Response to the Productivity Commission Issues Paper into Rural Research & Development

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Executive Summary

The Australian Lot Feeders' Association (ALFA) believes that there is a strong argument for Government investment into rural Research and Development (R&D). Such investment not only provides benefit to industry by way of improved productivity and efficiency but also provides considerable spillover benefits to all Australians.

We also believe that the case for R&D investment into agriculture is compelling on the basis of both market failure and multiplier effects. Agriculture is dominated by small to medium enterprises, experiences more trade distorting Government assistance and protection in international markets than in any other industry, has extended lag times between idea development and R&D delivery; whilst Government R&D provision helps offset the market failure associated with the lack of provision of important services in rural and regional communities.

We also believe that the RDC model is fundamentally sound and does not require significant restructuring. It is sufficiently flexible, allows for considerable input, oversight and ownership from industry; and is not undermined by conflicts of interest. The model allows for collaboration between RDC's and with other R&D providers when possible, incentivises additional voluntary contributions from industry and offers good value for money for levy payers.

ALFA believes that the Commonwealth Government will need to play an increasingly important role in ensuring that Australian farmers can meet the R&D challenges into the future. To do this, all Australian Governments need to be more (not less) committed to this important sector.

Introduction and background

ALFA appreciates the opportunity to provide input into the Productivity Commission Issues paper into rural R&D.

ALFA is the peak body for the lot feeding industry representing approximately 90 per cent of feedlot capacity in Australia.

The Australian feedlot industry has a value of production of approximately $2.7billion while employing some 2000 people (all in rural areas) directly and almost 7000 more indirectly. Approximately 30 per cent of Australia's total beef slaughter, 80 per cent of beef sold in major domestic supermarkets and the majority of production growth in the beef industry over the last 10 years has originated from the expanding feedlot sector.

Among other roles and responsibilities, ALFA has a legislative obligation to determine priorities and activities in relation to the grain fed beef transaction levy. With respect to the R&D portion of the levy, this is achieved through an internal committee which provides project by project oversight to the $3.6million Meat & Livestock Australia grain fed R&D annual budget and activities.

Australia has a proud agricultural history. This is due in no small part to its ability to implement innovative R&D solutions that have enabled our farmers to improve productivity and efficiency. Average productivity growth over the last 30-years has been 2.8%-a-year. This has ensured our competitive advantage in the world market where 66% of our produce is sold. The development of the stump jump plough, combine harvester, wheat breeding for drought and disease resistance, wheeled and tracked tractors, the milking machine, the sugar cane harvester, travelling irrigators and even the humble 'ute' has given farmers the tools to produce more product, more efficiently.

In the pioneering days of Australia's history, technology and innovation were used to overcome the obstacles faced by farmers trying to make a living off impoverished soil and very dry land.

Since then, we see farmers making use of technology and innovation to remain viable players in a keenly competitive international market, while ensuring the sustainability of their social, economic and biophysical environments. Into the future, rural R&D will continue to help the agricultural sector meet the challenges associated with the rising cost of agricultural inputs, declining commodity prices, climate change and meeting the increasingly discerning needs of consumers.

The challenges posed for the grain fed cattle sector are symptomatic of those in other Australian agricultural industries. Importantly such challenges are increasing (not decreasing) and the need for rural R&D arguably more important into the future than they have ever been in the past. With world food production needing to double between now and 2050 to meet the requirements of a burgeoning population, Australian farmers will be expected to help achieve this goal with less water, less arable land, less fertiliser, a hotter climate and a trend of declining real investment in rural R&D. At the same time it is reasonable to expect that farmers terms of trade will continue to decline meaning productivity and efficiency improvements will be required to ensure farmers remain viable.

ALFA believes that there is a strong case for Government to play a leading role in ensuring Australian farmers meet these challenges via R&D investment. We also believe that the RDC model is the best approach to ensure that the needs of Government and industry can be met into the future.

Rationale for Australian Government investment in rural R&D

Investment in rural R&D through the Research and Development Corporation (RDC) framework provides considerable benefits to all Australians. Importantly such investment serves to leverage total R&D funding thereby creating far greater benefits for Australians than would otherwise be the case. Notably, the average return on investment for each dollar invested in RDC projects is $11[1].

