



**Grains
Research &
Development
Corporation**

INVESTMENT PLAN

(OPEN AND MULTI-STAGE TENDERS)

2007-08

GRDC

The GRDC is a statutory corporation, grower and Australian Government funded, with a mandate to plan, invest and oversee research and development for the Australian grains industry.

Vision

Driving innovation for a profitable and environmentally sustainable Australian grains industry.

Mission

To invest in innovation for the greatest benefit of its stakeholders. This will be achieved by being a global leader in linking science, technology and its adoption with industry and community needs.

FOREWORD

The GRDC is pleased to present the *Investment Plan 2007-08 (Open and Multi Stage Tenders)*. This document includes only those priorities subject to open tender and multi-staged tender procurement methods and does not include direct negotiations, limited tenders and continuing investments.

The overall *2007-08 Investment Plan* of the GRDC has been based on the Lines of Business (LOBs) strategies, a situational analysis of the Corporation's immediate and broader business environment, rigorous review of existing investments, and a consultative process with grain growers, research partners and other key stakeholders. This process has focussed on the next layer of investments commencing in 2007-08, which will facilitate the implementation of the strategies articulated in the GRDC's strategic business plan *The Way Forward*.

This *2007-08 Investment Plan* provides an opportunity for prospective research partners to work with the GRDC to ensure that Australian grain growers are provided with technologies and practices enabling them to remain competitive in the ever-changing grains market. The four core strategies to support this objective are:

- Coordination of a national portfolio approach to grains R&D;
- Delivery against Australian Government priorities;
- Growing and leveraging the total grains R&D spend; and
- Ensuring that grains R&D is market driven.

The Australian Government's research priorities are reflected in the GRDC's current portfolio and will be reinforced in new investments including those detailed in this document. The *Investment Plan* will respond to issues addressing the 'triple bottom line'. The *Investment Plan* has addressed issues related to the adoption of technologies and farm management practices so as to increase farm productivity, profitability and sustainability.

Commercialisation is viewed by the GRDC as a vehicle that secures technology adoption by grain growers. The GRDC will work with private sector and other funding agencies to leverage capital and expertise where this facilitates better pathways to markets and benefits Australian grain growers.

The GRDC will continue to focus R&D investments on the development and adoption of technologies and practices that will meet our stakeholders' needs and enable the Australian grains industry to remain globally competitive. The GRDC will focus on its relationships with customers and partners to enhance and drive performance-driven outcomes. We look forward to working with our research partners over the coming years.

PETER READING
Managing Director

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INTRODUCTION

The purpose of the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)* is to inform our potential research partners about some of the Corporation's new investment priorities for 2007-08. **This document includes only those priorities with an open tender and multi-stage tendering procurement strategies.** Other open tenders and multi-stage tenders may be advertised throughout the year.

In preparing the GRDC *Investment Plan 2007-08 (Open Tenders and Multi-stage Tenders)*, significant thought and energy has gone into developing a strong and coherent statement of the GRDC's investment intentions. By clearly expressing our investment priorities, the intention is to provide potential applicants with detailed information on the Corporation's requirements for 2007-08.

Responses that do not address the research priorities and selection criteria identified in the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)* will **not** be considered by the GRDC.

How are GRDC investment priorities determined?

The GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)* is the result of a rigorous consultative process, incorporating the following considerations:

- **Achieving the Strategies in the GRDC's Five-Year Plan – *Driving Innovation and the Strategic Business Plan – The Way Forward*¹**

The development of investment priorities is guided by the objectives and strategies set out for each of the four lines of business: Varieties, Practices, New Products and Communication, Customer Services and Capacity Building.

- **Consultation with stakeholders through GRDC Regional Panels and Program Teams**

The three Regional Panels (North, South and West) play a central role in determining the Corporation's investment priorities. The Regional Panels consult extensively with growers and researchers through regional advisory committees, linkage groups, tours, site visits and project reviews. Development of the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)* began in the early part of 2006 and took into account an evaluation of the progress of existing investments, regional issues, outcomes of project reviews and the current portfolio balance. The new priorities and outcomes were discussed and refined by Panels and Program Teams during the Investment Planning Week in August 2006, and those with open and multi-stage tender procurement strategies have been presented in this document.

¹ Highlighted in the GRDC's Annual Operational Plan 2005-06

- **Delivering on National Research and Rural R&D Priorities**

The National Research Priorities are: an environmentally sustainable Australia, promoting and maintaining good health, frontier technologies for building and transforming Australian industries, and safeguarding Australia. The Rural R&D Priorities, announced in March 2003 are: sustainable natural resource management, improving competitiveness through a whole-of-industry approach, maintaining and improving confidence in the integrity of Australian agricultural, food, fish and forestry products, improved trade and market access, use of frontier technologies, protecting Australia from invasive diseases and pests, and creating an innovative culture.

- **Continuing investments in 2007-08**

The GRDC already has over \$86 million in continuing investments for 2007-08. There are obviously research issues where the GRDC is NOT seeking new investments in 2007-08 because the Corporation believes that these are being adequately addressed within the current portfolio.

How do we intend to pursue new investment priorities?

- **Multi-tender** - where GRDC is looking for innovative options or the entire specifications are not known. The first round would be Expression of Interest and the second round would be Direct Negotiation). These priorities are published in the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)*. **All priorities in this Investment Plan are being addressed through the open tender process or multi-stage tendering process.** Other multi-tenders may be advertised throughout the year.
- **Open tender** - where there is potentially a large pool of possible providers. These priorities are published in the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)*. **All priorities in this Investment Plan are being addressed through the open tender process or multi-stage tendering process.** Other open tenders may be advertised throughout the year.
- **Direct negotiation** - where the partners already exist but contracts expire; where direct negotiation is likely to deliver the best outcome, and for example where an existing provider has demonstrated strong performance through outcomes and partnership development. **These proposed investments are not listed in the GRDC Investment Plan 2007-08 (Open and Multi-stage Tenders)** as providers will be contacted directly by the GRDC.
- **Limited tender** - where there is a limited pool of known possible providers, probably less than five. **Investments to be pursued through a limited tender process are not listed in the GRDC Investment Plan 2007-08 (Open and Multi-stage Tenders)** as researchers will be contacted directly by the GRDC.

Definitions of the Open Tender and Multi-stage Tender

Open Tender

The GRDC Open Tender method adopts a “one step” procedure that involves advertising the intended procurement activity in the press and not limiting the availability of tender documents. All tenders submitted in accordance with the terms and conditions of the Open Tender are accepted for assessment.

Multi-Stage Tendering

- Multi-stage tendering procurement method may be used when the GRDC is looking for innovative options or the entire procurement specifications are not known at the start of the process.

Multi-stage tendering method has **two stages** as follows:

Stage 1: Expression of Interest (EOI)

Stage 2: Direct negotiations

Stage 1: Expression of Interest

EOI may be used to identify research priorities or partner(s) to

- procure research outputs, goods/services, which are not readily defined,
- clarify and refine project specifications, and
- commercialise research outputs.

In the EOI, the GRDC will have to work with one or many respondees to refine the requirement and solution. Further, that many parties may eventually contract with the GRDC and the developed Statement of Requirement may remain a ‘live’ document during the term of the contract. In this regard the EOI procurement method differs from the Open or Limited Request for Tender method where the Statement of Requirement is confirmed pre contract.

Stage 2: Direct Negotiation

In stage 2 of the multi-stage tendering method the GRDC will evaluate the tender submissions from stage 1 and follow direct negotiation method with one or more of the tenderers, to further develop project specifications and develop a business case.

Responding to the GRDC

Initial responses are now sought using the Tender form, which is available on the GRDC website (www.grdc.com.au/researchers/forms.htm). Following assessment of these responses the GRDC may further negotiate project specifications with selected organisations.

How does the GRDC assess tenders?

For each Tender Priorities a selection panel is formed. In most cases the selection panel is the relevant GRDC program team or a subcommittee of it. The selection panels assessed each response against the selection criteria as published in the investment plan. Firstly, members of the selection panel assessed responses individually, then they meet to discuss and finalise their recommendations. Program teams then meet to consider these recommendations. The program teams considered the balance of investments across each of the Priorities in their respective programs and ranked all the responses being recommended. The program teams also considered and included in the ranking, projects developed through direct negotiation, (mainly continuing projects).

The program team recommendations and rankings are forwarded to the regional and national panels. The panels looked at the balance of investments across programs and ensured that regional and national priorities are adequately addressed. Tenders selected are invited to submit a detailed project specification.

Through out the selection process all tenders remain confidential. All staff, consultants and panel members of the GRDC are bound by confidentiality arrangements. The vast majority of tenders received each year; do not get recommended to proceed to the project specification stage. In part this is a reflection of the budget available for new investment. The GRDC has enjoyed steadily increasing expenditure budgets over the last 13 years, which are now starting to flatten out.

Guidelines

Please read the Guidelines on pages 10 -13 of this document. These provide important information about the GRDC's requirements in relation to submission of responses.

CONTACT INFORMATION

The main phone contact number for the GRDC is +61 (2) 6272 5525.

In the first instance, please direct enquiries to the contact person listed under 'Contact Details' for each individual Research Priority. If there is any doubt as to the correct contact for your enquiries, please email the Contracts Coordinator, Klaudia Skazlic, k.skazlic@grdc.com.au

All electronic forms should only be sent to: tenders@grdc.com.au

Postal address:

Grains R&D Corporation
PO Box 5367
KINGSTON ACT 2604

Location:

Grains R&D Corporation
Level 1, 40 Blackall Street
BARTON, ACT 2600

Telephone: 02 6272 5525

Facsimile: 02 6271 6430

Email: tenders@grdc.com.au

Web: www.grdc.com.au

KEY DATES

Release of the GRDC <i>Investment Plan 2007-08</i> (<i>Open and Multi-stage Tenders</i>)	Wednesday 6 September 2006
Closing date for tenders	Various - check individual tender documentation
Anticipated date for formal GRDC Response	March 2007

GUIDELINES FOR RESEARCHERS

The GRDC values the capacity of our research partners to think creatively about how they can assist in overcoming the challenges facing the Australian grains industry. Projects in which the GRDC invests are the product of a partnership between the Corporation, research partners and other investors to provide maximum benefit to this industry. As is appropriate for a partnership, the ultimate design of the research project is the outcome of negotiations between these parties.

The publication of the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)*, therefore, is only the first part of the process by which the GRDC and research partners can exchange ideas, and jointly develop research projects, that help to drive innovation in the Australian grains industry.

The information contained in these guidelines is intended to provide a clear basis for developing a response to investment priorities published in this *Investment Plan*, and to identify factors that may be important in any further negotiation process.

Lodgement of Responses

Responses to this *Investment Plan* are to be received at the GRDC office at various times. Please check the individual tender information.

All tenders must be submitted both:

- electronically using Word templates (available on the GRDC website <http://www.grdc.com.au>) to tenders@grdc.com.au,

and

- one **signed** hardcopy sent to:
Contracts Coordinator
Grains R&D Corporation
PO Box 5367
KINGSTON ACT 2604
- or
- delivered to:
Contracts Coordinator
Grains R&D Corporation
Level 1, 40 Blackall Street
BARTON ACT 2600

The hard copies of tenders are to be double enveloped with the inner envelope clearly marked “Open Tender” or “Multi-stage Tender” and the Tender number.

The electronic templates are appropriate for use with Microsoft Word 6 or later version.

Late Tenders

Any tenders received after the closing date will be taken to be late and may, at the GRDC’s discretion, be excluded from consideration.

Electronic and signed copies of the proposals to be lodged

Both the electronic copy and signed paper copy of each tender must be received by the GRDC by the closing date.

A tender involving a number of applicants must be signed by each partner named in it as being a participant. Alternatively each participating organisation may indicate their acceptance of, and support for, the tender directly with the GRDC Contracts Coordinator (see page 6 for contact details).

Tenders involving more than one partner may be lodged in counterparts. This allows each partner to individually lodge a signed copy of the same tender. The proposal must indicate which partner will be the lead organisation responsible for negotiation of the final proposal with the GRDC.

The GRDC will assume, unless otherwise advised in writing, that the electronic copy and paper copy of a tender are identical.

Joint Tenders

The GRDC will consider joint tenders. This allows applicants to team up with other researchers or organisations to develop and lodge a tender.

Alternative Tenders

Potential partners may lodge more than one tender to the investment priorities listed in this *Investment Plan*. However, applicants should note that each tender will be assessed separately against the selection criteria on its own merits.

