AusBiotech submission regarding Agricultural Competitiveness Green Paper

To: Agricultural Competitiveness Taskforce
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Introduction

AusBiotech is pleased to submit to this consultation regarding Australia's agricultural competitiveness based on comments and submissions from AusBiotech members and from many years of working to grow Australia's strength in biotechnology.

AusBiotech is a well-connected network of over 3,000 members in the life sciences industry, which includes bio-therapeutics, medical technology, food technology, industrial and agricultural biotechnology sectors. The industry consists of an estimated 900 biotechnology companies and employs in excess of 45,000 Australians.

AusBiotech welcomes the government's recognition of the importance of primary producer access to modern technologies such as plant and animal genetics to increase farming productivity.[1]

As our primary producers are exposed to more extreme environmental conditions and greater commercial pressure to produce high quality products efficiently, bioscience will be a critical tool to manage individual farmer needs for sustainable productivity improvements. Bioscience offers farmers the ability to select crops and plant varieties for disease, pest or drought resistance and animals for improved reproductive performance, disease resistance or better profitability.

The need for Australian agriculture to continue to innovate and have the freedom to evaluate and adopt new technology was reinforced in the findings of the Creating Our Future — Agriculture and food policy for the next generation report (DAFF, February 2006)[2], which identified the foundations of long-term success for Australian agriculture and food which includes innovation.

Biotechnology offers a set of innovative tools that will create new and improved food and fibre products, more efficient and resilient farming systems with far-reaching agronomic, environmental, nutritional, human health and economic benefits. Such benefits will strengthen Australia's competitive position in global food and fibre markets and provide increased surety of supply for domestic consumers. However, to achieve these benefits significant changes in the research, development and extension (RD&E), education, commercialization and regulatory landscape will be required.

AusBiotech, through its member organisations, believes that to achieve a sustainable and competitive agricultural sector there are a set of priority activities that AusBiotech would recommend be adopted by the Australian Government as they support the overall direction and emphasis of the Green Paper.

[1] Commonwealth of Australia 2014, *Agricultural Competitiveness Green Paper*, Canberra

[2] Reference Group to the Minister for Agriculture, Fisheries and Forestry, DAFF, 2006, *Creating Our Future — Agriculture and food policy for the next generation* report - Report by the Agriculture and Food Policy. http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/food/creating-future/creating_our_future_summary.pdf

Recommendations

The recommendations of AusBiotech are as follows:

1. Provide the necessary resources and support through the Department of Agriculture to participate and engage in domestic and global initiatives that support the principle of coexistence along the supply chain and the trade of products produced from agricultural biotechnology.
2. Engage and provide the resources and support through the Department of Agriculture to facilitate the necessary changes to the regulatory system that will provide certainty and confidence in agricultural biotechnology dealings with Australian regulators.
3. Ensure Australian regulators such as the OGTR, FSANZ and the APVMA do not duplicate activities, and have integrated approaches to policy frameworks.
4. Ensure Australian regulators have the required resources and policy support to contribute and where appropriate lead efforts to implement international harmonized practices and common mutual recognition frameworks in safety assessment and regulation; and prevent duplication of efforts among regulators globally.
5. Develop an Australian focused commercialisation 'fast track' pathway for agricultural bioscience innovation that can contribute to Australia's competitive advantage in agricultural production.
6. Support initiatives that build science and business-management literacy in the agricultural sector including specialised education initiatives and support for industry events that in-particular target translation of agricultural biotechnology into commercial outcomes in agricultural production.
7. Drive the development of National RD&E strategies which ensure the continued adoption of sustainable, efficient and economically viable production systems for the different agricultural sectors.
8. Ensure that plans for adoption of innovations from agricultural biotechnology are a key part of any initiative including the greater involvement of the private sector. Funding should be made available specifically for translation of R&D results into outcomes for Australian agricultural producers.
9. Maintain support for the RDCs and ensure that they do not get consumed by the short-term thinking of the many vocal vested interest groups that exist in our diverse agricultural community. It is critical that for agriculture to prosper it must attract visionary industry leaders to the RDC Boards. Reviewing the focus, efficiency and productivity of RDC's aught to be done in a transparent manner with publically accessible reporting by the RDC's improved.
10. Encourage the best and brightest of our scientists to form internationally competitive RD&E consortiums to develop and commercialize innovative solutions which maintain Australia's competitive advantage in agricultural production.
11. Ensure that investment in the National RD&E strategy leverages cooperation between industry, research organisations and commercialisation partners, and that adequate time is provided during the consultation period for major funding initiatives.
12. Engage and provide the necessary resources and support through the Department of Industry and the Department of Agriculture for Australian based SME's which are

focused on the translation of agricultural biotechnology research into outcomes for the various Australian agricultural sectors.