Though not exhaustive, some of the general benefits of rural R&D include the following;

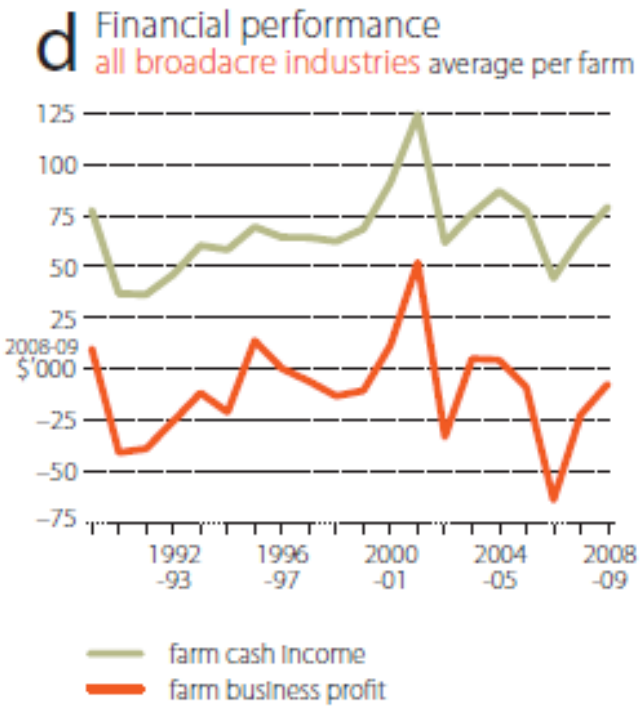
- it enhances the global competitiveness of the rural sector by improving productivity and efficiency
- it delivers direct and indirect benefits by way of employment and growth thereby sustaining rural and regional communities,
- it facilitates the development of considerable terms of trade benefits to Australia's economy due to agriculture's export orientation,
- it allows Australian farmers to adapt to the changing demands of the environment and consumers
- it allows Australian agricultural exports to compete in international markets distorted by various support and protection mechanisms
- it delivers improved biodiversity
- it reduces greenhouse gas emissions and improves carbon sequestration thereby benefiting the environment.
- it reduces soil erosion, salinity and improves water quality for consumers
- it reduces food-borne infectious diseases
- it increases efficiency in water use
- it improves biosecurity and hence reduces the risk of the importation and spread of disease
- it facilitates a more sustainable use of natural resources
- it reduces chemical use and waste

[1] RIRDC, (2008), *Measuring economic, environmental and social returns from Rural Research and Development Corporations' investment*, p 6, sourced from the internet 7/6/10, http://www.ruralrdc.com.au/WMS/Upload/Resources/Evaluation/Rural%20RDC%20Eval%20Report%20low%20res.pdf

- it delivers safe, affordable and plentiful food to families in Australia and around the world.

Notably, there is also a compelling market failure case as to why agriculture should benefit from Government support in the provision of R&D via the RDC's;

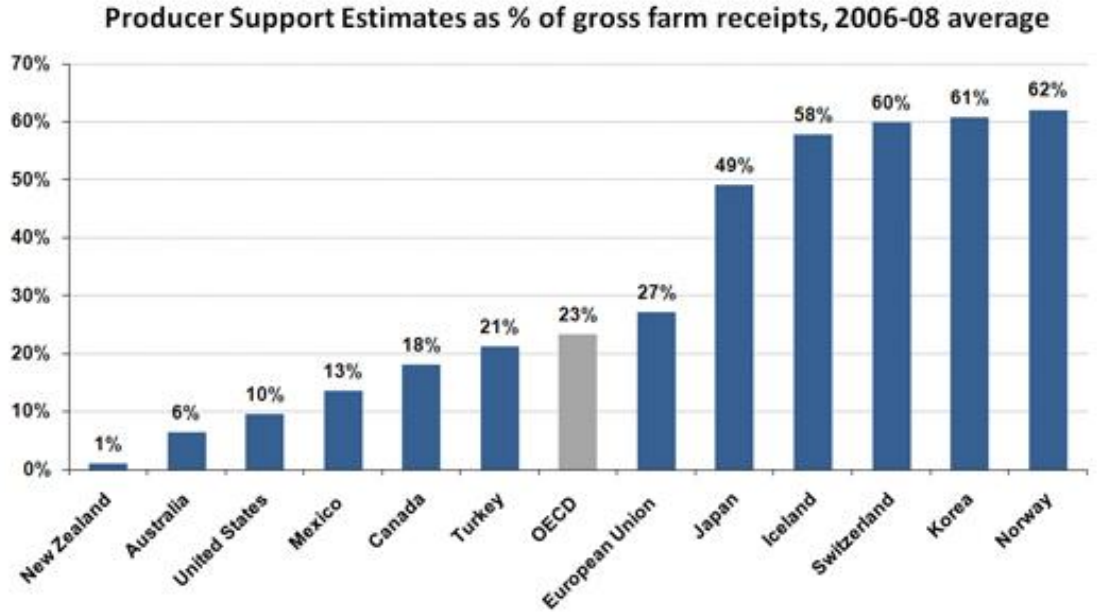
- The agriculture sector is dominated by small to medium size enterprises which causes challenges such as scale, free rider issues, information failure and risk aversion. In this regard the beef cattle feedlot industry is no exception with 66% possessing a capacity less than 1000 standard cattle units. Importantly these farmers have low average incomes and are price takers meaning that the ability to replace Government R&D funding with increases in levy or other contributions would be extremely limited leading to underinvestment in R&D. For instance, the Australian Bureau of Agricultural Research Economics concluded that average farm profits for broadacre businesses in 2008/09 was -$7,000[2]. It would also mean that R&D would not address broader industry issues as individual farmers don't have the capacity, skills or information to allow this to occur.