Part Proposals

The GRDC will consider proposals from applicants, researchers or teams to carry out only part of a project. The GRDC, however, encourages applicants in this position to consider partnering, consortia or other forms of collaboration with other potential providers to develop a complete tender.

Creating Consortia

The GRDC reserves the right to “mix and match” components from competing tenders, by negotiation with the relevant applicants. In doing so the GRDC will comply with its obligations to protect intellectual property in tenders.

Matters Concerning Tenders

Ownership of Tender Documents

The GRDC must retain all documents submitted in tender to this *Investment Plan* for project evaluation purposes. All tenders will become the property of the GRDC, which may use the information for evaluation purposes, as evidence of lodgement and for the preparation of any subsequent Agreement.

This clause does not affect any intellectual property rights that may exist in the tender, which will not be transferred to the GRDC.

Applicants are considered to have:

- examined the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)*, any document referred to in it and any other information made available in writing by the GRDC to potential partners for the purpose of preparing tenders;
- examined all further information which is obtainable by making reasonable enquiries relevant to the risks and other circumstances having an effect on their tender; and
- satisfied themselves as to the correctness and sufficiency of their tender including their costing.

Tenders are made on the basis that potential partners acknowledge that:

- they do not rely on any warranty or representation made by, or on behalf of, the GRDC, other than those expressly made in this *Investment Plan*, but have relied on their own inquiries in respect of the subject and their tender; the GRDC will not be responsible for the costs or expenses incurred by applicants in preparing and lodging their tenders.

Assessment Process and Acceptance of Tenders

Following receipt of tenders to the GRDC *Investment Plan 2007-08 (Open and Multi-stage Tenders)*, the Corporation will evaluate all tenders using an evaluation panel and other experts.

Tenders that do not address the research priorities and selection criteria as outlined in this *Investment Plan*, or fail to adequately demonstrate the ability to deliver outcomes to the Australian grains industry, will not progress beyond the initial assessment stage. Competitive tenders will need to be written with a view to satisfying the very stringent requirements outlined for each research priority – quality tenders and research management techniques are prerequisites for consideration.

The assessment process involves the evaluation of the tender on merit; as it relates to the priorities in this *Investment Plan*; consideration of its relationship to existing investment in a program area; and an overall assessment of the tender against the full GRDC portfolio. The assessment will take place by March 2007, leading up to the preparation of the GRDC's Annual Operational Plan 2007-08 (AOP).

This process involves input from program teams, regional and National panels and the final approval of the GRDC Board. It is usual for the GRDC to notify potentially successful applicants that projects may be contracted from 1 July 2007. **The timing of this is expected to be no later than late March 2007.**

All contracts arising from the process will be subject to the approval of the Corporation's Annual Operational Plan by the Minister responsible for R&D Corporations.

External Review

In support of its evaluation process, the GRDC reserves the right to refer a tender to an external expert for advice. If the GRDC does so it will require the external expert to sign a confidentiality deed before the GRDC provides the tender. The GRDC reserves the right not to disclose the external expert's advice to the researcher.

Obligation to accept any tender

The GRDC is not obliged to accept any tender submitted.

GRDC Research Agreement 2007-08

The GRDC Research Agreement is currently under review and may depart significantly from the 2006-07 Agreement. The GRDC reserves the right to negotiate the terms and conditions of contracts as it deems appropriate for each project.

Clarification

The GRDC reserves the right to seek clarification in relation to any ambiguity or uncertainty from all or any applicants in relation to their tenders, but may decline to accept any clarification that effectively alters the tender.

Negotiations

In some cases, the mix of tenders received by the GRDC may indicate the need for negotiation to establish the most appropriate structure of the final investment (see **Creating Consortia** earlier in this section).

Disclaimer

This *Investment Plan* does not in any way commit, or otherwise oblige, the GRDC to proceed with any part described in it.

Variation

The GRDC reserves the right to amend this *Investment Plan* as it chooses.

Termination

The GRDC reserves the right, at its absolute and unfettered discretion, to terminate the assessment process of any or all tenders. In particular, applicants should note that the GRDC's ability to fund new investments depends on receiving sufficient levy receipts each year. Current forecasts indicate that 2006-2007 may be a poor season. Accordingly, GRDC may not be able to fund all or any of the projects listed in this *Investment Plan 2007-2008 (Open and Multi-stage Tenders)* solely on financial grounds, regardless of the quality of tenders.

Questions and Answers

The GRDC welcomes questions from potential applicants on any of the specific research priorities in this *Investment Plan*. These should be submitted in writing (email preferred) to the contact details listed in the priority specifications. The GRDC will endeavour to publish the questions with answers within 3 working days on its website at <http://www.grdc.com.au>. The GRDC will not disclose the source of the questions. Questions will be accepted no later than one (1) week before the Closing Time for Receipt of Tenders.

How to complete the GRDC Tender form

Below is some important information to assist with completing and submitting Tender forms:

1. **Download** the Tender form from the GRDC website www.grdc.com.au/researchers/forms.htm
2. **Open the form in MS Word.**
3. **Read the on-form instructions when completing the form.** Instructions to help you complete each field can be viewed in the status bar at the bottom of the screen and by pressing the F1 key. Mac users should be able to view instructions via the 'help' key, or by using the 'command' key and the '?' key simultaneously. All users are strongly recommended to download the accompanying form instructions.
4. **The format of the forms cannot be altered and data can only be entered in specified (shaded) fields.** Note that free text area is provided at the end of the Tender form to provide free form tenders against the selection criteria and/or additional information.
5. **Press the Tab key to move between fields.**
6. Most data fields have **character limits** to restrict the overall length of the document.
7. Do **not** include images within the form. Supporting information is welcome as an attachment to the form, please ensure this is also attached to the hard copy.
8. **Do not submit any form to the GRDC until all relevant data fields have been completed to the satisfaction of the supervisor, any collaborators named in proposal, and the research agency/agencies.**

Ensure the Certification details are complete before any form is submitted. Ensure that your agency's research administration is aware of, and has approved, the content of any form prior to submission.

9. When complete, **attach the form to an email** and send to tenders@grdc.com.au (**one form per email only**). When a Tender form is submitted, please name the word file using the project supervisor's surname, a numerical descriptor to differentiate multiple proposals (e.g. Smith1.doc, Smith2.doc).

The hard copies of tenders are to be double enveloped with the inner envelope clearly marked "Tender" and the Tender number.

If you have any technical difficulties accessing or downloading the Tender form, please contact the GRDC's webmaster:

Anastasia Lipapis

a.lipapis@grdc.com.au

Ph 02 6272 5525

Priorities for New Investment in 2007-08

Varieties

Varieties line of business objective is

Growers with varieties that enable them to compete effectively in global markets

Gene Discovery Sub Program

1.1.1 Australian Winter Cereals Molecular Marker Program III

Project Description

A new Australian Winter Cereals Molecular Marker Program (AWCMMP Phase 3) to consolidate the development and validation of molecular markers for priority traits, enhance the resolution of genetic maps especially in wheat, coordinate the curation of maps and mapping populations, add value to existing germplasm collections and explore new emerging marker technologies for future use by wheat and barley breeders.

The new Program shall maintain and enhance Australia's competitiveness in molecular plant breeding for the next decade and beyond.

Scope

The GRDC expects to invest up to \$2,000,000 per annum for up to five years into a new AWCMMP.

Procurement Multi-stage Tender (refer page 9)

Note:

The GRDC will advertise this Tender separately. The planned publication date of the Tender is 16 October. The documents will be published on the GRDC website (www.grdc.com.au). Tender received prior to the actual publication date will not be considered.

Contact Details

Merrilyn Baulman
Administrative Coordinator, Varieties

m.baulman@grdc.com.au
Ph 02 6272 5525

1.1.2 Reverse Genetics

Project Description

Identify via Reverse Genetics, new genetic variation in selected target traits for direct use in breeding.

Scope

Reverse Genetics (gene to phenotype) is a process by which new genetic variation in a known gene leads to the discovery of novel phenotypes or traits that are associated with mutations in that gene. Mutants induced by radiation or chemical mutagenesis can be directly used in mutation breeding as an alternative to GM applications.

Reverse Genetics employs a two-step process. In Stage 1 populations of mutant plants are generated and both grain and DNA samples are collected from individual mutant plants for subsequent molecular and phenotypic analysis. In Stage 2 plants with mutations in the target gene are selectively identified using DNA technologies and are then screened for novel traits or trait enhancements. Once a particular mutation event can be correlated with a particular phenotype or trait a diagnostic molecular marker can be developed and delivered to breeders together with the plant source of the new trait.

Reverse Genetics requires prior knowledge of target genes and their genome sequence. Sorghum and canola are two GRDC mandate crops for which there is a wealth of genome sequence available today.

The GRDC is calling for Expressions of Interest to apply Reverse Genetics approaches to high-priority traits for canola and sorghum.

Applicants are required to:

- explore the availability, including access conditions, in Australia or overseas of mutant populations that are suitable for Reverse Genetics. Collaborative approaches are encouraged to leverage GRDC investment. The generation of new mutant populations would only be considered for funding if the suitable populations do not exist or are not accessible
- identify their target genes or traits and document the scientific evidence to justify the choice of target
- validate the target choice with industry to confirm that it is indeed addressing high industry priorities
- describe their experimental approach and methodology. The description will include the genetic background, validation and suitability of the mutant population, as well as the molecular and phenotypic screening and characterisation of mutant plants
- document their capacity and capability to conduct the research within the required time frame.

The GRDC expects to invest up to \$800,000 per annum combined for both crops for up to five years.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

A sound understanding of the nature and importance of the tender to the Australian canola and sorghum industries. [Targets must be aligned with high-priority traits for industry].	Mandatory
Clearly identified target genes with Freedom To Operate for use in mutation breeding by Australian canola and sorghum breeders.	Mandatory
Access to mutant populations with Freedom To Operate for use in mutation breeding. [The generation of new mutant populations would only be considered for funding if suitable populations do not exist or are not accessible].	Mandatory
Provision of non-exclusive access to project outputs for all members of the Australian canola and sorghum breeding sectors.	Mandatory
A clearly defined pathway for delivery of outputs to Australian canola and sorghum breeders.	Mandatory
Soundness of the proposed experimental approach and R&D methods.	Mandatory
Soundness of project management arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness and value for money of the tender response, including cash and/or in-kind commitments from the applicants and leverage in the form of domestic or international linkages that are useful, if not essential, to progress the project.	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

Merrilyn Baulman
Administrative Coordinator, Varieties

m.baulman@grdc.com.au
Ph 02 6272 5525

1.1.3 GM Resistance Against Recalcitrant Fungal Pathogens

Project Description

GM approaches that confer resistance to recalcitrant fungal pathogens.

Infection by Sclerotinia has become a significant constraint to canola production in Australia. However, validated natural resistance genes are not available to canola breeders. Therefore, GM approaches are sought to tackle this disease problem.

Scope

The GRDC is calling for Expressions of Interest for two projects:

1. Discovery and Proof-of-Function. Develop novel mechanisms of pathogen resistance, in the first instance against Sclerotinia (and potentially Botrytis and Rhizoctonia) and demonstrate proof-of-function in vitro and/or in planta
2. Proof-of-Concept. Introduce a limited number of candidate resistance genes with established proof-of-function into canola and evaluate for their activity against Sclerotinia. Candidate genes would be sourced in Australia and/or overseas by the GRDC and/or the successful applicant. Researchers from both the public and private sectors are encouraged to apply.

The GRDC expects to invest up to \$400,000 per annum for three years.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian canola industry (Project 1 & 2).	Mandatory
A clearly defined pathway for delivery of outputs to the Australian canola industry (Project 2).	Mandatory
Soundness of the proposed approach and R&D methods (Projects 1 & 2).	Mandatory
Soundness of project management arrangements, including sub-contracting if applicable (Projects 1 & 2).	Mandatory
Demonstrated technical knowledge and experience of the key personnel, including sub-contractors if applicable (Projects 1 & 2).	Mandatory
Access to canola transformation technology with Freedom To Operate in Australia (Project 2).	Mandatory
The cost effectiveness of the tender response and value for money (Projects 1 & 2).	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

Merrilyn Baulman
Administrative Coordinator, Varieties

m.baulman@grdc.com.au
Ph 02 6272 5525

Germplasm Enhancement Sub Program

1.2.1 Defect Elimination in Wheat

Project Description

The elimination of three elements that can lead to the downgrading of grain at receipt. These are pre-harvest sprouting (PHS), late maturity alpha-amylase (LMA) and Black Point (BP).

