

National Farmers Federation Congress

Speech by Enzo Allara

Good afternoon ladies and gentlemen and thank you for having me here today to discuss the importance of research in Australia's response to the world food shortages.

As Minister Burke has told us a number of times, there are two GFCs: one is the global financial crisis, and the other, the global food crisis.

It is this second crisis I'll address this afternoon and discuss how this is affecting Australian agriculture and forcing changes to our R&D priorities. Although ensuring agriculture has sufficient capital to invest in R&D and implementing new technologies is closely allied to what I am talking about today.

The Research Challenge

As our previous speakers have told us, we are in the grip of a global food shortage that has seen prices for a range of food commodities reach record levels. The global financial crisis has deflated the speculation around food markets but the underlying supply and demand situation remains unchanged.

In response, some researchers believe global farm outputs need to nearly double in the first half of the 21 century to fill demand without increasing real food prices¹.

¹ Luther Tweeten and Stanley R Thompson, Ohio State University, *Long-term global agricultural output supply-demand balance, and real farm food prices*, Farm Policy Journal, Vol. 6 No. 1, February Quarter 2009.

Australia is well placed to help meet this demand, assuming we can get our research priorities right.

Australia has an important role to play as it is one of the world's largest agricultural export nations with more than two-thirds of production exported, which in 2006-07 generated \$27.8 billion.

And Australia as a whole will benefit from capturing some of the opportunities global food growth represents because Australia's gross agricultural production was \$38.5 billion in 2006-07 – or around 2.8 per cent of GDP.

We have achieved this position not because of our natural agricultural resources (quite the opposite in some cases). We have achieved this position because of the investments made in the past (sometimes up to 30 years ago) in successful agricultural research, development and extension.

This research has delivered new technologies to Australian farmers who have a proven record of innovation and adaptation to volatile international markets and Australia's variable climate.

This research has been delivered through a history of government and industry commitment to rural R&D. Over the last 20 years a significant block of these commitments have been formalized in a unique R&D model—the Rural Research and Development Corporations based on industry levies and government funding, which last year was worth about \$540 million.

But now Australia's agricultural R&D community confront an escalation in the demands for new technology.

However, to meet this increased demand we have limited time and resources to respond.

The keys to meeting this demand are:

- getting the right set of priorities (sometimes operating with lag times of over 20 years)
- monitoring performance closely
- ensuring appropriate alignment between the investment portfolio with anticipated innovation requirements.

To get this equation right we need good feedback on investment performance and to gain a greater understanding of the impact R&D has on improving Australia's agricultural productivity gains.

Today I would like to talk to you about the how rural R&D can be more effective and efficient to assist farmers to meet the challenges they face.

Central to this is strengthening the close working relationship Government and industry has through the RDC model.

Productivity

Ladies and gentlemen, as Julian Cribb just told us, the global food crisis we now confront is not about to change any time soon.

A clutch of indicators point to future global food scarcity:

- declines in fisheries

- increasing global water scarcity
- land scarcity
- soil degradation
- and declines in agricultural R&D investment,

are all constraining future increases in food production.

In addition to the condition of productive natural resources, consumers are putting more emphasis on the way food is produced as Professor David Hughes has explained in his keynote address.

Consumers are demanding agriculture reduces its impact on the natural resources used directly or indirectly in food production such as:

- reducing carbon foot prints
- protecting biodiversity
- improving water quality
- and improving animal welfare,

to name some of the more prominent consumer interests.

Often these demands are satisfied by regulation of use or through other policies such as the CPRS. Sometimes they provide a point of differentiation such as organic production or meeting Landcare accreditation standards.

Often these demands conflict particularly perhaps more so when Governments choose to intervene (sometimes policies have unintended consequences).

Last year, the Food and Agricultural Organisation (FAO) of the United Nations looked at the link between biofuels and

food security and declared that the impact of biofuel production on poor consumers was “unambiguously negative” with resultant price increases as high as 30 per cent.²

While the RDC and more generally the research community do not engage in the policy debate, this is the job of the NFF, they play an important role in providing the evidence and coordinating the research responses.

So, Australian agriculture faces a number of challenges and opportunities (sometimes they are hard to differentiate at first).

The only sure way to position agriculture to deal with an uncertain future is to increase productivity gains. However, recent research suggests the developed country productivity improvements are at best static

As these slides from the United States Department of Agriculture show, Australian average annual Total Factor Productivity growth - that is, output per unit of aggregate input - over the 16 years to 2006, increased in a band between 1-2 per cent.