13. Identify and address barriers to public sector discovery translating into a commercial pathway which ultimately benefits Australians and leads to an improved return on public sector research investment in agricultural biotechnology research.

Competition and Regulation

Australia is currently considered to have a competitive advantage in the use of genetic markers and artificial insemination for breeding in livestock, and on par with competitors in the use of DNA-based and protein-based diagnostic tests and disease treatments.

However, Australia is falling behind its competitors in many other areas of adopting agricultural biotechnology into mainstream agricultural production systems. Furthermore, competitors previously considered to be lagging behind Australia, including Brazil and China, are catching up fast. Therefore, Australia needs to ensure efforts continue to be applied to developing agricultural biotechnology applications where domestic challenges are presented for example growing crops in areas of low soil fertility and rainfall.

Australian agriculture needs to ensure it captures international developments and that it has an established pathway for the introduction and 'fast track' adoption of these innovations where they can contribute to Australia's competitive advantage in agricultural production. .

The importance of agricultural biotechnology to Australian agriculture and the broader economy is likely to come less from the size of the sector, and more from:

- the use of agricultural biotechnology across various sectors within agriculture;
- the way in which agricultural production systems are being reworked to take advantage of newly-developed agricultural biotechnology processes and products; and
- the outputs emanating from the various stakeholders that are either developing or using agricultural biotechnology.

The Australian Government's Gene Technology Regulator (OGTR) identifies and manages risks to human health and the environment for any genetically modified (GM) crop that is grown in Australia for trial or commercial purposes. The food safety regulator Food Standards Australia New Zealand (FSANZ) undertakes a pre-market safety assessment of all GM food ingredients whether they are produced domestically or imported into Australia. In conjunction with other regulatory agencies such as the Australian Pesticides and Veterinary Medicines Authority (APVMA) provide the statutory and governance framework for assessing and implementing operating systems which manage any potential risks of agricultural biotechnology innovations developed within or external to Australia.

One threat to the potential success of this important agricultural innovation is the lack of a nationally consistent scheme for gene technology regulation in Australia, especially where State governments incorporate additional layers of regulation over and above that required by the Federal Government. Unnecessary and overly stringent regulation or inconsistency in managing the regulatory process brings with it an equally unnecessary cost burden and high level of uncertainty to technology proponents and the industry.

All regulation should be commensurate with the associated risk, cost and benefit to the community. The current gene technology regulatory system in Australia, whilst excellent in

many respects, imposes a much greater level of regulatory burden on the industry than occurs in our competitor markets and this burden is exacerbated by unclear and inconsistent market interventions by state governments.

While the industry has seen significant improvements in regulatory agencies, such as the OGTR and FSANZ in relation to providing certainty and confidence in the regulatory compliance and approval process, concerns remain about the lack of performance of the Australian Pesticide and Veterinary Medicines Authority (APVMA). A recent example helps to illustrate these concerns. A major international vaccine manufacturer submitted a change of site of manufacture variation for a vaccine that had been sold in Australia for many years. The vaccine for Bovine Ephemeral Fever virus is used in the northern regions of the cattle industry. After two years this submission had not been dealt with and all existing vaccine supplies had either been sold or reached their expiry date. This situation left the cattle industry exposed to this disease with no treatment available. Unfortunately this is not an isolated example and urgent reforms are needed within the APVMA.

It is broadly recognised by the agricultural biotechnology industry that the APVMA needs to reform its administrative and management functions in order to improve its effectiveness, efficiency and economic performance as a regulator to the industry. This will not be achieved through amalgamation with other regulatory agencies such as National Industrial Chemicals Notification and Assessment Scheme. Rather the industry believes the Australian Government needs to engage and provide the necessary resources and support through the Department of Agriculture to facilitate the necessary changes that will provide certainty and confidence in agricultural biotechnology dealings with the APVMA.

