Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2017

Department of Agriculture and Water Resources

Question Number: 102

Division/Agency: Grains Research and Development Corporation

Topic: Staffing levels compare to other RDCs

Proof Hansard Page: 103 (24.05.2017)

Senator STERLE asked:

Senator STERLE: How do the staffing levels compare to other RDCs, would you know?

Dr Jefferies: I have got an idea, but I would have to take that on notice. I know some but I do not know all of them. I would have to take that on notice.

Answer:

No. Grains Research and Development Corporation is not in a position to comment on the staffing levels of other Rural Research and Development Corporations or Companies.

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2017

Department of Agriculture and Water Resources

Question Number: 103

Division/Agency: Grains Research and Development Corporation

Topic: R&D spend in regional areas

Proof Hansard Page: 104 (24.05.2017)

Senator STERLE asked:

Senator STERLE: How much of the research and development dollar spend is in the regional areas? Do you have that information?

Dr Jefferies: Can I just clarify that question. Is it in terms of dollars that are spent on research conducted in regional areas?

Senator STERLE: Or anything to do with R&D, but in regional areas, yes. How much of your collection is spent?

Dr Jefferies: The majority. I would need to take the actual—

Senator STERLE: Yes, sure.

Dr Jefferies: But the majority of it is spent in regional areas.

Senator STERLE: If you do not have it there, you can provide it on notice.

Dr Jefferies: Yes, we can take it on notice if you want.

Answer:

The Grain Research and Development Corporation's (GRDC) purpose is to invest in research, development and extension to create enduring profitability for Australian grain growers. In 2015-16 GRDC invested more than $192.8 million in 898 projects to deliver new and improved varieties, practices, technologies and capability which directly benefit Australian grain growers based in regional areas. These projects were delivered by over 2,500 researchers from 283 partner organisations located throughout Australia. At the current time, it is not possible to interrogate the GRDC investment portfolio to determine specific expenditure in regional areas. GRDC is developing a new Investment Management Portal to allow this information to be gathered in the future.

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2017

Department of Agriculture and Water Resources

Question Number: 104

Division/Agency: Grains Research and Development Corporation

Topic: Commitment to cross-commodity research

Proof Hansard Page: 104 (24.05.2017)

Senator STERLE asked:

Senator STERLE: Okay. Can you just let us know what GRDC's commitment to cross-commodity research is?

Dr Jefferies: Cross-commodity?

Senator STERLE: Yes. Do you have cross-commodity research?

Dr Jefferies: Do you mean partnerships with other RDCs?

Senator STERLE: I probably mean—I do not know what I mean.

Dr Jefferies: Cross-commodity? Oh, I see.

Senator STERLE: Cross-commodity—another commodity.

Dr Jefferies: If you are talking about grain commodities, yes. We have multiple—

Senator STERLE: Well, that is what I thought. You are GRDC.

Dr Jefferies: Yes. We have numerous investments. Again, I would need to get this checked, but I would estimate that roughly 50 per cent would have multiple commodities—wheat, barley, pulses et cetera.

Senator STERLE: Yes, all sorts of stuff. Can you tell us how much you are currently spending on this type of research?

Dr Jefferies: Again, I would need to check the figures, but I think I estimate it at approximately 50 per cent of our R&D budget, which would mean it would approach $100 million.

Answer:

The Grains Research and Development Corporation's research portfolio covers 25 leviable crops spanning temperate and tropical cereals, oilseeds and pulses. Specific leviable commodities include wheat, barley, oats, sorghum, maize, triticale, millets/panicums, cereal rye, canary seed, lupins, field peas, chickpeas, faba beans, vetch, peanuts, mung beans, navy beans, pigeon peas, cowpeas, lentils, canola, sunflower, soybean, safflower, linseed.

Question Number: 104 (continued)

As at 30 April 2017, the 2016-17 investment portfolio totalled $168,543,815, with $97,894,366 of investments allocated to benefiting ‘all crops’; $20,639,460 to ‘multiple crops’ and $40,887,023 benefiting a ‘single crop’.

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2017

Department of Agriculture and Water Resources

Question Number: 105

Division/Agency: Grains Research and Development Corporation

Topic: Levy payers

Proof Hansard Page: 104-105 (24.05.2017)

Senator STERLE asked:

Senator STERLE: Yes. It would be interesting to know. Can you identify all your levy payers?

Dr Jefferies: No, not yet, but we hope the legislation that has allowed for a levy payers database should be able to facilitate that.

Senator STERLE: I remember that inquiry. Where are you up to with the levy payer database or register?

Dr Jefferies: We are in negotiations with the department, and we are collaborating closely with the department. We have agreed to be a pilot for the department as a model to see how we can do a levy payers database within grains and how that could be expanded into other commodities.

