GRDC’s R&D Model

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2007 Forecast
Wheat  25mt
Barley  9mt
Sorghum 0.7mt
Canola  1.2mt
Rural Research & Development Corporations

• Established in 1990 and operate under PIERD Act.
• RDCs as an industry driven approach to deliver world’s best practice R&D
• Based on a strong rural innovation culture, ‘market pull’ and a sound strategic management system
• Resulting in high rates of adoption of R&D and triple bottom line outcomes
• Linkages across business systems
Key Features of the PIERD Act

- Sets out a procedure for establishing an RDC
- Skills based selected Board
- Industry consultation process leading to recommendation to Government for introduction of the compulsory levy
- Varies between industries eg grains 1% net farm gate value of grain; wool 2% of gross wool receipts
- Government committed to matching industry levy $ for $ up to 0.5% GVP of the industry
Key Features of the PIERD Act cont’d

• Governance – Legislation makes RDC Boards subject to law similar to a public company
• Reporting – 5 year strategic plan; annual operating plan, annual report, stakeholder report to industry
• National research Priorities
• Corporations do not conduct research: they co-ordinate a research investment plan.
Successes under the Model

- Industry ownership/cultural change
- Investment increase 1984/85 – 2005/06 $67m to $541m (industry $27m to $325m; government $39.9m to $216m)
- Total portfolio investment over $2b
- Average 7:1 benefit over cost ratios
Grains Research & Development Expenditure

- Sum of Non-GRDC contribution (estimated)
- Sum of GRDC contribution

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GRDC’s Expenditure for 2006-07 as % of Total

- Commitments: 71.5%
- Employees: 4.2%
- Suppliers: 5.1%
- New Investment: 19.2%

Total: 120.7
Research Expenditure: 109.2
GRDC’s Forecast Income for 2006-07 by Source

- Graingrower Levy: 55.9%
- Australian Govt: 36.7%
- Interest, Royalty & Other: 7.4%
The GRDC’s Core Strategies

**Vehicles (How)**
- Better varieties faster
- Better practices adopted faster
- New products
- Building industry and research capacity
- Best operating practices (BOP) in all processes and functions
- Assembling alliances, joint ventures and public/private partnerships
- 'Gateway' management on pathway to delivery

**Arenas (Emphasis)**
- Leader in agricultural R&D investment
- Whole of industry approach and buy in
- Reduce national R&D fragmentation and duplication
- Australian grain growers effectively competing in global grain markets
- Path to market - delivery and adoption
- Environment & Sustainability

**Differentiators**
- Funded by statutory levies
- National mandate & focus
- Independence
- Panel system
- Breadth and strength of intellectual property
- Information base to develop products
- National "one stop shop" for agricultural R&D business
- Our people

**Core Strategies**
- Market-driven R&D
- Delivering government priorities
- Growth and leveraging of total grains R&D investment
- Coordinate national grains R&D agenda/portfolio

**Staging (Speed & Sequence)**
- Board approval
- Internal alignment
- Achieve BOP
- Verifying the national portfolio balance
- Set the agenda with 'buy-in'
- Investigate structures
- Monitor and manage implementation, performance and impact assessment

**Environment & Sustainability**
- Coordinate national grains R&D agenda/portfolio

- Market-driven R&D
- Delivering government priorities
- Growth and leveraging of total grains R&D investment
- Core Strategies
SMART OZ: Agriculture

RISING PRODUCTIVITY ............
Annual Productivity growth
Average from 1977-78 to 2001-02

“Agriculture is reaping the benefits of a revolution in skills and technology …”

Source: Australian Financial Review
Tuesday 22 March 05
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Source: ABARE
Total Factor Productivity (TFP) in Australian broadacre agriculture and growers’ terms of trade, 1953-2003
The value of productivity growth in the Australian agricultural sector, 1953-2003
Figure 7.7 Trends in wheat yields (kg/ha/year) 1982 to 1997 for statistical local areas of Australia.

Wheat yield trend (kg/ha/yr)

- < 0
- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 80
- > 80
1969 Rainfall

Growing Season Rainfall
April to October
152mm

Total rainfall 217mm
Yield 400kg / ha
2002 Rainfall

Total rainfall 164mm

Growing Season Rainfall
April to October
110mm

Yield 990kg / ha
Importance Placed on GRDC Playing an Investment Role

Cereal rust management: 19% Fairly Important, 77% Very Important, 97% ▲ 1
Developing new varieties: 18% Fairly Important, 77% Very Important, 96% -
Herbicide resist management: 18% Fairly Important, 76% Very Important, 94% ▲ 1
Soil health and biology: 31% Fairly Important, 63% Very Important, 93% -
New niche grain products: 43% Fairly Important, 39% Very Important, 81% ▲ 2
Responding to climate change*: 31% Fairly Important, 50% Very Important, 81% ▲ 8
GM technologies: 30% Fairly Important, 49% Very Important, 79% ▲ 1
Ag engineering technology: 46% Fairly Important, 33% Very Important, 78% ▲ 2
On-farm soil measurement: 46% Fairly Important, 30% Very Important, 77% ▼ 1
Segregation of grain: 33% Fairly Important, 29% Very Important, 62% ▼ 3
On-farm storage: 36% Fairly Important, 21% Very Important, 57% ▲ 5

*Note: New in 2006 survey
Wheat breeding…..

• Collaborative Pre-breeding research funded by industry and government

• 2-3 world leading wheat breeding programs funded by EPRs

• Independent NVT funded by industry and (government in WA).
Wheat tonnes attracting EPR - Australia
(based on AWB variety receival % and ABS/ABARE tonnage)
Adoption of EPR attracting varieties has been significant

Wheat and barley EPRs settling at $2 to $3/t

EPR has 3 components.

- **Collection fee** – charged by accumulators to collect EPR. 10 to 14 cents per tonne
- **Management fee** – charged to commercialise (bulk, process and service) varieties 10 to 40 cents per tonne
- **Breeder royalty** – payment to breeders 50 cents to over $2 per tonne
EPRs – are here to stay!!

- PBR Act
- Trade Practice Act
- Competitive Neutrality rules
- Equitable incentive based system for rewarding excellence in plant breeding
- Fosters private investment
- Access to international IP
- Sustainable wheat breeding programs
EPRs – way forward

- New varieties must meet the value promise
- Cost of seed set at levels to maximise adoption
- Large quantities of high quality seed in first year to maximise uptake
- Allow ‘over the fence trading’ to maximise adoption
- EPRs set at levels that do not restrict adoption
- Collection system standardised/centralised
Conclusion

- The model has been successful and adaptive to meet emerging industry challenges/needs
- The RDC system is a major infrastructure in its own right
- To continue must maintain support of producers and Government
- The system will be reviewed and evaluated
- Increasing requirement to evaluate and demonstrate return on the investment