Grains Industry Capacity Audit

- What is the Grains Industry National RD&E Strategy?
- Audit objectives, data and contributors
- Snapshot of 2011/12 capacity
- Trends since 2007/08
- Future priorities
Grain Industry National RD&E Strategy

- Avoid unnecessary duplication and fragmentation
- Improved coordination, collaboration and priority setting
- Increased operational efficiencies
- Research, development and extension:
  - Research – National
  - Development – Regional
  - Extension – Local

Released May, 2011
Objectives and contributors

- Why do an audit?
- Data
- Contributors
- Considerations
National human resource capacity

1800 FTE (2400 people)
- 53% professional
- 33% technical
- 14% students
Human capacity (FTE) in organisations

2011/12

- **CSIRO**
  - (277 FTE)
  - 15%

- **Universities**
  - (753 FTE)
  - 42%

- **State agencies**
  - (769 FTE)
  - 43%
Key changes in expertise

2007/08 (n= 1385)  2011/12 (n=1549)

- Crop nutrition
- Soil science
- Modelling / Decision support
- Agronomy
- Entomology
- Plant nematology
- Plant pathology
- Plant physiology / biology
- Grain chemistry & processing
- Extension / capability building
- Plant /quantitative genetics
- Molecular biology
- Plant breeding

People (FTE)
Expertise (Total 1799 FTE)

- Variety development: 35%
- Farming systems: 31%
- Plant protection: 14%
- Plant physiology/biology: 8%
- Grain processing and food: 3%
- Extension: 3%
- Agricultural economics: 2%
- Management: 2%
- Market research and intelligence: 2%
- Other: 0%
- Management: 3%
- Market research and intelligence: 2%
- Other: 0%

**Grains Industry National Research, Development and Extension Strategy**
Case study: DAFWA

- Major: Farm business productivity
- Major: Disease management (modelling and diagnostics)
- Major: cereal pre-breeding–abiotic and biotic stresses

Human resource capacity (FTE)

- Plant breeding
- field technician
- Bioinformatics / Biometrics
- Agricultural economics
- Modelling / Decision support
- Plant pathology, entomology and nematology
- Molecular biology/genetics
- Plant physiology / plant biology
- Soil science and crop nutrition
- Agronomy
- Extension / capability building
- Management, policy and regulation

2007/08 vs 2011/12

GRAINS INDUSTRY NATIONAL RESEARCH, DEVELOPMENT AND EXTENSION STRATEGY
Student capacity (post-graduate by research)

- 249 FTE 2011/12 (143 FTE in 2007/08)
- Most popular areas of study:
  - Plant physiology/biology (53 FTE)
  - Crop nutrition (20 FTE)
  - Soil science (19 FTE)
  - Weed management/science (18 FTE)
  - Plant/quantitative genetics (14 FTE)
Student capacity (post-graduate by research)

Western region (29 %)
- Agricultural economics
- Modelling/decision support
- Environmental/resource science

Northern region (11%)
- Grain processing and food technology

Southern region (51%)
- Agricultural engineering
- Bioinformatics/biometrics
- Entomology
Succession planning

- 390 positions
  - Plant pathology (40)
  - Soil science (38)
  - Agronomy (35)
  - Plant physiology/biology (30)
  - Grain processing/food technology (21)
Gender and age

- No change between audits
- 64 per cent male : 36 per cent female

Age range of people

- <35 yrs
- 35-50 yrs
- >50 yrs
Infrastructure

- Queensland Alliance for Agriculture and Food Innovation, Brisbane, Qld
- I.A. Watson Grains Research Centre, Narrabri, NSW
- AgriBio, Bundoora, Vic
- Managed environment and GM crop evaluation facilities

Others in planning:

- Australian Export Grains Innovation Centre, Perth, WA
- Australian Grains Gene Bank, Horsham, Vic
Future priorities

- Understanding private sector capacity
- Partnerships and collaboration between public-private sector
- Capacity building to address shortages in grains industry R&D expertise
- More effective use of national infrastructure – including commercial sector
- Creating systems to ensure more active management of national RD&E
Implementation Committee

*Provide ongoing oversight and coordination*

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