Scope

Since 2002 the GRDC has invested in a Strategic Initiative (SIP04) with the objective of eliminating the serious grain quality defects of pre-harvest sprouting (PHS), late-maturity alpha-amylase (LMA) and Black Point (BP). The objectives of the projects have included:

- screening recently released varieties and breeding lines approaching release for PHS, LMA and BP, and to make the information available to the grains industry
- supporting the wheat breeding programs in eliminating the defects through development of protocols and improved screening tests (including molecular markers), screening of germplasm (parents, doubled haploid populations) and acting as a reference point to assist breeding programs, and
- increasing knowledge of the underlying genetic and environmental causes of the disorders to assist in their management and control.

The GRDC also seeks to continue investment in related basic research on novel strategies for manipulating dormancy in wheat.

The GRDC expects to invest up to \$750,000 per annum for four years for these projects.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian grains industry.	Mandatory
Soundness of the proposed R&D methods and project management arrangements.	Mandatory
The potential of the work proposed to meet the tender requirements and to deliver wheat germplasm with reduced susceptibility to grain defects.	Mandatory
The proposed methods and soundness of project evaluation arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
A clearly defined pathway for delivery of outputs to Australian grain growers.	Mandatory
Demonstrated ability to collaborate with other research organisations.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

Merrilyn Baulman
Administrative Coordinator, Varieties

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1.2.2 Frost Tolerance in Wheat and Barley

Project Description

The development of wheat and barley with enhanced frost tolerance for Australian growers.

Scope

Frost events during flowering of winter cereals have a serious impact on productivity in major production areas in Australia. The GRDC has been supporting extensive research in wheat and barley to overcome the challenges imposed by frost during reproductive growth. The most advanced work is in barley where genetic tolerance to frost has been identified.

Significant genotype by environment interaction in frost tolerance response in wheat genotypes has been observed between northern and southern regions. The physiological basis of this interaction needs to be better understood to ensure the putative genes for frost tolerance are stable across environments. New technologies, such as thermal infra-red imaging, can be applied to better understand the physiological basis of frost adaptation, and in particular the processes of ice nucleation and super-cooling. Insights are sought into the reasons for major differences in the frost damage observed in frost cabinet versus field studies.

Areas identified for further research include:

- validation of screening procedures developed for reproductive frost tolerance in wheat and barley, including the use of thermal infra-red imagery to better understand the physiological basis of frost adaptation under controlled environment and field conditions
- selection of new genotypes with frost tolerance in wheat and barley
- identification of genetic loci associated with spring radiation frost tolerance.

The GRDC expects to invest up to \$435,000 per annum for four years for these projects.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian grains industry.	Mandatory
Soundness of the proposed R&D methods and project management arrangements.	Mandatory
The potential of the work proposed to meet the tender requirements.	Mandatory
The potential of the work proposed to provide knowledge on genotype by environment interaction in frost tolerance during reproductive growth, and/or to deliver wheat and barley germplasm with enhanced frost tolerance.	Mandatory
The proposed methods and soundness of project evaluation arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
A clearly defined pathway for delivery of outputs to Australian grain growers.	Mandatory
Demonstrated ability to collaborate with other research organisations.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

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1.2.3 Wheat Quality Projects – Sponge & Dough

Project Description

The genetic analysis of quality traits for bread wheat, particularly quality attributes of importance for Asian markets.

Scope

There has been increasing recognition of the importance of the sponge and dough bread-making market in Asia and the failure of Australian wheats to obtain market share in this sector. The GRDC has been working closely with AWB to develop a wider industry strategy, to sharpen focus on gaining market share in high value Asian markets. The aim is to protect the industry's value against the impact of an expansion in exports from low-cost producers.

Breeders require precise genetic information to guide the development of populations with premium grain quality. This project is aimed at building on current research, which has already identified a range of factors that contribute to sponge and dough quality.

Areas for further research include:

- verification of the association between wheat and flour quality parameters, molecular markers and end-use quality
- extension of results obtained from Australian germplasm, to identify the genes from North American wheat varieties that define superior Sponge and Dough quality.

The GRDC expects to invest up to \$300,000 per annum for four years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian grains industry.	Mandatory
Soundness of the proposed R&D methods and project management arrangements.	Mandatory
The potential of the work proposed to meet the tender requirements and to deliver wheat germplasm with enhanced quality attributes, particularly for bread-making processes used in Asian markets.	Mandatory
The proposed methods and soundness of project evaluation arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
A clearly defined pathway for delivery of outputs to Australian grain growers.	Mandatory
Demonstrated ability to collaborate with other research organisations.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

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1.2.4 Hybrid Cereal Technologies

Project Description

Technologies to produce hybrid winter cereals.

Scope

Hybrid crops have exceptional vigour compared to non-hybrid varieties, with 10–20% greater yield potential reported for wheat. They can also offer enhanced disease resistance as well as a greater ability to withstand stress and sub-optimal planting conditions.

The GRDC has identified several opportunities for targeted research in hybrid technologies. These include:

- innovative hybrid seed production systems in wheat
- hybrid feed barleys for the higher rainfall areas of Australia
- adapting new sources of fertility restoration in hybrid wheat production
- assessing the potential in Australia of a hybrid wheat system based on *Aegilops kotschyii* cytoplasm (K-cytoplasm).

While the GRDC is supportive of GM-based approaches to induce sterility for hybrid seed production, it is anticipated that the focus of this project will be on non-GM hybridisation methods.

The GRDC expects to invest up to \$300,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian grains industry.	Mandatory
Soundness of the proposed R&D methods and project management arrangements.	Mandatory
The potential of the work proposed to meet the tender requirements and to deliver effective technologies for hybrid cereal production.	Mandatory
The proposed methods and soundness of project evaluation arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
A clearly defined pathway for delivery of outputs to Australian grain growers.	Mandatory
Demonstrated ability to collaborate with other research organisations.	Secondary

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **26 October 2006 at 2pm**

Contact Details

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Pulses, Oilseeds and Summer Coarse Grains Sub Program

1.4.1 Australian Peanut Improvement Program

Project Description

The breeding of varieties and development of related agronomic packages for production of quality assured peanuts for domestic and export markets.

Scope

The development and evaluation of peanut varieties for rainfed and irrigated production systems in the northern and potentially southern regions with specific adaptive and quality characteristics including:

- high oleic
- early maturity
- soil-borne and foliar disease resistance
- aflatoxin tolerance
- good blanchability, and
- be free from unattractive taste factors.

To explore opportunities for incorporating functional food traits (eg low oil content, high Ca, high arginine) into new varieties for niche marketing of peanuts into high value 'health food' markets.

Ensure elite breeding lines are screened for low cadmium uptake. In addition, determine the key mechanisms involved in cadmium uptake in peanuts, in order to develop reliable management practices to minimise its incidence.

Ensure that the strong linkages with private consultants are maintained and enhanced in order to provide efficient information extension support for all peanut growers.

To continue formal collaborative linkages with international peanut breeding and agronomy programs in the USA, India and ICRISAT to ensure that the Australian industry has access to elite peanut germplasm and related agronomic technologies.

The GRDC expects to invest up to \$575,000 per annum for five years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian peanut industry.	Mandatory
Demonstrated technical knowledge and experience and track record of the key personnel.	Mandatory
A demonstrated ability to evaluate peanut varieties for specific adaptive and quality characteristics.	Mandatory
Demonstrated ability to conduct innovative research to allow development of new varieties.	Mandatory
Demonstrated ability to link with industry and ensure that the program is meeting market requirements.	Mandatory
A demonstrated ability to collaborate with private consultants, research organisations, both nationally and internationally.	Mandatory

Evidence of sound approach to, and ability in, communicating results widely to the Australian peanut industry, including growers.	Mandatory
Soundness of the proposed research and development methods.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants and leverage in the form of domestic and/or international linkages that are useful, if not essential, to progress this project.	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing date **18 October 2006 at 2pm**

Contact Details

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1.4.2 Australian Soybean Breeding Program

Project Description

To assist the Australian soybean industry reach its potential by combining traits and processing characteristics and developing linkages with industry to ensure improved production and rapid advancement of higher value soybean varieties to meet culinary markets.

Scope

The development of Australian soybean varieties that meet market niches for GM-free culinary grade soybeans. To continue the development and evaluation of soybean varieties that are high yielding and high quality for culinary standard soybean production. These varieties must have good disease resistance particularly for phytophthora, as well as weathering tolerance for production in coastal areas and light hilum varieties for culinary soybean production.

Establish formal collaborative linkages with international soybean breeding and agronomy programs in the USA and possibly South America to ensure that the Australian industry has access to elite soybean germplasm (either as possible direct introduction or as parental use) and related agronomic technologies.

Ensure that there are strong linkages with industry for accurate and timely market signals.

Pursue opportunities for collaboration with the sugar and cotton industries.

The GRDC expects to invest up to \$450,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian soybean industry.	Mandatory
Soundness of the proposed research and development methods, project management and project evaluation arrangements.	Mandatory
A clearly defined pathway for efficient information extension to growers in the Australian soybean industry.	Mandatory
A demonstrated ability to collaborate with other research and industry organisations.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants and leverage in the form of domestic and/or international linkages that are useful, if not essential, to progress this project.	Mandatory
Demonstrated ability to link with industry and ensure that the program is meeting market requirements.	Mandatory
An understanding of the work proposed to meet the tender requirements and deliver significant benefits to Australian soybean growers.	Mandatory
The track record of key personnel, including technical knowledge and expertise.	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing date **18 October 2006 at 2pm**

Contact Details

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1.4.3 Australian Faba Bean Breeding Program

Project Description

The National Pulse Breeding Program (NPBP) commenced on 1 January 2006. The Faba Bean Breeding Program will be a separate breeding program within the NPBP, which will provide a range of high quality, high yielding, disease free faba beans that are well adapted to a range of soil types and environments. These varieties must meet the quality requirements for domestic and export markets.

Scope

The development and evaluation of faba bean varieties that are adapted to diverse growing regions with specific adaptive and quality characteristics including:

- high yield
- good harvestability
- improved seed quality in consultation with industry
- resistance to major diseases and viruses, including ascochyta blight, chocolate spot and rust
- tolerance to abiotic factors including frost, iron deficiency
- increased herbicide tolerance.

In addition, to demonstrate that faba beans have a beneficial and profitable role in the whole farming system.

To continue formal collaborative linkages with international programs, in particular at ICARDA to ensure that advanced breeding lines will be exposed to a wider range of disease isolates via inclusion in disease nurseries at ICARDA. Ensure that the Australian industry has access to elite faba bean germplasm.

Explore the incorporation of new genetic techniques (molecular markers) to lead to the development of valuable new traits.

The GRDC expects to invest up to \$600,000 per annum for five years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the work proposed to meet the tender requirements and deliver significant benefits to the Australian faba bean industry.	Mandatory
Soundness of the proposed research and development methods and project management.	Mandatory
A clearly defined pathway for efficient information extension to growers in the Australian faba bean industry.	Mandatory
A demonstrated ability to collaborate with other research and industry organisations including the NPBP.	Mandatory
Demonstrated ability to link with industry and ensure that the program is meeting market requirements.	Mandatory
A demonstrated ability to evaluate faba bean varieties for specific adaptive and quality characteristics.	Mandatory
Demonstrated ability to conduct innovative research to allow development of new varieties, including the use and uptake of new technologies.	Mandatory
Demonstrated technical knowledge, experience and track record of the key personnel.	Mandatory

The cost effectiveness of the tender response including cash and in-kind commitments from the applicants and leverage in the form of domestic and/or international linkages that are useful, if not essential, to progress this project.	Mandatory
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Procurement **Multi-stage Tender (refer page 9)**

Closing Date **18 October 2006 at 2pm**

Contact Details

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1.4.4 Lupin Evaluation for Eastern Australia

Project Description

To evaluate in South Australia and Victoria material of *Lupinus angustifolius* (NLL) and *L.albus* from both the DAFWA and NSW DPI breeding programs.

Scope

To ensure that there is early generation evaluation in South Australia and Victoria of breeders' lines from the respective breeding programs. Evaluate a wide range of fixed lines available from the DAFWA NLL program in the east and to select lines for eastern state adaptability, focusing on key areas and issues that are priorities in this area.

Ensure that fixed NLL lines from the DAFWA breeding program will be screened in quarantine facilities in NSW to ensure that they are anthracnose-free before entering the testing program in SA and Victoria.

Information and results of the performance of lines in South Australia and Victoria to be provided to the respective breeders.