- International trade in agricultural products is more distorted by Government assistance and protection than in any other industry. Importantly, Australian farmers receive the second lowest level of Government assistance among OECD countries with only 6% of Australian farm income derived from Government[3]. With Australia being the second largest exporter of beef in the world with around 65% of its produce going to over 100 markets, it is vital that our farmers can remain internationally competitive through the ongoing provision of matching Government R&D dollars.
- The benefits in rural R&D often have extended lag times which would provide a significant deterrent should individual farmers be required to fund themselves. Generally speaking it takes at least 5 years between idea generation and completed R&D. Accordingly, individual producers would have to incur the costs of R&D for this time period before their expense could be potentially recouped.

[2] ABARE (2009), Australian Farm Survey Results, sourced from the internet 7/6/10 http://www.abareconomics.com/publications_html/economy/economy_09/afsr09.pdf
[3] OECD (2009), *Agricultural Policies in OECD Countries: Monitoring and Evaluation*. Sourced from the internet 7/6/10 http://www.oecd.org/document/54/0,3343,en_2649_33773_43202422_1_1_1_37401,00.html

- There is also a strong case to argue that there is current market failure in the delivery of public and private services into rural and regional communities. Government rural R&D investment helps supports rural and regional communities given its multiplier impacts thereby assisting Government address some of these difficult social and economic challenges.



In addition, if the compulsory R&D levy was removed, it would be reasonable to expect that R&D would be solely focussed on productivity and efficiency, its benefits would not be socialised as readily (leading to lower adoption rates) and spillover benefits for the wider community would significantly diminish. It would also be expected that investment in long term strategic R&D would not take place as this would provide a less attractive investment option for limited levy funds than projects focussing on productivity and efficiency. It would also be expected that expensive agricultural research would be not be undertaken if matching Government R&D dollars was unavailable through the RDC model given the costly nature of such activity.