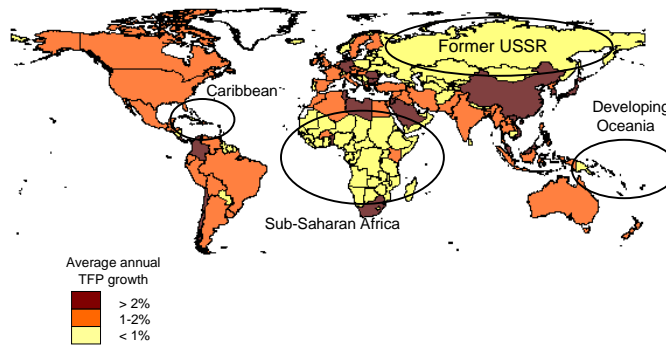
Likewise, Total Factor Productivity growth in the United States and Brazil over that period both stayed in a band between 1-2 per cent.

This compares with northern South America and the former USSR – particularly the nations I will refer to as the ‘Stans’ -

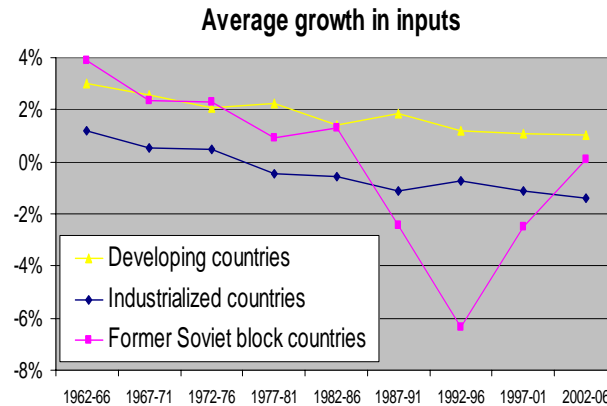
² IFPRI 2008, *Biofuels and grain prices: impacts and policy responses*. Mark W Rosegrant, Testimony for the US Senate Committee on Homeland Security and Governmental Affairs 7 May 2008, Washington DC.

which had growth of more than 2 per cent³. However, these states are coming from a very low base.

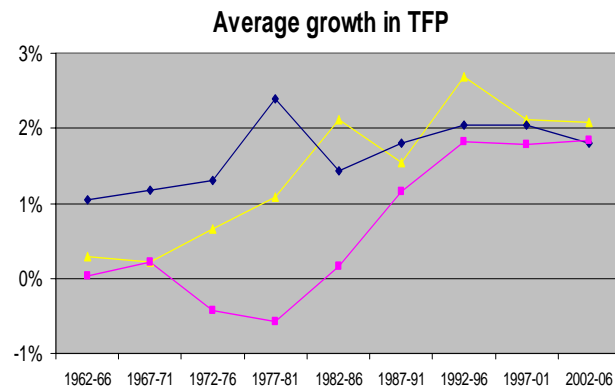
Agricultural TFP Growth by Country, 1970-2006
(circled regions show persistently low TFP growth)



In fact, as these next two slides shows average annual growth for global TFP has plateaued for the three global geographic sectors – industrialized, developing and former Soviet bloc countries.



³ Keith Fuglie, Economic Research Service, USDA- Presentation to the ABARE 2009 Outlook Conference Canberra, March 3-4, 2009, **U.S. Agricultural Productivity and International Comparisons**.



How do we address stalling productivity growth?

In a nutshell, we need to get more from our factors of production:

- Land
- Labour
- Capital.

While Australian farmers have a good track record, if we add in productivity gains need to offset the expected impacts of:

- climate change
- CO₂e abatement policies
- new food demand,

we need to do considerably better than long term trends.

In fact, over the past 50 years, crop and animal product productivity increases, not significant expansions of productive land, have been a major driver of food availability.

This increased crop production has come largely from increases in crop yields, with increased area under cultivation playing only a minor role.

For instance, since 1960 global cereal yields have increased 213 per cent while cereal area has risen only 5% ⁴.

While Australia needs to do more with less, there are signs that our agricultural productivity has reached a plateau.

Minister Burke's assessment ⁵ is that the productivity of a large proportion of Australian agriculture will be affected by climate change, through higher temperatures, longer and deeper droughts, more intense bushfires, reduced water availability, more extreme weather events and the resulting spread of biosecurity threats.

On the other hand we have heard of Dr Plimer who has presented a different view.

The RDCs have a responsibility to ensure credible independent research is undertaken to inform the policy debate. Our independence is important to enable the RDCs to continue to provide independent research on these topics.

However, a key message from both sides of the debate is the large climate variability Australia, and the rest of the world, faces.

Some recent climate change modeling suggests that production may fall by 16 per cent by 2020 ⁶ in response to climate change and climate change policy at a time, when to

⁴ Tony Fisher and Denis Blight, Crawford Fund, *Agricultural research and how Australia can help world food security*, Farm Policy Journal, Vol. 6, No. 1 February Quarter 2009.

⁵ Hon Tony Burke MP, Minister for Agriculture, Fisheries and Forestry, *Australia to have a key role in addressing the global food crisis*, Farm Policy Journal, Vol. 6, No. 1 February Quarter 2009.