Overall coordination and responsibility across Victoria, South Australia and New South Wales to interact with the breeder/s.

The GRDC expects to invest up to \$100,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian lupin industry.	Mandatory
Soundness of the proposed research and development methods, project management and project evaluation arrangements.	Mandatory
A demonstrated ability to evaluate <i>Lupinus angustifolius</i> (NLL) and <i>L.albus</i> varieties for the respective lupin breeding programs.	Mandatory
Track record of the key personnel, including their technical knowledge and experience.	Mandatory
A clearly defined pathway for efficient information extension to growers in the Australian lupin industry.	Mandatory
A demonstrated ability to collaborate and communicate well with other research and industry organisations.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Secondary

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **18 October 2006 at 2pm**

Contact Details

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1.4.5 Australian Canola Program

Project Description

Project 1 - Australian Canola Germplasm Enhancement Program

The development of new or improved *Brassica napus* germplasm with important traits that will assist the maintenance and expansion of the canola industry in Australia.

Project 2 – Canola Quality Juncea Program

The development of *B. juncea* cultivars for low rainfall environments. This will be a separate project from the *B. napus* germplasm enhancement program.

Scope

Project 1 - In this context germplasm refers to relatively fixed breeding lines containing new or improved (pre-competitive) traits in an adapted background with appropriate agronomic, quality and disease resistance traits. This germplasm will be made available on a non-exclusive basis and on equal terms for use by the private sector breeding programs.

Ensure that there are strong linkages with the private sector and that the program is receiving timely and accurate market signals.

Ensure that there are formal collaborative linkages with international breeding programs to ensure that the Australian industry has access to elite germplasm and related technologies.

Provide a business case to the GRDC on the requirements and capacity for doubled haploid production for priority germplasm development.

Provide blackleg resistance rating support for the Australian canola industry, including publication of ratings.

Agronomic priorities for the germplasm enhancement program that have been agreed by industry include:

- alternative sources of blackleg resistance
- drought tolerance
- shattering resistance, and
- frost tolerance during seed development.

Quality traits to be confirmed by industry include:

- high oil and high protein content
- low saturate fats, and
- low (zero) glucosinolates.

Project 2 – the release of high yielding, high quality, blackleg resistant early-mid season canola quality *B. juncea*. Additional targets include white rust resistance and zero allyl glucosinolates. In addition varieties must have herbicide tolerance.

The GRDC expects to invest up to a total (inclusive of both projects) of \$700,000 per annum for five years for this work. The *B. juncea* work will, however, only be contracted for up to three years.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian canola industry.	Mandatory
Soundness of the proposed research and development methods and project management.	Mandatory
A demonstrated ability to collaborate with research organisations, both nationally and internationally.	Mandatory
A demonstrated ability to collaborate with other research and industry organisations.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants and leverage in the form of domestic and/or international linkages that are useful, if not essential, to progress this project.	Mandatory
Demonstrated technical knowledge, experience and track record of the key personnel.	Mandatory
The potential of the work proposed to meet the tender requirements and to deliver canola germplasm with enhanced traits to meet the needs of industry, including demonstrated industry linkages.	Mandatory
An understanding of the pre-breeding objectives of the new Canola Germplasm Enhancement Program and its mission to service the entire Australian canola breeding sector.	Mandatory
Demonstrated independence of the proposed research from commercial breeding operations to avoid any perceived or actual conflict of interest with the obligations of the Canola Germplasm Enhancement Program.	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **18 October 2006 at 2pm**

Contact Details

Merrilyn Baulman
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1.4.6 Development of Molecular Markers for Application in Australian Canola Breeding

Project Description

The development of molecular markers for agreed agronomic and quality priority traits for use by the Australian canola breeding sector.

Scope

To establish adjunct to the new Canola Germplasm Enhancement Program a coordinated, multidisciplinary program that will source, develop and validate molecular markers for non-exclusive use by the Australian canola breeding sector, public and private.

The project will focus on high-priority agronomic traits as agreed to by industry. These are new sources of blackleg resistance, improved drought tolerance and shatter resistance. The program may also encompass high-priority quality traits. These are yet to be confirmed by industry but are likely to include increased oil and protein content, reduced saturated fats and reduced glucosinolates.

The Program will identify and map new quantitative trait loci (QTLs) as deemed necessary, and develop and validate useful molecular markers for each trait. The project will consult with public and private breeders for population development and marker validation. It is important to ensure that the technology is rapidly adopted by the maximum number of breeders, both public and private. Care should be taken to ensure that phenotyping activities are adequately resourced. Access to markers available overseas must be explored (eg shatter resistance). The formation of relevant international linkages will be encouraged so as to leverage GRDC investment.

Detailed Expressions of Interest are sought by trait, for selected or all components of the program, including the following:

- program coordination
- population development
- phenotyping
- genetic analysis
- molecular marker development, and
- other project requirements.

The GRDC expects to invest up to \$800,000 per annum for up to five years for the molecular marker program.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of the tender to the Australian canola industry.	Mandatory
An understanding of the pre-breeding objectives of the new Canola Germplasm Enhancement Program and its mission to service the entire Australian canola breeding sector.	Mandatory
Soundness of the proposed approach and R&D methods.	Mandatory
Soundness of project management arrangement, including sub-contractors if applicable.	Mandatory
Demonstrated project management skills.	Mandatory
Demonstrated ability to form productive networks and linkages, including overseas linkages.	Mandatory

Demonstrated ability to communicate effectively with program participants, breeders and industry bodies.	Mandatory
Demonstrated technical knowledge and experience of the key personnel, including sub-contractors if applicable.	Mandatory
The cost effectiveness and value for money of the tender response, including cash and/or in-kind commitments from the applicants and leverage in the form of domestic or international linkages that are useful, if not essential, to progress the project.	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **2 November 2006 at 2pm**

Contact Details

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Practices

Practices line of business objective is:

Better practices developed and adopted faster.

Agronomy Soils & Environment

2.1.1 Brassica juncea agronomy

Project Description

Developed, tested, demonstrated and communicated agronomic package for the use of *Brassica juncea* in cropping systems in the northern and southern grains regions.

Scope

Canola quality *Brassica juncea* is approaching commercialization as a crop for low rainfall regions in Australia, where it has potential to become a reliable and profitable break crop. An agronomic package needs to be developed for its use. Some information exists with breeders but it has not been tested under a wide range of management conditions. Seeding rates, time of sowing, within crop management harvesting and impacts on the crop rotation all need to be examined to allow growers to maximise the benefits.

The project will have five key components:

- A review and collation of current information on *Brassica juncea* agronomy and utilisation in cropping systems. This information will come from past and current work by plant breeders and agronomists both domestically and overseas
- Development of hypotheses to fill gaps in knowledge in *Brassica juncea* agronomy and use. This will cover the key knowledge gaps relevant for immediate grower use of *Brassica juncea* in cropping systems
- Undertake experimentation to fill these knowledge gaps. This experimentation will ideally take place on-farm with the involvement of growers
- Development of an agronomic package in electronic book form suitable for CD or internet use on the agronomy and use of *Brassica juncea*. This will provide the complete “how-to” guide for advisors and growers to integrate *Brassica juncea* into cropping systems
- Communication of the package to growers in relevant agroecological zones. The target zones are generally the low rainfall zones where the production of canola is only marginal.

The GRDC expects to invest up to \$150,000 per annum for three years for this project with an emphasis on work in the south. **Note** that this investment is to commence in the 2006-07 financial year.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the potential opportunities and problems of <i>Brassica juncea</i> for use in the Australian grains industry.	Mandatory
The potential of the work proposed to meet the tender requirements, to address more than one component in an integrated approach, and to deliver significant benefits to growers.	Mandatory
Active involvement of grain growers in the work proposed.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in agronomic and farming systems research.	Mandatory
Evidence of a sound approach to, and ability in, communicating results widely to the grains industry.	Mandatory

Soundness of the proposed R&D methodology.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
Demonstrated ability to collaborate with other research organizations to provide integrated solutions that growers can readily adapt and adopt.	Secondary

Procurement Open Tender (refer page 9)

Closing Date 11 October 2006 at 2 pm

Contact Details

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2.1.2 Facilitation of strategic thinking for long term planning

Project Description

Examination of a range of scenarios of what cropping systems will be like in 2025 based on three facilitated regional workshops. Flexible plans on how cropping systems can be responsive to a range of potential futures.

Scope

The examination of a range of future scenarios will form the basis of discussions on preferred farming systems for 2025 and how the industry can respond on a farm, regional and industry wide scale. These scenarios will be based on the already developed single vision scenarios and others that are found to be relevant in the regional workshops. What are the key future research needs? What will the implication be for future farming systems? The objective will be to stretch the thinking of GRDC beyond the short-term time frame to address the needs of 2025.

It is envisaged that scenario analysis and scenario planning approaches will be used to analyse future events and their impacts on farming systems.

The GRDC expects to invest up to \$75,000 per annum for one year for this project, in all GRDC regions.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of scenario analysis and planning as applied to agricultural systems.	Mandatory
Demonstrated knowledge of the main methods used in scenario analysis and planning.	Mandatory
An ability and willingness to facilitate three regional workshops, one in each of the three grains regions.	Mandatory
The potential of the work proposed to meet all aspects of this tender, especially an ability to communicate the findings of the analysis clearly to the GRDC.	Mandatory
Demonstrated ability to provide thoughtful analysis of the impacts of various scenarios at as number of scales namely the individual farm, the agricultural region and industry scale.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry and to researchers.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.3 Improving \$ water use efficiency

Project Description

Identified and ranked reasons why average grain yields in some zones are only 40% of that theoretically possible based on stored soil water and growing season rainfall. The focus is on three agroecological zones, NE NSW- SE QLD, NW NSW- SW QLD, and QLD Central. Consideration will be made of how growers may be able to lift yields to the 60% of maximum WUE being achieved by other zones. Concepts developed in year 1 will be tested in years 2 and 3.

Scope

This project will take the initial analysis in the project “GRDC Strategic Planning for Investment Based on Agroecological Zones” to the next stage by identifying with growers, advisers and researchers the reasons why WUE remains low in the three listed zones, and opportunities for growers to improve their \$WUE through changes to cropping systems and agronomy.

This will provide a direct input for further investment decisions in the north within the Practices line of business. Agencies, grower groups and individual growers, RACs, agribusiness, advisers and catchment groups are other audiences for project outputs to be published as a written report.

There will be a stop/go milestone at the end of year 1. If the results of the analysis have identified practical methods by which more growers could increase their \$ WUE, years 2 and 3 will be used to test these in one or more of the three zones at a paddock scale.

Tenders must include extensive regional consultation, integration with natural resource and risk management data, and the preparation of a written report suitable for publication. Work in years 2 and 3 must be conducted in association with one or more grower groups.

The GRDC expects to invest up to \$100,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Demonstrated understanding of the initial GRDC Agroecological zone analysis and of the data used.	Mandatory
Demonstrated knowledge of farming systems in the Northern grains region, and understanding of practical opportunities for growers to improve \$WUE.	Mandatory
The potential of the work proposed to meet all aspects of this tender, including collaboration with other researchers and consultation with all industry sectors in the GRDC Northern Region for the initial analysis.	Mandatory
Experience in on-farm R&D and collaboration with grower groups.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry and to researchers.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.4 Scoping study on use of manures and biological wastes in crop production

Project Description

A review of the opportunities and threats for the use of manures and biological wastes in crop production. Identification of research required to fill gaps in knowledge for the potential use of manures and biological wastes in cropping systems. Developed guidelines for the use of raw and composted manures and biological wastes in a range of tillage systems.

Scope

With the expansion of intensive agriculture, especially close to major domestic markets the production of manures and wastes has increased and is likely to increase into the future. Opportunities exist for the use of these bi-products in cropping systems. Being aware that a lot of work has been carried out on the application of manures and wastes in agriculture both internationally and in Australia a review will be undertaken of the opportunities and risks of the use of these products in cropping systems. Following the review some research questions may remain especially on the use of pig and poultry manure and grape marc.

The GRDC expects to invest up to \$75,000 per annum for three years for this project with an emphasis on the southern region.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the potential opportunities and problems of the use of manures and biological wastes in the Australian grains industry.	Mandatory
The potential of the work proposed to meet the tender requirements, to address more than one component in an integrated approach, and to deliver significant benefits to growers.	Mandatory
Active involvement of grain growers in the work proposed.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in the use of manures and biological wastes.	Mandatory
Evidence of a sound approach to, and ability in, communicating results widely to the grains industry.	Mandatory
Soundness of the proposed R&D methodology.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
Demonstrated ability to collaborate with other research organizations to provide integrated solutions that growers can readily adapt and adopt.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.5 Next steps in Precision Agriculture (PA)

Project Description

Developed, tested and demonstrated new ways in which PA data and other farm and crop information can be integrated and interpreted to help growers and advisors make better decisions about cropping strategy and in-season agronomy, and to improve land management decisions.

