

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Supplementary Budget Estimates November 2014

Agriculture

Question: 167

Division/Agency: Grains Research and Development Corporation

Topic: GRDC – update

Proof Hansard page: Written

Senator EDWARDS asked:

1. Can you please inform the Committee of any works being commenced in South Australia currently?
2. What has been any early estimates of the impact of Beet Western Yellow Virus on canola crops in South Australia's mid-north and lower Eyre region in land area and financial terms?

Answer:

1. The Grains Research and Development Corporation has contracted a number of research, development and extension investments directly with organisations based in South Australia commencing from 1 July 2014.

Organisation	Project
Ag Consulting Co Pty Ltd	GRDC Extension and training program
Ag Excellence Alliance Inc	Delivering multiple benefit messages - A partnership with NRM - Southern Region
AgCommunicators Pty Ltd	Grains industry education resources
AgCommunicators Pty Ltd	Develop the GRDC West Corporate display
Australian Centre for Plant Functional Genomics	GRS - Jayachandra Rongala (UA) Cereal Transport Proteins Involved In Boron Toxicity Tolerance: How Natural Variation And Sequence Diversification Relate To Structural And Functional Properties
Australian Controlled Traffic Farming Association Inc	Application of CTF in the low rainfall zone
Australian Grain Technology	Independent Directors -Australian Grain Technologies
CSIRO Land and Water	Understanding biological farming inputs
CSIRO Plant Industry	Nitrogen inputs by Free living (FL) nitrogen fixing bacteria – Grower messages
CSIRO Sustainable Ecosystems	Impact of weeds on Australian grain production and adoption of no-till cropping practices

CSIRO Sustainable Ecosystems	EverCrop: developing new mixed farming options
Department of Primary Industries, an office of the Department of Trade & Investm	BWYV outbreak 2014 – Coordination, communication and forensic analysis
Eyre Peninsula Agricultural Research Foundation	Maintaining profitable farming systems with retained stubble - upper Eyre Peninsula
Flinders University	Beneficial Microbes Program 2- progressing new microbial products for Australian grain production to commercialisation.
Flinders University	GRS - Vijira Wanniarachchi (UF) Alternative respiratory genes can improve tolerance to abiotic stresses in cereals
Jon Lamb Communications	Final Report Editing for GRDC Website for advisers and growers
Lower Eyre Agricultural Development Association (LEADA)	Profitable farming systems with retained stubble on Lower Eyre Peninsula
MacKillop Farm Management Group	Maintaining profitable farming systems with retained stubble in the South-East and KI regions
Northern Sustainable Soils FSG	Best management practice for Sulphur nutrition in Dune Swale landscape
Partners in Grain Inc.	Managing the Grain Growing Business
Plant Biosecurity Cooperative Research Centre	New tools for field grains surveillance and diagnostics of high priority pests
Polymers CRC Ltd	Polymers for improving soil moisture management and cropping productivity
Porter Novelli	Issues-Based Campaigns: In the field with John Harvey
Porter Novelli	Regional Communicator Services - Southern
Porter Novelli	Communication Strategy
Porter Novelli	Value Case Studies
Raising the Barr Communications	Delivery of Technical Workshops – Understanding NVT, Crop Nutrition and Water Use Efficiency
Rural Directions Pty Ltd	National Coordination of Weeds Research
Rural Directions Pty Ltd	GRDC Resilient Grain Leaders
Rural Solutions SA - PRIMARY INDUSTRIES AND REGIONS , SA	Soil Acidity is limiting grain yield- SA component
South Australian Research & Development Institute SARDI	National surveillance of grains to manage Food and Feed Safety market risks - Node C
South Australian Research & Development Institute SARDI	National Oat Breeding Program: healthy and productive grain varieties for the future
South Australian Research & Development Institute SARDI	NVT Services Agreement
South Australian Research & Development Institute SARDI	Pulse germplasm enhancement - National coordination
South Australian Research & Development Institute SARDI	Improving yield and reliability of field peas and chickpeas under water deficit
South Australian Research & Development Institute SARDI	Pulse germplasm enhancement - Abiotic stresses
South Australian Research & Development Institute SARDI	Vetch varieties for grain and hay production for Australian farmers