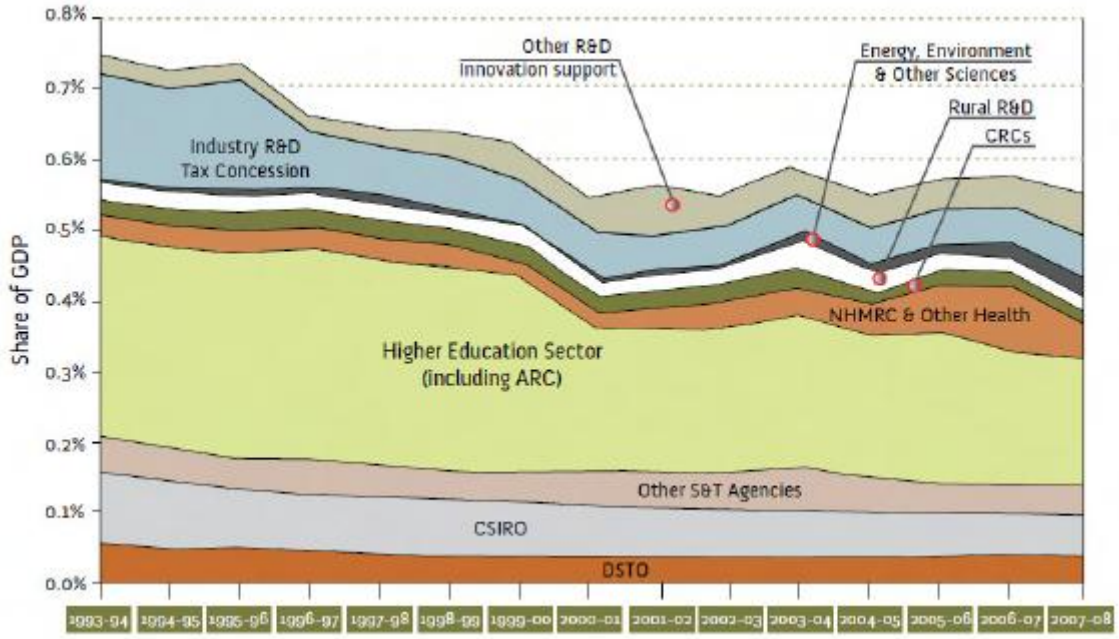
The appropriateness of current funding levels and arrangements

It is extremely difficult to quantitatively determine the optimum level of investment in agricultural R&D. Basic economics suggest that this occurs when the marginal cost of R&D provision equals its marginal benefit. However, given that marginal benefit for much R&D is difficult to quantify (eg environmental projects) whilst often having considerable time lags (at least 5 years), this process is extremely problematic.

Regardless, there is a clear case that the quantum of R&D funding provided by Governments needs to increase. There has been a 30 year real decline in global scientific research to lift agricultural production in both developed and developing countries[4]. In Australia, state Governments have steadily reduced agricultural R&D expenditure while at a Commonwealth level, R&D expenditure has similarly fallen when expressed in real terms or as a proportion of GDP.

[4] Cribb, Julian (2009), *Tackling the Global Food Crisis,* Farm Policy Journal, Australian Farm Institute, February quarter

Commonwealth Government R&D expenditure from 1993/94 to 2007/08 as a proportion of GDP[5]



Notably, industry has not been able to completely fill the void left by the gradual removal in particularly state Government R&D and resource capacity. This is largely due to the limited scope for farmers to increase levy contributions (given their low average incomes) and the fact that project work reduces income certainty hence incentives for career development compared to other industries. Accordingly, the important role of the Commonwealth Government to contribute towards rural R&D will not diminish into the future.

ALFA makes no apologies for the fact that it has always applied a scrutinising ruler to the expenditure of grain fed beef transaction levies, whether it is for R&D, marketing, animal health or residue management. The breakdown of the grain fed beef transaction levy per head is as follows;

Grain Fed Cattle Levies	
MLA - R&D	$1.50
MLA - Marketing	$3.08
National Residue Survey	$0.29
Animal Health Australia	$0.13
TOTAL	**$5.00**

As a peak body, whilst we have legislative obligation to determine priorities and activities for levy funding, we also believe we have a responsibility to ensure that the levies of industry participants are spent judiciously and prudently. This dual accountability to both industry and Government is a key tenet of the RDC model.

ALFA has internal committees which are closely aligned to these key levy components and has developed terms of reference for each committee to closely monitor performance by these service providers. From an R&D perspective, ALFA maintains an extremely close working relationship with MLA to ensure that research is closely aligned with the needs of industry and developments in legislation, customer requirements etc. At a formal level, updates regarding

[5] Core, Peter (2009), *A Retrospective on Rural R&D in Australia,* a background paper for the Rural Research and Development Council.

the grain fed beef R&D portfolio activities and budgets are presented at ALFA quarterly meetings whilst constant out of session discussions are maintained. Importantly, ALFA's input into the R&D process is all encompassing with Councillors representing diverse views across the supply chain given the vertical integration within the industry. Representatives are also geographically dispersed across Australia therefore enabling local R&D requirements to be met. This model provides independence and due diligence to the R&D process within MLA. It also provides the opportunity for a more strategic approach to be undertaken.

In addition, ALFA requires MLA to provide on a regular basis detailed information regarding its program support costs as a proportion of overall grain fed R&D expenditure. The provision of this information enables ALFA to ensure that as much levy income as possible is devoted towards R&D projects rather than on internal corporate overheads that don't directly benefit the industry.

