

Senate Standing Committee on Rural and Regional Affairs and Transport

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2007

Agriculture, Fisheries and Forestry

Question no: GRDC 01

Division/Agency: Grains Research and Development Corporation

Topic: Water-use efficiency, drought tolerance and climate change

Hansard page: 70-71 (23/05/07)

Senator Heffernan asked:

CHAIR—Would there be any sort of material available that you would have that would inform this

committee of the work that has been going on there?

Mr Enright—There are a number of research projects for which we could certainly provide detail.

CHAIR—I think we as the Senate's Rural and Regional Affairs and Transport Committee would be

interested to be informed by anything that you could make available.

Mr Reading—We would be happy to do that..... We are happy to provide that information. We are also doing work on climate variability where we are looking at better forecasting tools in terms of being able to predict in-rainfall and in terms of the decisions farmers can make regarding whether they should plant the crop in the first place and what levels of nitrogen application they should make. All of those factors are going into it. But we are happy to provide details of all of those programs, and if you want some more specific information or more detail, we can provide that as back-up. Would there be any sort of material available that you would have that would inform this committee of the work that has been going on there?

Answer:

In 2006-07 the GRDC invested in the following projects related to water-use efficiency, drought tolerance and climate change:

Project Title	Research Partner	Activity
Australian Centre for Plant Functional Genomics	Australian Centre for Plant Functional Genomics	Discovery of traits and genes for drought tolerance
Genetic controls of root impedance and drought signalling	Australian National University	Discovery of genes involved in sensing the onset of drought
Wheat ERECTA/ERECTA-like genes: proof of function on water-use-efficiency and potential for breeding improved germplasms	Australian National University	Identification and characterisation of candidate genes for 'water use efficiency'
Wheat trait, genes and germplasm for adaptation to water-limited environments in the northern region	CSIRO Plant Industry	Application of drought physiology and gene discovery to the development of molecular markers and

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		germplasm for the Northern Region
Maintaining wheat grain number and size during reproductive stage drought stress.	CSIRO Plant Industry	Novel approaches to sustain grain size and grain number under drought stress
ICARDA Germplasm	ICARDA (International Centre for Agricultural Research in Dry Areas)	Two collaborative projects with ICARDA to develop wheat and chickpeas with enhanced drought resistance
Graingene III	CSIRO, Syngenta	Molecular markers for drought tolerant traits
Identifying Candidate Genes for Stay-Green in Sorghum	Queensland Department of Primary Industries	Discovery of genes that constitute the 'Stay-Green' adaptation trait
Integrating Crop Improvement Technologies for Rapid Yield Advance	Queensland Department of Primary Industries	Application of environmental modelling and molecular marker technologies to drought adaptation of sorghum
National Brassica Improvement Program	Victorian Department of Primary Industries	Specialty crop for low rainfall environments
GRDC Contribution towards Managing Climate Variability Program	Land and Water Resources R&D Corporation	Development of decision support tools for growers to manage climate risk
CropMate - climate information for crop production	NSW Agriculture	Development of decision support tools for growers to manage climate and weather risk

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Hansard page: 73 (23/05/07)

Senator Siewert asked:

Senator SIEWERT—I understand you are providing some more information but can you just say how much on each one?

Mr Reading—Sure.

Mr Enright—Yes, we can give that breakdown on all the programs.

Senator SIEWERT—That would be appreciated.

Answer:

In 2006-07, the Grains Research and Development Corporation invested more than \$4 million in the areas of water-use efficiency, drought tolerance and climate change as shown below:

Project Title	GRDC investment
Australian Centre for Plant Functional Genomics	\$400,000
Genetic controls of root impedance and drought signalling	\$260,274
Wheat ERECTA/ERECTA-like genes: proof of function on water-use-efficiency and potential for breeding improved germplasms	\$222,027
Wheat trait, genes and germplasm for adaptation to water-limited environments in the northern region	\$864,263
Maintaining wheat grain number and size during reproductive stage drought stress.	\$186,000
ICARDA Germplasm	\$175,000
Graingene III	\$448,984
Identifying Candidate Genes for Stay-Green in Sorghum	\$147,149
Integrating Crop Improvement Technologies for Rapid Yield Advance	\$359,000
National Brassica Improvement Program	\$200,000
GRDC Contribution towards Managing Climate Variability Program	\$953,097
CropMate - climate information for crop production	\$78,989
Total	\$4,294,783