South Australian Research & Development Institute SARDI	Improving weed management in pulse crops through herbicide tolerance - Part B
South Australian Research & Development Institute SARDI	Improving weed management in pulse crops through herbicide tolerance Part A
South Australian Research & Development Institute SARDI	Diamondback Moth (<i>Plutella xylostella</i>) Control and Insecticide Resistance Management
South Australian Research & Development Institute SARDI	Improved Management of Snails and Slugs
South Australian Research & Development Institute SARDI	National improved molecular diagnostics for disease management.
South Australian Research & Development Institute SARDI	DNA Tests for nematode community analysis
South Australian Research & Development Institute SARDI	Improved resistance to oat pathogens and abiotic stress management
South Australian Research & Development Institute SARDI	Managing Crop Disease - Improving cereal (wheat and barley) root disease resistance supplement
South Australian Research & Development Institute SARDI	Improving grower surveillance, management, epidemiology knowledge and tools to manage crop disease in South Australia
South Australian Research & Development Institute SARDI	Fungicide control of <i>Rhizoctonia</i> Part A
South Australian Research & Development Institute SARDI	New fungicide technologies for crown rot management
South Australian Research & Development Institute SARDI	Genetic options for nematode control in the southern region
South Australian Research & Development Institute SARDI	Maintaining profitable farming systems with retained stubble ? Component 1 Coordination Support
South Australian Research & Development Institute SARDI	Profitable crop sequencing in the low rainfall areas of South Eastern Australia
South Australian Research & Development Institute SARDI	Optimising nitrogen fixation of grain legumes - southern region
South Australian Research & Development Institute SARDI	MPCN II - Managing micronutrient deficiencies in cropping systems of eastern Australia
South Australian Research & Development Institute SARDI	MPCN II - Benchmarking wheat yield against nitrogen use
South Australian Research & Development Institute SARDI	PBA PhD - Improving metribuzin tolerance in lentil
South Australian Research & Development Institute SARDI	Traineeships in Applied Grains Research
South Australian Research & Development Institute SARDI	Physiology of Yield Determination in Chickpea (<i>Cicer arietinum</i> L.)
South Australian Research & Development Institute SARDI	IP Sub-Licence and Materials Supply Agreement - LMA
South Australian Research & Development Institute SARDI	Austalian Pastures Genebank
South Australian Research & Development Institute SARDI	Competitive ability evaluation of wheat and durum varieties
South Australian Research & Development Institute SARDI	NVT Services Agreement

The Australian Agriculture Communicators	Regional Science Writer Services – Southern
University of Adelaide	Late maturity alpha-amylase: A molecular marker-based, high-throughput, precise screening protocol
University of Adelaide	Increasing malt extract and the export competitiveness of Australian barley
University of Adelaide	Preharvest sprouting resistance (PHS) in wheat
University of Adelaide	Black point in wheat
University of Adelaide	Yellow pigments in wheat and wheat-based end-products
University of Adelaide	Late maturity α -amylase (LMA) in wheat
University of Adelaide	Improved Functionality of Grain Storage Products
University of Adelaide	Trait discovery in wild barley using the nested-association mapping population HEB-25
University of Adelaide	Australian National Frost Program - Coordination and Phenotyping
University of Adelaide	Development of salinity tolerant wheat and barley
University of Adelaide	Australian Wheat and Barley Molecular Marker Program - Genetic Analysis
University of Adelaide	Genomic selection: Development and utilisation in a commercial wheat breeding program
University of Adelaide	PBA Australian faba bean breeding program
University of Adelaide	Understanding and Management of Resistance to Group M, Group L and Group I Herbicides - National Project
University of Adelaide	Improved herbicide efficacy and longevity in southern no-till farming systems
University of Adelaide	Improving IWM practice of emerging weeds in the southern and western regions.
University of Adelaide	Advancement of new stem genes for stem and leaf rust resistance from uncultivated relatives of wheat. (continuation)
University of Adelaide	Extension of nitrogen fixation program outputs to end users - southern region
University of Adelaide	MPCN II - Tactical Foliar P Fertilisation of Dryland Crops
University of Adelaide	Improving phosphorus use efficiency in wheat and barley
University of Adelaide	Grains Industry Research Scholarship - Foyjunnessa (UA) Assessing management options for enhancing soil phosphorus availability using rotations
University of Adelaide	Grains Industry Research Scholarship - Laura Blake (UA) Use of novel wheat (waxy durum) in baking applications
University of Adelaide	Grains Industry Research Scholarship - George Dimitroff (UA) (1,3;1,4)- β -D-glucan biosynthesis in the Poaceae: Exploring transcriptional regulation, associated expression and specific activities of biosynthetic enzymes.
University of Adelaide	Grains Industry Research Scholarship - Courtney Peirce (UA) Foliar Fertilisation Of Wheat Plants - Phosphorus in Combination with Other Nutrients
University of Adelaide	Grains Industry Research Scholarship - Juanita Lauer-Smith (UA) Characterisation of novel forms of beta-glucanase in malting barley
University of Adelaide	Grains Industry Research Scholarship - John Hayles (UA) Nanotechnology and chemical-free approach for the protection of stored grain
University of Adelaide	Grains Industry Research Scholarship - Jana Phan (UA) Identification of arabionxylan biosynthetic genes in plants