⁶ Cline W, 2007, *Global warming and agriculture: impact estimates by country*. Center for Global Development and Peterson Institute for Development Economics, Washington DC.

feed the world, agriculture needs to be more, not less, productive.

This research not only predicts long term declines in production but increased variability of seasonal conditions.

I believe that the capacity of Australian farmers to adapt has been under represented by some of this modeling, provided R&D plays a central role in the climate change adaptation and climate change policy.

In other words, climate change is altering our agricultural priorities. And this means our research priorities must change, too.

How do we meet these challenges? Of course, Governments must maintain focus on agricultural R&D investment. However, we recognize that this must be done within the constraints of the collateral damage done by the global financial crisis.

- **First:** climate change research - adaptation and emissions mitigation - needs to be embedded in the ongoing productivity research which is the bread and butter of rural research. This is absolutely essential as climate change research cannot be done in isolation.
- **Second:** we need to ensure we have a nationally coordinated approach to RD and E. This extends well beyond the current industry plans being prepared as part of the PISC National RD and E plan for government sponsored R&D providers. A truly national response to the RD and E needs will require a clear understanding of the responsibilities of all participants in the innovation chain: Commonwealth and state

funded researchers, Universities, State and Federal Governments, RDCs, farmers and their representative organizations, and the rest of the supply chain.

- Each group needs to have a clear recognition of their role and that of others. We need to make sure that each group accepts their obligations in this process and is held accountable for their actions.
- As RDCs who are recipients of levy and public contributions, we look for representatives of these contributors to provide guidance for our investments and review the results:
 - Grower and researcher advisory panels are common across the RDCs
 - We also must take account of national research priorities set by the Government
- We also need farmer representative organizations to work with their constituents to understand that some of the local changes that they might see are part of a strategy to deliver greater efficiency and ultimately increase the amount of RD&E resources.
- **Third:** Australia needs to have the research capacity to put something on the table in international research forums and adapt innovations from overseas to Australian conditions
- **Fourth:** Australian agriculture needs to ensure we invest in our future scientific capacity and there is a clear career path to attract new rural research scientists of all disciplines.

- **Finally:** we need to constantly evaluate our performance to ensure that the research portfolio is optimizing the returns for those that contribute the funds. The primary role of RDCs is to collect levy and government funds and invest them in portfolio that achieves the widest possible returns across what is a heterogeneous research demand.

Regular evaluation of the portfolio allows us to review our portfolio to ensure that we identify projects that are dry wells and redirect resources to more prospective areas. Evaluation performance also allows us to 'test the margin' that is determine if we are over or under investing in R&D in certain areas.

Last December, the Council of Rural Research and Development Corporations Chairs, concluded its first round of portfolio impact assessment; the largest evaluation of rural R&D undertaken in Australia.

This independent research showed that every \$1 invested delivered \$11 in total benefits, to primary producers and the wider community.

While these are very robust metrics, the real message is that these early results suggest that there is a lot of research "left on the table". That is, strong returns across a random selection of projects means that the investment returns at the margin could be very strong and we have a lot of additional work to do.

These include:

- water use efficiency

- food safety; animal welfare
- adapting to climate change
- and predicting climate variability.

NFF Chair David Crombie was spot on when he said at the ABARE Conference in March that while our farm productivity growth has out-performed most sectors of the Australian economy over the past 30 years, there was no way the sector could sustain that productivity performance without the R&D to back it up.

David Crombie said: “Australia’s global competitive-edge is slipping into decline when we can least afford it.

“We need to be spending more. As well as needing to arrest this disturbing decline in food production, Australia needs to be positioning itself at the cutting-edge of the next wave of productivity opportunities.”

While there is considerable evidence that much research needs to be done and extra resources would continue to produce strong returns, the RDCs recognize the constraints on the public purse and industry funds and are working to improve the effectiveness and efficiency of the current investment portfolio. But we need to work closely with industry (the NFF) and government to constantly refine our portfolio.

Conclusion

As Minister Burke has said, Australia needs as much agricultural R&D as it can afford.

All of the speakers at this conference this morning have placed R&D (either explicitly or implied) centre stage to ensure Australian farmers exploit opportunities and deal with an uncertain future

I think Australia is nowhere near securing the maximum value this research model can deliver. The RDC through the CRRDCC is:

- constantly looking at ways we improve efficiency
- improving the way we engage with our constituents and provide credible independent advice to inform policy development.
- taking a leading role in developing nationally coordinated sectoral RD and E plans and beginning a process of developing cross sectoral plans
- continuously measuring our performance

We do not appear to have the luxury of 20 or 30 year research lag times we have experienced in the past.

We look forward to working with the NFF and the Government to confront these challenges.

Thank you.

ENDS