Senator STERLE: Seeing as we did do this inquiry three or four years ago, what is your time frame for completion?

Dr Jefferies: I cannot answer that question—I would have to take it on notice.

Answer:

The pilot levy payer register is expected to be completed by the end of 2017.

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2017

Department of Agriculture and Water Resources

Question Number: 106

Division/Agency: Grains Research and Development Corporation

Topic: CSIRO research – declining wheat yield

Proof Hansard Page: 105 (24.05.2017)

Senator RICE asked:

Senator RICE: Are you familiar with the work published by CSIRO earlier this year on declining wheat yield across Australia since 1990 due to climate impacts, which is showing that the yield potential declined by 27 per cent over the last quarter of a century?

Dr Jefferies: Yes, we are aware.

Senator RICE: Do you agree with the findings of CSIRO in this research?

Dr Jefferies: I personally have some reservations about some of the assumptions that underlie that particular study.

Senator RICE: I will put on notice, then, your reservations, plus what role GRDC is taking to support farmers in climate adaptation and in mitigation.

Answer:

The 'Climate trends account for stalled wheat yield in Australia since 1990' article reports that water-limited potential wheat yields have declined by 27 per cent over the period 1990 to 2015. The article states that this decline in water-limited yield potential has contributed to the slower rate of wheat yield growth observed in Australia since 1990. The study notes that together with climate trends a range of other factors may have contributed to the slowing of wheat yield growth, including soil degradation, the spread of cropping into less favourable areas and a reduction in public R&D expenditure. The article does not report on the relative contribution of these various factors to the observed reduction in wheat yield growth. The study does demonstrate that without GRDC investment in new varieties, any reduction in rainfall would have had a larger impact on grain yields over time.

The estimated 27 per cent climate-driven decline in water-limited yield potential is not fully expressed in national actual yields. This is due to an unprecedented rate of technology-driven gains closing the gap between actual and water-limited potential yields by 25kg/ha per year enabling relative yields to increase from 39 per cent in 1990 to 55 per cent in 2015. The yield gap for wheat in Australia is about 50 per cent of water-limited yield potential, and actual yield and is catching up to water-limited yield. This implies that an unprecedented rate of technology gains and adoption have taken place to keep pace with climate trends since 1990.

Question Number: 106 (continued)

ABARES released a report In May 2017 on climate adjusted productivity in broad acre agriculture titled “Farm Performance and Climate”. This report shows that total factor productivity in the grains industry increased by between 1.5 and 1.6 per cent per year over the past decade.

GRDC is aware of the potential impacts of climate variability on enduring grower profitability and the need for genetic tools to minimise these impacts. In 2015-16, GRDC invested $7.6 million in the development of tools and technologies to assist Australian wheat breeders to increase water productivity, improve reproductive heat tolerance and reduce reproductive frost sensitivity. GRDC’s long-term investment in the development and delivery of such genetic tools and technologies is having a positive impact on wheat yield gains as demonstrated by independent National Variety Trials (NVT) data, which is collected from over 200 wheat evaluation trials at more than 120 locations in regional locations each year.

Analysis of NVT data across all key production zones from 2011-2015 shows an average increase in wheat productivity of 1 per cent per annum for those wheat varieties released from 2005 to 2015.

The GRDC has also made substantial investments to evaluate the impacts of climate change on crop production and industry productivity. In the period, 2011-12 to 2015-16 GRDC invested $10,986,458 in climate variability projects. Nineteen of these investments were conducted in 2015-16 and were valued at $5,260,527. A significant amount of these investments are directed toward the Managing Climate Variability Program (MCVP) in partnership with Cotton Research & Development Corporation, Meat & Livestock Australia, Rural Industries Research and Development Corporation and Sugar Research Australia.

MCVP has specialised for over 20 years in helping producers deal with seasonal variability by funding a combination of basic climate research, development, extension and communication. MCVP has invested in seasonal climate forecasting and variability research for the benefit of Australian agriculture since 1993. This investment has been critical in the development of the Bureau of Meteorology’s seasonal forecast model, POAMA, and in the application and communication of seasonal forecasts to a wide range of agricultural enterprises across Australia. MCVP funding and support has been instrumental in focusing research and development on seasonal timescales both within the Bureau of Meteorology and in other research institutions such as CSIRO and universities.

Current investments include climate forecasting research projects aimed at improving the skill and value of climate forecasts and outlooks; climate forecasting services projects, which translate forecasting research into climate forecasting products and services; climate risk management tools projects, which create or improve decision-support applications and products and climate knowledge and communication projects, which focus on increasing awareness and promoting adoption of climate risk management practices on-farm.