Scope

The GRDC research initiative in PA (SIP09) has uncovered new opportunities to combine PA with other technology to help growers fine-tune their sowing and in-season decisions, these include:

- Guidelines on the value of new sources, types and scales of PA data linked to diagnosis of underlying causes of spatial variability in yield and margins
- Decision framework to assist growers/advisors in making agronomic decisions based on data about soil-borne disease inoculum levels in paddock management zones
- Updated and expanded guidelines enabling growers to undertake on-farm testing of new varieties, variable rate application, and other innovations in agronomy, using PA methods
- Tested methods to combine paddock/farm management classes with real-time crop sensing (eg for weeds, moisture, and N status) to improve the profitability of seasonal crop management
- Extension of PA methods to whole-property and catchment scales to improve land management decisions.

With the increasing cost of fuel, fertilisers and pesticides relative to grain prices, applying inputs for optimal return will assume even more importance to growers. The five areas listed above have been identified to move PA in the grains industry into its next phase, building on the findings of SIP09 and maintaining the partnership of participatory research with grower groups across cropping regions.

The GRDC expects to invest up to \$650,000 per annum for three years for this work; this may be used to fund several projects, in all GRDC regions.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of how PA data and techniques can be used to achieve one or more of the outputs listed above.	Mandatory
Demonstrated knowledge of farming systems in the project's focus region.	Mandatory
Understanding of how growers and advisors in the region are using PA data and of the reasons for non-adoption of PA.	Mandatory
The potential of the work to meet the proposed objectives and outputs.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry and to researchers.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.6 Non-wetting soils

Project Description

A review of existing knowledge of the causes and amelioration of non-wetting soils, and proposals for additional work to develop, test and demonstrate to growers additional practical and cost-effective methods to prevent or manage them.

Scope

The project will review existing literature and anecdotal knowledge about the treatment of non-wetting soils, propose potential new and cost-effective methods to prevent or manage the problem, prepare a written report of findings and hold a workshop with growers, advisers and researchers to test and respond to these results. The work will be national in extent, but with a special focus on the GRDC Western Region.

The GRDC expects to invest up to \$70,000 per annum for one year for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of non-wetting soils, the processes of formation and current methods to treat and manage them.	Mandatory
Demonstrated knowledge of farming systems, particularly in the West, and understanding of practical opportunities for growers to prevent, avoid or ameliorate non-wetting soils.	Mandatory
The potential of the work proposed to meet all aspects of this tender, including collaboration with other researchers, report writing, and holding of the workshop.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry and to researchers.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.7 Rapid techniques to measure soil PAWC and PAW

Project Description

A review and summary of the available data from projects within and outside GRDC initiatives, to identify and publicise techniques that can be used for rapid and cheap spatial mapping of PAWC and/or PAW at a paddock and farm scale.

Scope

The project will review and summarise the available data from work within the GRDC PA and Subsoils initiatives, studies on rapid soil testing methods, and other relevant investments of the Corporation and other organisations. It will identify and publicise techniques for rapid and cheap spatial mapping of Plant Available Water Capacity (PAWC) and Plant Available Water (PAW) at a paddock and farm scale, and their relative suitability for use in particular situations (eg soil type, soil constraints, land use). It will further test and demonstrate these techniques in collaboration with existing projects and grower groups. It will also collate the analysed PAWC data for major cropping soils into a form suitable for addition to the Australian Soil Resources Information System (ASRIS); this will enable the data to be publicly available to growers and advisers for use in yield forecasting where there is no on-farm data available.

The GRDC expects to invest up to \$100,000 per annum for one year for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the nature and importance of soil PAWC and its importance in yield forecasting for agronomic decisions.	Mandatory
Demonstrated knowledge of the main methods used and potentially available for spatial assessment of PAWC and PAW.	Mandatory
An understanding of the requirements for data to be included within ASRIS.	Mandatory
The potential of the work proposed to meet all aspects of this tender, including collaboration with other researchers and holders of relevant soils data.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry and to researchers.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of the proposed project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.1.8 Exploratory practices research in the western region

Project Description

Preliminary investigative experiments that may lead to more detailed work for the benefit of the western grains region.

- A reports from one-year exploratory research that may identify future opportunities for R, D and E

Scope

This new investment aims to encourage one year exploratory R and D by research providers, through competitive allocation of four \$25,000 grants (or five \$20,000 grants) each year. These grants will allow travel, staff or operating to supplement on-going projects; allow exploration of new opportunities arising from existing R and D, or preliminary study of completely new ideas. The grants thus sit between conventional three or five year GRDC projects, and e-concept ideas which are for truly innovative ideas which may require several years investment.

The GRDC expects to invest up to \$100,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

The potential benefit to the western grains region of the proposed research is successful.	Mandatory
The potential of the work proposed to meet the tender requirements.	Mandatory
Active involvement of grain growers in the work proposed.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in agronomic, soils, environmental or farming systems research.	Mandatory
Evidence of sound approach to, and ability in, further developing the findings into more significant R, D and E proposals.	Mandatory
Soundness of the proposed R&D methods.	Mandatory
Soundness of project management and project evaluation arrangements.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory
Demonstrated ability to collaborate with other research organizations to provide integrated solutions that growers can readily adapt and adopt.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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Crop Protection

2.2.1 Improved options for wild radish control in the Western Region

Project Description

Development and demonstration of a range of effective options for wild radish control in Western Australian farming systems, particularly minimum tillage, with an emphasis on the pasture phase.

Scope

Increasing levels of herbicide resistance and changes in farm rotations are limiting growers' options for effective wild radish control. This project will develop improved strategies for wild radish control, with a focus on seed set control in unimproved pastures. Trials at relevant locations around WA will explore and demonstrate for example the benefits of the 'spray-graze' technique in the break year, across a range of pasture types. The trials will also demonstrate the effects of wild radish management on residual pasture species. Other control options (such as "topping") in crop and in other rotational systems will also be demonstrated.

The GRDC expects to invest up to \$180,000 per annum over 3 years in this project.

Specific Selection Criteria

Evaluation of the tender will take into account the following Specific Selection Criteria:

An understanding of the threat of herbicide resistant wild radish to the Australian grains industry.	Mandatory
Demonstrated competence in the design and management of field trials.	Mandatory
Soundness of the proposed R&D methods and project management arrangements	Mandatory
Proven ability to deliver integrated solutions that growers can readily adapt and adopt, including evidence of communication and field demonstration capabilities.	Mandatory
Evidence of a capacity for collaborative research and extension with other research organisations and/or grower groups as required	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.2.2 A herbicide tolerant nitrogen producing break crop species for the Western Region

Project Description

Development of a pasture legume variety that is tolerant to post emergent herbicide applications.

Scope

The herbicide susceptibility of the valuable legume component of pastures makes maintenance of pasture quality difficult when controlling problem broadleaf weeds (such as doublegee). A pasture legume with improved tolerance to foliar applications of relevant herbicide/s (eg sulfonyl ureas) would assist growers to manage weeds in the pasture phase. Development of such a break crop option could be by genetic modification or by other means. In order to meet variable soil pH requirements, the project may explore development of several candidates, such as an annual medic (high pH soils) and a sub-clover (low pH soils).

The GRDC expects to invest up to \$200,000 per annum over 3 years in this project.

Specific Selection Criteria

Evaluation of the tender will take into account the following Specific Selection Criteria:

An understanding of the potential benefits and risks of a herbicide tolerant break crop for the Australian grains industry.	Mandatory
Soundness of the proposed R&D methods and project management arrangements	Mandatory
Demonstrated familiarity with, and knowledge of, relevant herbicides	Mandatory
Demonstrated technical knowledge and experience of the key personnel	Mandatory
Demonstrated delivery pathway(s) through an Australian plant breeding company or companies	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.2.3 Improved options for fleabane control in the Northern Region

Project Description

Improved integrated weed management strategies for fleabane in the Northern Region (NNSW and Queensland).

Scope

Fleabane is a major weed problem for Northern Region growers. Large areas of stubble are burnt or otherwise destroyed in managing this hard-to-kill weed. Existing control methods focus on immature plants and may achieve only 50 to 95% control. Since the plant produces a large amount of seed that is wind-borne, the weed needs constant vigilance. Current strategies leave many growers unable to gain the upper hand.

This project will develop and demonstrate to growers more reliable control of fleabane over a range of conditions. IWM strategies may include consideration of row width, crop sequencing, occasional conventional fallow, chemical control, sowing of wheel tracks, etc. Potential for novel chemical mixtures and alternate herbicide actives will also be assessed.

The GRDC expects to invest up to \$200,000 per annum over 3 years in this project.

Specific Selection Criteria

Evaluation of the tender will take into account the following Specific Selection Criteria:

An understanding of the importance of fleabane as a production constraint to the Australian grains industry.	Mandatory
An understanding of the diverse farming systems and the associated constraints under which fleabane control options may need to be applied.	Mandatory
Soundness of the proposed R&D methods and project management arrangements.	Mandatory
Demonstrated competence in the design and management of field trials.	Mandatory
Proven ability to deliver integrated solutions that growers can readily adapt and adopt, including evidence of communication and field demonstration capabilities.	Mandatory
Evidence of a capacity for collaborative research and extension with other research organisations and/or grower groups as required.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.2.4 In-furrow fungicide options – scoping study

Project Description

The project will explore the potential for new and alternate in-furrow fungicide options for controlling foliar and soil-borne diseases in cereals and other crops.

Scope

In-furrow fungicides have proved effective in preventative disease management strategies in cereal and oilseed crops. Considerable private and publicly funded research has explored opportunities for other actives and other crop/disease situations. There is a risk that because some of this knowledge is fragmented, gaps may not have been identified.

This project will collate current knowledge and recommend areas for further research that may lead to preventative disease management strategies that could reduce disease inoculum loads and contribute to lower cost disease control. Potential active ingredients, disease/crop targets, efficacy spectrums, duration of protection and other factors pertinent to in-furrow application will be considered.

The GRDC expects to invest up to \$50,000 for one year in this project.

Specific Selection Criteria

Evaluation of the tender will take into account the following Specific Selection Criteria:

An understanding of the role and value of pre-emergent disease management products for the Australian grains industry.	Mandatory
The potential of the work proposed to make comprehensive recommendations on practical research opportunities that may deliver significant benefits to growers.	Mandatory
Soundness of the proposed research methods and project management arrangements.	Mandatory
Evidence of a capacity to access diverse sources of information about research work already conducted.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
The cost effectiveness of the tender response.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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Validation and Integration

2.3.1 Eastern Farming Systems

Project Description

To validate and integrate practices, technologies and production systems in the north-east NSW and south-east Queensland grain growing zones through systems based RD&E. The two key objectives of this investment are:

1. To develop improvements in crop production, practices, which also improve farm profitability and environmental condition in the north-east NSW and south-east Queensland grain growing zones within three years. A quantitative measure of uptake of these new practices must also be demonstrated.
2. To facilitate capacity building and provide opportunity for the agricultural community in the north-east NSW and south-east Queensland grain growing zones to participate in research, development and training so that the benefits of the full spectrum of GRDC-supported research may be realised.

Scope

The GRDC's primary objective for the Practices program area is to have *better practices adopted faster* across a larger proportion of growers and districts of the Australian grain belt. The adoption of *better practices faster* will position the Australian grains industry to compete more effectively in global markets. A major element of increasing adoption is validating and integrating new technologies and practices by engaging the wide range of growers throughout the process.

The focus of this procurement is to call for tenders from organisations, groups or individuals to validate and integrate practices and technologies into local farming systems through participatory RD&E specifically in north-east NSW and south-east Queensland grain growing zones. The zones are broadly bound by the southern boundaries of the shires of Dubbo, Wellington and Mudgee in the south and the northern boundaries of the shires of Taroom and Monto in the North and areas east of the Newell and Leichhardt Highways.

Tender responses can address delivery requirements in all or part of the defined zone. An ability to demonstrate a plan for significant practice change for the majority of growers managing the majority of cropping land in the zones with significant productivity and resource base gains is the desired project outcome.