ALFA also regularly alters the levy amount between R&D and marketing functions to ensure that levy income is sufficient to address funding priorities. ALFA maintains a close watching brief on R&D and marketing reserves in this regard and adjusts the levy accordingly. In particular, ALFA sees investment of levy funding into R&D to be a higher priority than marketing and hence the focus in more recent years has been to increase the R&D portion of the levy at the expense of marketing. Notably, the total levy attributed to MLA does not alter, merely the amount allocated between R&D and marketing. By way of example, in 2008 ALFA obtained industry and Government support for an increase in the R&D portion of the levy from $1.17 to $1.50 to ensure funding was available for important R&D projects such as emission abatement measures. The marketing component of the levy decreased by the same amount ie from $3.41 to $3.08. The ability to adjust the levy within MLA provides important flexibility to ensure that R&D priorities are funded and their benefits adopted by the industry. It also readily demonstrates ALFA's hands on approach to the management of levy expenditure on behalf of our industry.

The effectiveness of the RDC model in enhancing the competiveness and productivity of Australia's rural industries

The key benefits of the current RDC model over other alternatives are as follows:

- the broad scope of rural research activities that may be funded by an RDC
- a more rational and integrated approach to R&D priority setting and a stronger focus on outcomes
- close involvement of industry throughout the whole process of priority setting and reporting
- the flexibility to expeditiously alter R&D funding activities and priorities towards its most valued use as developments occur
- governance by independent Committee's such as within ALFA that are charged with taking a strategic approach to rural R&D, and
- dual accountability to both industry and the government.

The grain fed beef cattle industry is an amalgam of a number of different agricultural industries. It has important synergies with the extensive grass fed beef cattle sector given that all grain fed cattle spend the majority of their lives in a grass fed environment before arriving at feedlots to be finished. It has synergies with other intensive animal production systems (eg animal welfare, environment management, planning issues) given the more industrial nature of these activities. Lastly, it has important synergies with the grain industry given that this commodity comprises around 20-25% of the cost of production in a beef cattle feedlot business (the second largest cost behind cattle purchases). Accordingly, it is of no surprise that the grain fed cattle industry conducts considerable collaborative research across these industries with the RDC model providing an important vehicle for this to occur.

For example, under the auspices of the 'Feedgrain Partnership' collaborative research between MLA, Grains Research & Development Corporation, Dairy Australia, Australian Pork Limited and Australian Egg Corporation is currently being undertaken. The Partnership was formed to bring together the organisations with involvements in the Australian feedgrain industry so that a whole of supply chain R&D strategy could be developed based on industry guidance, and by integrating the resources of R&D agencies.

The key objectives of the partnership are as follows;

- Achieving substantial increases in average yields, and yield robustness, for sorghum, barley and triticale
- Improving the utility of feedgrains to end-users
- Trial, and to the extent practicable, commercialise feedgrain quality identification technologies
- Maintain a core data collection capability, and consult with industry/ government on data collection and dissemination issues
- Review supply chain efficiency to identify bottlenecks and initiate collective action where that can improve efficiency
- Act as focal point for organised industry consultation on R&D related issues
- Foster alliance building and communication across industry sectors

ALFA has been a supporter of this project for some years and has directed grain fed beef levies accordingly. The project provides a good example where RDC's can work cooperatively together to address common issues.

The RDC model and delivery of an appropriate balance between industry specific and wider community benefits

ALFA believes that the RDC model provides considerable flexibility to deliver an appropriate balance between industry and community benefits. Within the confines of the grain fed beef sector R&D portfolio, the majority of research delivers both industry and community benefits. For instance, whilst difficult to quantify, the environmental research undertaken by the industry has not only meant that Australian feedlots are world leaders in environmental management, but that its benefits are felt by both the industry and the wider public. Examples such as emissions abatement and the development of sustainable application rates for the use of manure and effluent as a soil conditioner readily come to mind.

Other research within the current grain fed beef R&D portfolio that will deliver community benefits includes the following;

Research topic	Community benefit
Management of feedlot dags	Reduced potential for bacterial contamination of beef
Grain devitalisation	Ability to import grain thereby reducing costs of production and hence potentially beef retail prices during drought
Managing manure contaminants	Reducing food safety risks associated with manure/ effluent used as a soil conditioner
Reusing effluent water	Reduced water use and hence less pressure on ground & surface water systems
Odour modelling	Reduced impact of feedlots on surrounding communities
Objective animal welfare measurement	Accurate determination of welfare state of cattle

Importantly, the RDC model provides flexibility that enables funding streams to adapt to the changing innovation and RD&E needs of the industry and broader community.