University of Adelaide	GRS - Jessica Mackay (UA) Biological farming systems: is there a role for mycorrhizas and organic amendments in the grain industry?
University of Adelaide	GRS - Kenton Porker (UA) Manipulating and understanding barley phenology to maximise yield potential
University of Adelaide	Theme PhD Scholarship - Kym Perry (UA) DBM dispersal and colonisation of Australian canola crops
University of South Australia	Mechanical weed seed termination at harvest
University of South Australia	Grains Industry Research Scholarship - Kylie Foster (USA) Whole-of-plant study of salinity tolerance: A mathematical modelling approach
University of South Australia	Grains Industry Research Scholarship - Josh Chopin (USA) Mathematical and Computational Modelling for the Phenotypic Analysis of Cereal Plants
Upper North Farming Systems	Maintaining profitable farming systems with retained stubbles in Upper North SA
Viterra Ltd	Juncea canola development for Australia
WDM Design & Advertising	Ground Cover Paddock Diary 2013-14 and 2014-15
Yeruga Crop Research Pty Ltd	Maintaining profitable farming systems with retained stubble on Yorke Peninsula and the mid North of South Australia

There are also a range of RD&E investments for 2014-15 being negotiated or evaluated as a part of the GRDC investments process implemented in accordance with the Australian Government Procurement Guidelines.

The GRDC investments portfolio also includes a significant number of national investments, and investments in other States and Territories that may benefit SA or involve RD&E being undertaken in SA.

Organisations based in other States and Territories contracted to GRDC to undertake RD&E projects may also subcontract work to SA based organisations.

2. The land area estimated to be affected by Beet Western Yellow Virus in the lower and mid North of South Australia was approximately 10 000 hectares of the 64 500 hectares sown to canola.

Estimated tonnes of canola expected to be harvested in 2014 in the lower and mid-North of South Australia will be 69 000 tonnes compared with the five year average of 103 200 tonnes annually. This equates to financial losses of approximately \$20 million across this region in 2014. The yield loss across the majority of this area cannot be solely attributed to Beet Western Yellow Virus as this region was also affected by drought, frost and Diamondback moth. Estimated losses are based on the following:

- 5 per cent of the canola crop has suffered 75 per cent yield loss (directly attributable to Beet Western Yellow Virus as infection occurred at seedling emergence)
- 75 per cent of the canola crop has suffered 40 per cent yield loss (attributable to a combination of Beet Western Yellow Virus, drought, frost and Diamondback moth)
- 20 per cent of the canola crop will produce average yields (1.6 t/ha)

Question: 167 (continued)

The land area estimated to be affected on Lower Eyre Peninsula was 1000 hectares. As infection by Beet Western Yellow Virus occurred later in the season, losses were generally lower (estimated at 5-10 per cent across this region).