Tender responses must demonstrate:

- how the project will involve agribusiness to help in delivering 'commercial' project outcomes to the broader industry
- a balance in activities between 'tactical' or short-term management questions as well as 'systems' or longer term questions of sustainability
- how it will engage the full spectrum of graingrowers in participatory RD&E

The GRDC expects to invest up to \$550,000 per annum for three years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Soundness of the proposed R&D methods, project management and project evaluation arrangements.	Mandatory
Active involvement of agronomists and growers in the proposed work.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in farming systems research.	Mandatory
The potential of the work proposed to meet the tender requirements, to address more than one theme in a systems approach, and to deliver significant benefits to growers.	Mandatory
Evidence of sound approach to, and ability in, communicating and extending results widely to the grains industry.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement Open Tender (refer page 9)

Closing Date 11 October 2006 at 2 pm

Contact Details

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2.3.2 Northern Pulse Industry Extension

Project Description

The delivery of regionally coordinated technical support and information packages for pulses across the GRDC's Northern Region. This will involve management packages for the various crops in the different areas of the north and will include information on topics such as agronomic management, disease management, herbicides, harvesting and handling strategies as well as marketing.

Scope

The GRDC is seeking tenders from interested organisations, groups or individuals to link in to the numerous projects on agronomic and pathology research undertaken by various institutions, both public and private, across the Northern Region. Tender responses must demonstrate how the tenderer will provide technical support and information on pulse production separately targeting agronomists and growers. This investment seeks to package the diverse array of research into pulse specific information to ensure the development of the pulse industry across the region.

The focus of this investment will be on the major winter and summer pulse crops grown in the Northern Region namely chickpea, faba bean and mung bean.

The GRDC anticipates investing around \$120,000 per annum over 3 years for the northern region.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Soundness of the proposed technical support methods, project management and project evaluation arrangements.	Mandatory
Active involvement of agronomists and growers in the proposed work.	Mandatory
The potential of the work proposed to meet the tender requirements, to address more than one theme in a systems approach, and to deliver significant benefits to growers.	Mandatory
Evidence of sound approach to, and ability in, communicating and extending results widely to the grains industry.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.3.3 Southern High Rainfall Zone RD&E Coordination

Project Description

To improve both farm profit and environmental outcomes through improved two way information flow between researchers, advisers and growers on better crop varieties, agronomy and application and management of nutrients within a systems context in the southern High Rainfall Zone (HRZ).

Scope

The GRDC is calling for tenders from interested parties to enhance the linkages between researchers, advisers and grower groups throughout the high rainfall zone of southern Australia. The aim of this investment is to coordinate the necessary two way information flow and on-farm trial work needed to develop and deliver best management practices within the farming system for the production of high yielding, high quality grain. Tender responses need to articulate how the proposed methodology will reach the needs of researchers, growers and advisers across the zone including high rainfall WA, SE SA, Victoria, Tasmania and the southern slopes and tablelands of NSW. Linkages will also need to be made with other investments addressing stubble and nutrient management implications for the zone.

The GRDC expects to invest \$125,000 per annum over three years across the southern region.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Soundness of the proposed coordination methods, project management and project evaluation arrangements.	Mandatory
Active involvement of researchers, agronomists and growers in the proposed work.	Mandatory
The potential of the work proposed to address more than one theme in a systems approach, and to deliver significant benefits to growers.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in farming systems research.	Mandatory
Evidence of sound approach to, and ability in, communicating and extending results widely to the grains industry.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.3.4 Analysis of farming systems on NSW western plains

Project Description

A one-year project to conduct a detailed analysis of farming systems on the western plains of NSW. The analysis will clearly identify why the outcomes of current RD&E activities are not applicable for the western plains. This will involve assessing the drivers for production, profitability and sustainability including a full economic analysis and should identify current RD&E areas that are having an impact and what would be required in future RD&E in order to improve farming practice on the NSW western plains.

Scope

A scoping study conducted in 2003 found that there is a wealth of data and information from previous research and development activities on the western plains of NSW.

Despite this grain growers in the area continue to perceive a lack of suitable integration of research components into effective localised packages to overcome the major constraints to their businesses.

While many growers in the area are serviced individually by private agribusiness agronomists or through grower groups formed by NSW Department of Primary Industries district agronomists, the 2003 study found that there were few linkages and little contact between the groups resulting in a lack of knowledge sharing and conflicting information to growers.

In recognising this the GRDC is calling for tenders from organisations, groups or individuals to assess the economic, physical and social impact of the biophysical constraints to production on the western plains of NSW, mainly variable soil types and aseasonal rainfall and to identify what would be required to overcome these constraints and increase benefits to graingrowers.

Outputs from this investment will include:

- A detailed analysis of the major limiting constraints to production on the western plains of NSW
- A report on the local drivers for production, profitability and sustainability
- A report on the reasons as to why the benefits from current grains RD&E activities are not being captured on farm on the Western Plains
- The identification of a range of research objectives which aim to correct the deficiencies identified above
- The identification of what would be required to increase graingrower participation, information access and training in order for them to adopt and therefore benefit from the full spectrum of GRDC supported research
- The facilitation of links between research providers, agribusiness and grower groups to encourage the sharing of resources and knowledge

The GRDC expects to invest up to \$150,000 for this one year project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Soundness of the proposed methods of analysis, project management and project evaluation arrangements.	Mandatory
Demonstrated technical knowledge and experience of the key personnel in farming systems research.	Mandatory

The potential of the work proposed to address more than one theme in a systems approach, and to deliver significant benefits to growers.	Mandatory
Active involvement of agronomists and growers in the proposed work.	Mandatory
Evidence of sound approach to, and ability in, communicating results widely to the grains industry.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicants.	Mandatory

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.3.5 Northern Agribusiness Trial Extension Network

Project Description

Enhanced communication and extension activities between private agronomists, agribusiness and local growers based around agronomic trials in targeted areas of the GRDC's Northern region.

Scope

This network is an initiative to encourage coordinated communication and extension activities between private agronomists, agribusiness and local grower networks.

The initiative will consist of 4 individual projects on issue-based agronomic trials throughout the GRDC's Northern cropping region during the 2007 season.

The GRDC's investment in grower group-based projects currently addresses a range of issues in the local areas surrounding these groups. There is still the opportunity however, to meet the extension needs of smaller more localised grower groups and individual growers outside these areas.

In recognising these needs the GRDC is calling for tenders that target areas not currently being directly addressed by GRDC supported grower groups with the view of coordinating minor trial and extension programs with local agribusiness.

A key feature of these projects will be the provision of an extension network by the private agribusiness companies, working in close collaboration with the GRDC and the trials themselves. This network will be based around existing groups rather than the formation of new groups.

Part of an agribusiness agronomist's time will be contracted to develop, conduct and deliver key research trials and associated communication and extension activities. The tender responses should include a trial plan outlining the issue that they will be investigating and its relevance to the local area. These trials will ideally be based around specific tactical issues such as soil health, crop nutrition, rotations, spray application or the identification and management of cereal diseases. Generic variety evaluation will not be considered as a research issue in this specific initiative.

The GRDC is seeking tenders from interested parties to carry out the services listed below for a period of 12 months. The GRDC may however consider extending individual contracts depending on their respective performance.

The GRDC through this open tender seeks up to 4 suitable contractors to:

- locate, design, conduct and communicate agronomic experiments in accordance to trial guidelines outlined by the GRDC*
- improve communication and extension of research outcomes and activities from localised experiments through agronomists, private sector advisers and grower groups
- interpret experiment data and apply practical applications in accordance to trial guidelines outlined by the GRDC*
- develop consistent and targeted agronomic communication and extension around these trials
- ensuring that information for growers and advisers is current and accessible
- increase the understanding of the potential of these trials as part of their farming system
- conduct open days, field walks and speak at field days, GRDC Updates etc.
- deliver agronomic extension that will enhance farm and crop management best practice particularly in relation to the issues being investigated in the trials

The GRDC expects to invest up to \$100,000 for four individual projects within the **GRDC's Northern region** during 2007, up to \$25,000 per project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Extent of tenderers understanding of trial guidelines as outlined by the GRDC*.	Mandatory
Quality of the trial plan and issue to be investigated in the trial	Mandatory
Access to grain grower and grains industry networks.	Mandatory
Cost effectiveness of the proposal, including cash and in – kind commitments from tenderers.	Mandatory

* For details on trial guidelines please contact a.ditton@grdc.com.au

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

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2.3.6 Southern Agribusiness Trial Extension Network

Project Description

Enhanced communication and extension activities between private agronomists, agribusiness and local growers based around agronomic trials in targeted areas of the GRDC's Southern region.

Scope

This network is an initiative to encourage coordinated communication and extension activities between private agronomists, agribusiness and local grower networks.

The initiative will consist of 6 individual projects on issue-based agronomic trials throughout the GRDC's Southern cropping region during the 2007 season.

The GRDC's investment in grower group-based projects currently addresses a range of issues in the local areas surrounding these groups. There is still the opportunity however, to meet the extension needs of smaller more localised grower groups and individual growers outside these areas.

In recognising these needs the GRDC is calling for tenders that target areas not currently being directly addressed by GRDC supported grower groups with the view of coordinating minor trial and extension programs with local agribusiness.

A key feature of these projects will be the provision of an extension network by the private agribusiness companies, working in close collaboration with the GRDC and the trials themselves. This network will be based around existing groups rather than the formation of new groups.

Part of an agribusiness agronomist's time will be contracted to develop, conduct and deliver key research trials and associated communication and extension activities. The tender responses should include a trial plan outlining the issue that they will be investigating and its relevance to the local area. These trials will ideally be based around specific tactical issues such as soil health, crop nutrition, rotations, spray application or the identification and management of cereal diseases. Generic variety evaluation will not be considered as a research issue in this specific initiative.

The GRDC is seeking tenders from interested parties to carry out the services listed below for a period of 12 months. The GRDC may however consider extending individual contracts depending on their respective performance.

The GRDC through this open tender seeks up to 6 suitable contractors to:

- locate, design, conduct and communicate agronomic experiments in accordance to trial guidelines outlined by the GRDC*
- improve communication and extension of research outcomes and activities from localised experiments through agronomists, private sector advisers and grower groups
- interpret experiment data and apply practical applications in accordance to trial guidelines outlined by the GRDC*
- develop consistent and targeted agronomic communication and extension around these trials
- ensuring that information for growers and advisers is current and accessible
- increase the understanding of the potential of these trials as part of their farming system
- conduct open days, field walks and speak at field days, GRDC Updates etc
- deliver agronomic extension that will enhance farm and crop management best practice particularly in relation to the issues being investigated in the trials

The GRDC expects to invest up to \$150,000 for six individual projects within the **GRDC's Southern region** during 2007, \$25,000 per project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Extent of tenderers understanding of trial guidelines as outlined by the GRDC*.	Mandatory
Quality of the trial plan and issue to be investigated in the trial.	Mandatory
Access to grain grower and grains industry networks.	Mandatory
Cost effectiveness of the proposal, including cash and in – kind commitments from tenderers.	Mandatory

* For details on trial guidelines please contact a.ditton@grdc.com.au

Procurement Open Tender (refer page 9)

Closing Date 11 October 2006 at 2 pm

Contact Details

Angela Ditton
Administrative Coordinator, Practices

a.ditton@grdc.com.au
Ph 02 6272 5525

2.3.7 Western Agribusiness Trial Extension Network

Project Description

Enhanced communication and extension activities between private agronomists, agribusiness and local growers based around agronomic trials in targeted areas of the GRDC's Western region.

Scope

This network is an initiative to encourage coordinated communication and extension activities between private agronomists, agribusiness and local grower networks.

The initiative will consist of 6 individual projects on issue-based agronomic trials throughout the GRDC's Western cropping region during the 2007 season.

The GRDC's investment in grower group-based projects currently addresses a range of issues in the local areas surrounding these groups. There is still the opportunity however, to meet the extension needs of smaller more localised grower groups and individual growers outside these areas.

In recognising these needs the GRDC is calling for tenders that target areas not currently being directly addressed by GRDC supported grower groups with the view of coordinating minor trial and extension programs with local agribusiness.

A key feature of these projects will be the provision of an extension network by the private agribusiness companies, working in close collaboration with the GRDC and the trials themselves. This network will be based around existing groups rather than the formation of new groups.

Part of an agribusiness agronomist's time will be contracted to develop, conduct and deliver key research trials and associated communication and extension activities. The tender responses should include a trial plan outlining the issue that they will be investigating and its relevance to the local area. These trials will ideally be based around specific tactical issues such as soil health, crop nutrition, rotations, spray application or the identification and management of cereal diseases. Generic variety evaluation will not be considered as a research issue in this specific initiative.