The RDC model and other R&D funding arrangements

It is ALFA's opinion that the RDC model is the most appropriate mechanism to deliver the desired R&D outcomes for the grain fed cattle industry.

The suggestion by the Productivity Commission of implementing a contestable grants based arrangement managed by Government has some obvious disadvantages to the RDC approach. It would remove the ability of industry to direct R&D dollars to their most valued use. It would also stymie the ability to direct R&D funding towards the plethora of R&D areas where no synergies and hence opportunities for collaboration with other industries exist.

The alternative suggestion whereby the levy and private sources would fund industry specific R&D whilst public funding would be directed towards research that delivers broad community-wide benefits to the CSIRO or Universities is also problematic. Such an option disregards the spillover benefits of industry specific R&D provided through RDC's and risks a lower level of adoption of public R&D outcomes because of lack of industry relevance. If such an approach was previously in place, it is without a doubt that important innovative breakthroughs would not have occurred. For instance the development of the Rhinoguard vaccine to address respiratory disease and the Meat Standards Australia research to accurately predict beef eating quality are two such examples.

The RDC model also provides considerable potential for additional voluntary contributions to industry R&D. Since 1999, MLA has been facilitating voluntary contributions by industry partners through its fully owned subsidiary, MLA Donor Company (MDC).

The objectives of the MDC *Partners in Innovation Program* are:

- To significantly increase the level of enterprise investment in innovation in the Australian red meat industry.
- To significantly enhance the outcomes of commercially focussed innovation thereby ensuring quantifiable commercial returns to individual enterprises and ultimately to the industry overall.
- To significantly increase the number of successful commercialisations thereby adding to the quantum of innovations available to the industry.
- To achieve commercial returns for MDC (where appropriate), which can be reinvested in programs and projects that grow the level of profitable innovation within the industry.
- To undertake research and development with individual enterprises to increase the innovation capability of the Australian Red Meat Industry.

ALFA has a strong commercial focus and maintains close linkages with key companies associated with the industry who can potentially provide additional R&D investment. For example, In October 2008, Pfizer Australia Pty Ltd wrote to MLA formally declaring their interest in the provision of funding towards the MLA Bovine Respiratory Disease (BRD) research project. This disease is the most important animal health issue in the feedlot industry. Notably the arrangement provides significant mutual benefits. Pfizer, by funding the project, is able to obtain baseline information critical to planning future investments in the area of animal health treatments. Industry is able to obtain significant leverage opportunities for its transaction levies whilst also benefiting from the commercial expertise and skills of such companies.

Whilst private R&D investment offers considerable potential and is incentivsed by the RDC model, it is clear that such funding can never hope to replace Government and levy funded R&D investment. Some of the reasons why include the following;

<u>Intellectual Property (IP)</u>

- Private R&D providers may wish to obtain IP ownership of R&D thereby creating potential issues if industry wishes to utilize that data/ information in future.

Pre-emptive use of information

- There will be an incentive on the part of private R&D providers to use R&D outcomes prior to the completion of particular projects. This can potentially be problematic if data inaccuracies are identified prior to project completion.

Socializing research outcomes

- Private industry R&D providers will naturally be reluctant to socialize R&D benefits if competitors are able to obtain 'free rider' benefits from private R&D expenditure.

Government incentive to reduce R&D expenditure

- Greatly increased private funding of feedlot industry research and development (R&D) may encourage Federal and State Governments to reduce their investment stake in R&D provision. This will have the greatest negative impact in R&D which does not involve increased sales of a good or service ie where the private sector will not have an interest eg strategic/ public good R&D.

Unhealthy funding leverage

- Unless appropriately managed, there is a concern that private R&D funding may provide unreasonable private company control over projects thereby jeopardizing important industry R&D if the private company wishes to withdraw their funding.

It is also clear that Australia does not have the market size to encourage significant private R&D investment. The fact that the commercial agricultural market place struggles to attract significant R&D investment in Australia is ample evidence in this regard. Examples in relation to animal health products and plant breeding readily come to mind.