-12 *Prosperity Through Innovation*, GRDC must also manage the ongoing challenges and opportunities of a dynamic industry. GRDC believes this is best achieved through a stable levy and recommends continuation of 0.99 percent for 24 grains and 0.693 percent for maize in 2011-12.

Attachment A – GRDC Growers’ Report 2009-10

Attachment B - GRDC Revenue Forecast Assumptions

GRDC's budget for 2010-11 and baseline revenue forecast for 2011-12 is based on the production and price assumptions in Table B1.

Table B1 GRDC's Price & Production Assumptions - 2010-11 and 2011-12

Production (mt)	2010-11	2011-12
Wheat	25.3	24.3
Barley	8.3	8.9
Sorghum	2.4	2.4
Canola	2.2	2.2
Oats	1.6	1.3
Prices (\$/t)	2010-11	2011-12
Wheat - Pool	343	251
Wheat - Cash	255	251
Wheat-APH - Pool	462	276
Wheat-APH - Cash	319	276
Feed Barley - Pool	255	187
Feed Barley - Cash	217	187
Malting Barley - Pool	290	243
Malting Barley - Cash	262	243
Sorghum	245	205
Canola	587	548
Oats	180	219

Sources:

Production (mt)	2010-11	2011-12
Wheat	Australian Crop Forecasters (ACF) - Crop Report March 2011	ABARES Australian Commodities March quarter 2011
Barley		
Sorghum		
Canola		
Oats		
Prices (\$/t)		
Wheat-APW -Pool	ACF - Grain Prices March 2011	ABARES Australian Commodities March quarter 2011
Wheat -APW-Cash		
Wheat-APH - Pool		
Wheat-APH - Cash		
Feed Barley - Pool		
Feed Barley - Cash		
Malting Barley- Pool		
Malting Barley- Cash		
Sorghum		
Canola		
Oats		