The GRDC is seeking tenders from interested parties to carry out the services listed below for a period of 12 months. The GRDC may however consider extending individual contracts depending on their respective performance.

The GRDC through this open tender seeks up to 6 suitable contractors to:

- locate, design, conduct and communicate agronomic experiments in accordance to trial guidelines outlined by the GRDC*
- improve communication and extension of research outcomes and activities from localised experiments through agronomists, private sector advisers and grower groups
- interpret experiment data and apply practical applications in accordance to trial guidelines outlined by the GRDC*
- develop consistent and targeted agronomic communication and extension around these trials
- ensuring that information for growers and advisers is current and accessible
- increase the understanding of the potential of these trials as part of their farming system
- conduct open days, field walks and speak at field days, GRDC Updates etc
- deliver agronomic extension that will enhance farm and crop management best practice particularly in relation to the issues being investigated in the trials

The GRDC expects to invest up to \$150,000 for six individual projects within the **GRDC's Western region** during 2007, \$25,000 per project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

Extent of tenderers understanding of trial guidelines as outlined by the GRDC*.	Mandatory
Quality of the trial plan and issue to be investigated in the trial.	Mandatory
Access to grain grower and grains industry networks.	Mandatory
Cost effectiveness of the proposal, including cash and in – kind commitments from tenderers.	Mandatory

* For details on trial guidelines please contact a.ditton@grdc.com.au

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

Angela Ditton
Administrative Coordinator, Practices

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Ph 02 6272 5525

Extension and Grower Programs

2.4.1 Improving linkages and extension opportunities between the GRDC and advisers to maximise dissemination of research information to growers

Project Description

Enhanced development of GRDC interaction and relationships with consultants, advisers and agribusiness to ensure the effective dissemination to and from growers and to enable rapid responsiveness to changes in farming systems in the Australian grains industry.

Scope

The GRDC recognises the use of consultants, advisers and agribusiness by growers to make on farm management decisions.

The GRDC is calling for tenders from interested parties to build upon an initiative that is currently underway in the southern and western regions to improve an understanding of the mechanisms to improve information flow to growers via consultants, advisers and agribusiness.

Tender responses should demonstrate the use of a range of strategies and mechanisms to maintain closer connections with these providers to improve intelligence and information flows both to and from the GRDC and its research partners. Particular emphasis will concentrate on the continued two way interaction and feedback on R, D&E priorities with these providers based on interaction with their clients.

The project will explore additional networks that can be utilised to enhance dissemination and adoption of new technologies and practices to growers. This will involve the exploration of extension related opportunities targeted at agribusiness to maintain consistency and relevance of GRDC and partner key messages being disseminated through these networks.

The GRDC expects to invest up to \$60,000 per annum over two years in this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the scale and importance of this project to the Australian grains industry.	Mandatory
Demonstrated familiarity with, and knowledge of the relationship between growers and consultants/advisers/agribusiness and the GRDC.	Mandatory
Proven ability to deliver an integrated solution(s) that will enable the GRDC, consultants, advisers and agribusiness to maximise the two way delivery of information to/from growers.	Mandatory
Soundness of the proposed model solution and project management arrangements, including proposed methods for evaluation and demonstrated ability to perform the solution within the required timeframe.	Mandatory
Evidence of a capacity for collaborative research and extension with other research/agribusiness organisations and/or grower groups as required.	Mandatory
Demonstrated technical knowledge, communication skills, organisational skills and experience of the key personnel to develop effective linkages.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicant.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

Angela Ditton
Administrative Coordinator, Practices

a.ditton@grdc.com.au
Ph 02 6272 5525

2.4.2 Integration of Final Reports on GrainZone

Project Description

Collation, evaluation and conversion of GRDC final reports into a consistent format for uploading onto the GRDC GrainZone website.

Scope

Agricultural sectors including the grains industry are increasingly using computers and the internet for farm business operations. Although a range of print mediums are used to deliver information to its stakeholders, the GRDC recognises the increasing importance of electronic mediums to disseminate research, development and extension information.

The GRDC has a range of electronic delivery mechanisms including the GRDC website, GrainZone. A high priority for the GRDC is to enhance and improve the level of information on the website to meet user needs.

To this end, the GRDC is seeking tenders from interested parties to carry out the services listed below for a period of two years. The GRDC through this open tender seeks the applicant to:

- compile a listing of final reports in electronic format
- convert accompanying information attached to final reports (e.g. tables, graphs and other materials) to GRDC website guidelines and style guide
- Develop final reports into a single consistent web based format
- consult with GRDC Program Managers to assess quality, accuracy and relevance of available information and that it does not contain information that breaches GRDC's intellectual property agreements
- liaise with the GRDC webmaster to ensure that design of website material will comply with GRDC website guidelines and obligations under relevant legislation.
- closely interact with the GRDC to ensure appropriate branding and formatting to accommodate future information inputs onto the website
- Recommend modification to existing final report structure

The GRDC expects to invest up to \$100,000 per annum for two years for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the scale and importance of this project to the Australian grains industry.	Mandatory
Extent to which the applicant complies with the specific services being sought in the request for tender (RFT).	Mandatory
Demonstrated familiarity with and knowledge of the GRDC research current and historical investment portfolio.	Mandatory
Proven ability to deliver an integrated solution that will enable the GRDC to rapidly maximise the level of information provided on the GRDC website to users.	Mandatory
Preparation of an implementation plan and demonstrated ability to perform the solution within the required timeframe.	Mandatory
Demonstrated technical knowledge, communication skills, organisational skills and experience of the key personnel to ensure delivery of the services.	Mandatory
Contact details of at least two referees who are familiar with the tenderer's previous work and can provide comment against some if not all specific selection criteria.	Mandatory

The cost effectiveness of the tender response including cash and in-kind commitments from the applicant.	Secondary
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Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

Angela Ditton
Administrative Coordinator, Practices

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Ph 02 6272 5525

2.4.3 GRDC Podcasting initiative

Project Description

Pilot study to test the functionality and usefulness of podcasting materials from the GRDC to its researchers, advisers and growers.

Scope

The development of alternative technologies in relation to the extension and delivery of information to users has rapidly emerged in an information rich industry. Potential exists to broaden the suite of technologies in which researchers, advisers, growers and other users in the grains industry can access information.

Podcasting is a format that has gained popularity recently in many markets as a delivery mechanism for multimedia files, either audio or video. The potential to use this technology on a number of devices such as MP3 players, machinery such as vehicles, tractors, harvesters and other players that support this technology or online (fed either as streaming or downloadable), enable users to utilise a range of mechanisms to hear and use the latest information. Opportunity exists to utilise this technology within the Australian grains industry to offer users a more flexible approach to receiving grains industry research, development and extension information.

This initiative is designed to test the technology through a pilot study program in the Western Region. The GRDC is seeking tenders from interested parties to carry out the services listed below for a period of one year. The GRDC through this open tender seeks the applicant to:

- develop podcast content covering a range of topics nominated by the GRDC, for distribution across the GRDC's Western region and for use on the GRDC website, GrainZone.
- Organise and conduct appropriate market evaluation with users in consultation with the GRDC to evaluate the usefulness of podcasting technologies.
- liaise with the GRDC webmaster to ensure that podcast content will comply with GRDC website guidelines and obligations under relevant legislation.
- closely interact with the GRDC to ensure appropriate branding and formatting exists in GRDC podcasts.
- Report on findings, including recommendations for potential of podcasting technology by the GRDC

The GRDC expects to invest up to \$30,000 for one year in the Western Region for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the scale and importance of this project to the Australian grains industry.	Mandatory
Extent to which the applicant complies with the specific services being sought in the request for tender (RFT).	Mandatory
Preparation of an implementation plan and demonstrated ability to perform the solution within the required timeframe.	Mandatory
Demonstrated technical knowledge, communication skills, organisational skills and experience of the key personnel to ensure delivery of the services.	Mandatory
Contact details of at least two referees who are familiar with the tenderer's previous work and can provide comment against some if not all specific selection criteria.	Mandatory

The cost effectiveness of the tender response including cash and in-kind commitments from the applicant.	Secondary
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Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

Angela Ditton
Administrative Coordinator, Practices

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Ph 02 6272 5525

2.4.4 Decision Support Tool Evaluation

Project Description

Desktop study to audit and evaluate the effectiveness, availability and pricing structure of decision support tools available from GRDC and partner investments to date.

Scope

A number of decision support tools have been developed in the grains industry through many GRDC investments, partner organisations and other industry bodies to assist growers, advisers and other industry representatives to make informed on farm management decisions. As there is a wide range of tools currently on the market and increasing interest in developing new tools, it is timely to conduct an assessment to determine the accuracy, quality and uptake of these tools.

This investment will involve a desktop audit to assess the practicality of tools presently available in the industry, their present use and to make recommendations on future potential of these tools in the Australian grains industry.

The GRDC is seeking tenders from interested parties to carry out the services listed below for a period of one year. The GRDC through this open tender seeks the applicant to:

- Compile a listing in electronic format agreed by the GRDC of available decision support tools in the grains industry, including tools resulting from GRDC portfolio investment
- Review of intended target audiences, accompanying training packages and quality of information available in available decision support tools
- Evaluate the distribution, access and uptake of the identified decision support tools
- Identify opportunities to promote, utilise and broaden where appropriate the use of these support tools
- Report to the GRDC on findings

The GRDC expects to invest up to \$30,000 for one year for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the scale and importance of this project to the Australian grains industry.	Mandatory
Extent to which the applicant demonstrates a clear understanding of the services.	Mandatory
Demonstrated networks with researchers, consultants, advisers, agribusiness and a range of industry stakeholders to gather information on decision support tools.	Mandatory
Extent to which the applicant has an understanding of intellectual property rights of decision support tools.	Mandatory
Preparation of an implementation plan and demonstrated ability to perform the solution within the required timeframe.	Mandatory
Demonstrated technical knowledge, communication skills, organisational skills and experience of the key personnel to ensure delivery of the services.	Mandatory
Contact details of at least two referees who are familiar with the tenderer's previous work and can provide comment against some if not all specific selection criteria.	Mandatory
The cost effectiveness of the tender response including cash and in-kind commitments from the applicant.	Secondary

Procurement **Open Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm**

Contact Details

Angela Ditton
Administrative Coordinator, Practices

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Ph 02 6272 5525

New Products

New Products line of business objective is:

To deliver new products and services (both on and off farm) that will assist growers to effectively compete in global grain markets.

New Farm Products and Services

3.1.1 Nitrogen fixation for Cereal and Canola Cropping Systems

Project Description

The yearly benefits from the use of nitrogen fixation in legumes have been well expounded over the last five years both in terms of dollar savings and reductions in potential fertiliser usage. With the increasing cost of applied nitrogen the advantage offered by a microbially fixed source of nutrient is evident.

This project aims to isolate, screen and evaluate endophytic and free-living microbes capable of fixing atmospheric nitrogen in non-legume cropping systems. Expressions of interest will be invited from research facilities to deliver innovative and realistic approaches to these goals.

Outputs

- Nitrogen fixing microbes for commercial use by Australian cereal and canola growers.
- Development of formulations in partnership with a commercial company able to consistently deliver high numbers of viable microbes to the targeted zone.
- An understanding of the mode of action of these microbes so as to develop information on best use for reliable and predictable results.

Scope

- Because of the speculative and high risk nature of this project, a stop/go point would be instigated at the end of each year for all parties to assess results.
- Interested commercial companies are also invited to discuss potential involvement.
- Collaborative approaches with multiple entities will be encouraged.

The procurement process for this project will be by expression of interest, however prior to the request to suppliers, the GRDC is asking for parties wishing to convey prior interest in this project to register with the program coordinator. This will ensure they receive expression of interest documents when later released.

Procurement Multi-stage Tender (refer page 9)

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

NOTE

Further details on this tender process will be available on the GRDC website (www.grdc.com.au) before **31st January 2006**.

3.1.2 Microbial Tagging for Tracking

Project Description

Microbes for use in Biocontrol and Bioinoculation require registration through the APVMA if they are able to claim efficacy against pathogens. As part of the registration process there is a requirement to be able to trace the active, in this case the microbe, and show where it moves to within the cropping system. This is particularly pertinent where the microbe is a known endophyte and infects the internal areas of the host plant.

Outputs

- The development of a set of procedures and processes that are agreed to by APVMA, to satisfactorily account for the movement and effect of microbes being used for pathogen control.
- A set of standards able to be used to quantify the movements of microbes and therefore provide commercializing companies and the end-user a greater level of product security.
- Case study using one of the GRDC strains currently licenced to Philom Bios Australia.

Procurement Multi-stage Tender (refer page 9)

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

NOTE

Further details on this Tender process will be available on the GRDC website (www.grdc.com.au) before **30th November 2006**. Parties wishing to convey prior interest in this project and ensure they receive the tender documents should contact the program coordinator.

3.1.3 Understanding of the Energy Uses and Costs within a Farming System

Project Description

Scoping study to audit the energy uses within a farm system and examine the cost/benefit ratios and economies of scale required to allow on-farm energy production. Examine the areas in which energy saving devices or processes would have the greatest impact. Forecast the effect of increasing energy costs and consumption in the farming system.

Outputs

- A description of the typical usage and costs of energy per ha in various farming systems.
- An understanding of the current costs and economies of scale of alternative energy sources such as wind, solar and biofuel production.
- Recommendations and suggestions for the next stage of investment in both on-farm alternative energy and biofuels projects.
- Report that assists GRDC further develop our position in regards to energy.

The GRDC expects to invest between \$60,000 and \$80,000 per annum for one year for this project.

Specific Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the relevance and importance of the tender to the Australian grains industry.	Mandatory
Demonstrated technical knowledge and experience of the key personnel.	Mandatory
Clearly conceived methodology to produce the defined outputs.	Mandatory
Show value for money in budget.	Mandatory
Demonstrated ability to collaborate with other research organisations, private sector and grains industry to gather the required information..	Mandatory

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm.**

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

3.1.4 On Farm Innovation

Project Description

Australian farmers have been long recognized for their high level of innovation, from the most simple gadget, to the most complicated mechanical inventions. While there currently exists numerous grants and programs for those wanting to develop and commercialise such ideas, they require in their applications a level of sophistication and organization beyond the skill set of many individuals. There is also the question of choosing the right type of grant or assistance to apply for and what the subsequent steps would be.

The GRDC intends to seek individuals or groups to facilitate the panel process. The successful tender would then advertise and invite innovators and inventors to present their ideas to this panel to receive an evaluation of the technology. Those chosen would then also receive assistance in how to proceed with planning, applying for suitable grants and advice on how to handle the question of IP protection. If necessary, assistance will be given in development, for example the building of a prototype or drawing up of professional blueprints. Where necessary links to technological expertise can be made to ensure the latest techniques and applications are being used. Successful applicants would also be showcased in GRDC publications as further promotion of their concept.

The GRDC aims to bridge the gap between individual innovation and industry commercialization.

Outputs

- Successful cases of innovative technologies being taken from concept level through to early stages of commercialization.

Scope

- A panel made up of farming peers and specific experts in the fields of commercialization, IP and industry grants would be used to evaluate submissions.
- No obligation would be given as to the level and value of assistance rendered, with decisions being in the hands of the panel.
- Stop/go point after first year to decide on continuation into second year

Procurement Multi-stage Tender (refer page 9)

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

NOTE

Further details on this tender process will be available on the GRDC website (www.grdc.com.au) before **31st May 2006**. Parties wishing to convey prior interest in this project and ensure they receive the tender documents should contact the program coordinator.

3.1.5 Emerging Technologies Scoping Study

Project Description

Incorporating the latest array technologies into the farming system has the potential to make significant forward leaps in on farm productivity. The opportunities to invest in a project that integrates these advances require that we first are able to capture a number of technologies that currently lie outside the agricultural sphere.

This project involves researching and meeting potential technology suppliers and scoping the way in which their product or process could be adapted for use in Australian agriculture.

Outputs

- The next generation of projects scoped and ready for presentation, including potential partners.
- Unique solutions and angles for areas seen as key areas of interest.

Scope

- The successful group will need to have a comprehensive understanding of the farming system as well be able to intrinsically make links to areas of technologies that may have application.
- Excellent networking and communications skills are required.

Procurement Multi-stage Tender (refer page 9)

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

NOTE:

Further details on this tender process will be available on the GRDC website (www.grdc.com.au) before **30th November 2006**. Parties wishing to convey prior interest in this project and ensure they receive the tender documents should contact the program coordinator.

New Grain Products

3.2.1 Identifying research for future grain products (food and industrial)

Project Description

New Grain Products wants to determine any new and improved uses for Australian grains. An audit would identify a clear prioritisation for investment in value adding research. It would examine the expansion and drivers of grains past the traditional consumption base. The areas that would be examined are new or improved **uses**, new or improved **characteristics**, and new or improved uses of **by-products**. The audit would take into consideration the potential volume, premium, and length of time to commercialisation (based on a “best effort basis”). The audit would also consider the work currently being done vs areas that have had little research effort. It is envisaged that this level of understanding in a variety of crops will involve a series of interviews, literature searches and possibly patent searches.

Scope

The scope of this project will be to gather information on a particular crop (or crops) that enables a determination of the amount of research that is occurring in an area, and the economic benefit of this area to the Australian grain grower.

Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the work and research that has recently, or is, occurring in the new grain product area for a particular crop.	
A demonstrated understanding and linkage with the Australian grains industry.	Mandatory
An ability to gather, interpret and analyse research and economic data.	Mandatory
A proposed plan to meet the tender in a comprehensive and integrated way.	Mandatory
The cost effectiveness of the proposal for the submitted work schedule.	Secondary
Track record of the key personnel, including their technical knowledge and experience.	Secondary
Contact details of 2 referees who are familiar with the applicant’s previous work and can provide comment against some if not all specific selection criteria.	Secondary

Procurement Multi-stage Tender (refer page 9)

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

NOTE

GRDC is yet to prioritise the crops to be examined, therefore this tender process will be delayed until the **30th September 2006**. Parties wishing to convey prior interest and to ensure that they receive the appropriate documents should contact the New Products Program Coordinator to register their interest. Further details on this tender process will be available on the GRDC website (www.grdc.com.au) after the above date.

3.2.2 The Organic Grain Industry

Project Description

This project will provide an evaluation of the cost of becoming an organic grain farmer, sustainability of an organic grain farm, where is the best benefit to Australian organic grain growers, and an examination of the organic grain supply chain. For example, a report written by the Sparks Company called “New and Improved Wheat Uses Audit” considers organic wheat as something that could be commercialised within a year, with a large premium and a market size of 1 million tonnes for the US. This is also reflected in a report commissioned by RIRDC called “TheExport Potential for Organics-Opportunities and Barriers”. The RIRDC report states “there is excellent potential for international competitiveness and expansion of organic cereal production”, which is what this scoping study will build on, focusing at the grains industry.

Scope

To conduct a desktop study evaluating,

- Cost of conversion of a grain farm
- Sustainability of an organic grain farm
- What grain product provides the most benefit for Australian grain growers, in either the domestic or international markets
- Agronomic issues in producing organic grain that meets market requirements
- Appropriateness of supply chain for an end product or end market

Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the Organic grains industry in Australia and the work that has already been done.	Mandatory
A demonstrated understanding and linkage with the Australian grains industry.	Mandatory
An ability to gather, interpret and analyse research and economic data.	Mandatory
A proposed plan to meet all components of the tender in a comprehensive and integrated way.	Mandatory
The cost effectiveness of the proposal for the submitted work schedule.	Secondary
Track record of the key personnel, including their technical knowledge and experience.	Secondary
Contact details of 2 referees who are familiar with the applicant’s previous work and can provide comment against some if not all specific selection criteria.	Secondary

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm.**

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

m.jayawardana@grdc.com.au
Ph 02 6272 5525

3.2.3 Grants to Support Innovative Grain Farmers

Project Description

This project requires an organisation or an individual with the skills and ability to be able to set up and determine recipients of a new grant system. DAFF provides a number of grants to encourage product development and businesses to develop in regional areas in Australia. GRDC wants to fill a funding gap to ensure that innovative farmers can make the move from concept to a government grant supported stage. In this instance, a limited number of grants would be provided to help with initial scoping studies, market research, product testing, business plans, and manufacturing opportunities.

Scope

The scope of this tender is an organisation or an individual and their skills and abilities in determining recipients of above mentioned types of grants.

Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the grants that is available to innovative farmers and the gap that these new grants offered by GRDC would fill.	Mandatory
A demonstrated understanding and linkage of this project with the Australian grains industry.	Mandatory
Experience in running and assessing a grant giving process.	Mandatory
A proposed plan to meet the tender.	Mandatory
The cost effectiveness of the proposal for the submitted work schedule.	Secondary
Track record of the key personnel, including their technical knowledge and experience.	Secondary
Contact details of 2 referees who are familiar with the applicant's previous work and can provide comment against some if not all specific selection criteria.	Secondary

Procurement **Multi-stage Tender (refer page 9)**

Closing Date **11 October 2006 at 2 pm.**

Contact Details

Manisha Jayawardana
Program Coordinator, New Products

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Ph 02 6272 5525

3.2.4 Energy Value System

Project Description

This project is a desktop study to examine the energy value system incorporating farming system sustainability, energy self sufficiency and management options for the growth of crops for energy (fuels or feed).

This is a high priority issue for GRDC. BP has issued a statement committing to provide 200 million litres of biofuels by 2008, which is more than half the Governments national target of 350 million litres. Queensland is promoting the use of ethanol in cars, the Victorian Government is making statements on biofuel targets, and WA has biodiesel pumps in Gull stations. GRDC needs to have an understanding of the current situation so that it can position itself to provide the most benefit to grain growers through research and development opportunities as quickly as possible.

Scope

This scoping study will examine:

- The feasibility of setting aside areas of land to your own grow energy needs
- And, farming system effects in terms of sustainability i.e. using biomass for fuel instead of returning it to the farming system.
- Agronomic requirements for maximising the energy yield of crops. These may vary from the requirements of meeting both yield and protein targets

Selection Criteria

Evaluation of the tender will take into account the Specific Selection Criteria tabulated below:

An understanding of the work and research that has recently, or is, occurring in this area.	Mandatory
A demonstrated understanding and linkage with the Australian grains industry.	Mandatory
An ability to gather, interpret and analyse research and economic data.	Mandatory
A proposed plan to meet the tender in a comprehensive and integrated way.	Mandatory
The cost effectiveness of the proposal for the submitted work schedule.	Secondary
Track record of the key personnel, including their technical knowledge and experience.	Secondary
Contact details of 2 referees who are familiar with the applicant's previous work and can provide comment against some if not all specific selection criteria.	Secondary

Procurement Multi-stage Tender (refer page 9)

Closing Date 11 October 2006 at 2 pm.

Contact Details

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Communication and Customer Services

Communication and Customer Services line of business objective is:

Increase the awareness and capacity to optimise adoption of grains research outputs.

Corporate Communication

4.3.1 Annual Indicator Survey (AIS)

Project Description

The development and implementation of a coherent, valid and reliable methodology for the annual grain grower survey incorporating the following elements:

- A **project set up and design phase** that workshops and reviews information requirements with GRDC program managers and other key stakeholders
- A **qualitative ‘listening post’ phase** involving a cross section of grain growers providing an important vehicle for exploring;
 - detailed exploration of relevant farming issues,
 - ability to pilot draft survey questions
 - clarify understanding of terms, new products and technologies
 - unearth other issues likely to impact on survey
- A **nationally based telephone survey of grain growers** conducted annually, incorporating each of the 18 GRDC agro-ecological zones. Sufficient sample sizes required to allow disaggregation and reporting of results across zones.
- **Booster sample surveys** implemented for specific issues to be addressed with larger grower samples in certain agro-ecological zones to drill down on specific issues.
- **Interpretation and reporting of results** that summarise survey findings in a concise manner supported where appropriate with charts and graphs.

Scope

In April 2007, GRDC will submit to the Ministers office a copy of the proposed new five year plan. As with the current five year plan “Driving Innovation” there is expected to be a set of organisational and LOB related performance measures.

A selection of potential corporate performance measures to be tracked by the annual industry survey includes:

- Grower attribution of benefit to R&D
- Measures of uptake of particular of particular farming practices
- Level of GRDC influence on grower behaviour

Other measures will be determined / clarified, in consultation, as the new five year plan is developed. In addition, LOB performance indicators, as described in the new five year plan, will also tracked using this annual industry survey.

The GRDC expects to invest up to \$200,000 per annum over three years in this project.

Procurement Open Tender (refer page 9)

Contact Details

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NOTE

Further details on this Tender will be available on the GRDC website (www.grdc.com.au) before **31 January 2006**.