Another threat to the future adoption of GM crops is the lack of synchronicity and mutual recognition between regulatory agencies when approving food, feed and environmental approvals. In 2013 it was estimated that 18 million farmers in 27 countries planted biotech crops, increasing the overall area planted to GM crops from 1.7 million hectares in 1996 to over 175 million hectares in 2013.[3] Worldwide, there are approximately 80 different types of GM crops that have been approved for commercialization in a range of crops in 16 countries. Most of these genetic modifications are in the four main crops: canola, soybean, maize and cotton. However, other commercially released crops including alfalfa, papaya, potato, squash, and tomato have also been genetically modified.[4]

Given that countries such as the USA, Canada, India and Brazil lead in the development of GM research and at the same time also engage in active research collaborations and trade with Australia in a number of crops across a range of products including raw ingredients and processed food products, there is a potential for unapproved GM crops[5] to gain entry into Australia by appearing as trace amounts in conventional imports leading to the 'unintended presence' of GM crops.

Although the handling and management of unapproved GM material is strictly regulated and monitored by various regulatory agencies within countries such as USA, Canada and Australia

[3] www.isaaa.org

[4] www.ogtr.gov.au

[5] Unapproved GMO's – ie The GM events have not been granted approval in Australian by the Office of the Gene Technology Regulator (OGTR) under a DIR License and/or received approval from Food Standards Australian New Zealand (FSANZ) for an amendment to the Standard 1.5.2 for food derived using gene technology.

the risk of unapproved GM material either inadvertently or deliberately becoming present within the supply chain increases substantially as the development of GM material migrates from the laboratory and glasshouse to field experiments and pre-commercial planting seed bulk and into commercial production (e.g. cross pollination, admixture, mislabeling, mishandling, handling equipment, transport etc.).

In recognition of the need to develop policy and operational frameworks to address the issue, the Canadian Government established The Global Initiative on Low Level Presence (LLP) which comprises a number of countries that have agreed to work together to try and develop a common policy approach to the management of LLP. The countries involved are Australia, Argentina, Brazil, Canada, Chile, Costa Rica, Indonesia, Mexico, Paraguay, Philippines, Russia, United States, Uruguay and Vietnam. Observers include China, Colombia, Korea, South Africa and the EU.

The Global Initiative on Low Level Presence (LLP) operates in conjunction with similar initiatives established by the Organisation for Economic Cooperation and Development (OECD) and CropLife International (CLI). This includes identifying and implementing strategies that aim to encourage information sharing, promotes harmonised practices and common frameworks in safety assessment and regulation, and prevents duplication of efforts among regulators globally.

It is essential that the Australian Government provide regulators such as the OGTR, FSANZ and the APVMA, the resources and policy support which will allow the respective agencies to take leadership and provide proactive support to these initiatives. For example it is critical that the Australian Government via the Department of Agriculture is represented at the next meeting of the LLP Initiative which is to be held in Mexico in March 2015. Non-attendance of the Australian Government will send the wrong message to other participants who support the initiative and are seeking to develop a globally acceptable outcome from the initiative for the trade of GM products.

Education, Skills and Training

Australia has a strong history of agricultural biotechnology research. Australian agricultural biotechnology publication citation rates rank highly in comparison to United States and the EU15 with 3.5% of the publication in the area. Effective translation of research outcomes into farm productivity requires strong science and business management literacy across the sector and particularly by farm managers and the farm extension workers. The prosperity of Australian agriculture in economic growth cannot be sustained in the absence of a community of inquiring and capable people, a steady pipeline of specialist STEM skills in the workforce, and general science and mathematical literacy in the community.[6]

The level of formal education in the agricultural sector is still relatively low but is growing in response to a focus on the needs of the modern agricultural practices.[7] However, inadequate business management, innovation and cultural competence skills have been identified as industry training priorities for participants in the Australian agricultural sector if Australia is to have a globally competitive, profitable and sustainable agrifood industry.[8] Farm business

[6] Office of the Chief Scientist 2014, *Benchmarking Australian science, technology, engineering and mathematics*. Australian Government, Canberra.

[7] National Rural Advisory Council 2013, *Report on the Workforce Planning capabilities of agricultural employers.*

[8] Agrifood Skills Australia 2014, *Environmental scan of the agrifood industry.*

managers that have a good understanding of business and financial management principles are better able to improve the financial performance and productivity of their businesses through better understanding of the implications of complex farm management choices.[9]

AusBiotech welcomes the Government Policy Idea 14 to work with States and Territories to provide specialised agricultural training. AusBiotech's members believe that in particular there should be greater strengthening of science and business management literacy in the agricultural sector to strengthen Australian's translation of agricultural biotechnology developments into productivity outcomes.

AusBiotech would welcome greater support for industry events that support industry with translation of agricultural biotechnology into commercial outcomes. Events such as the Agricultural Bioscience International Conference – to be held Melbourne in September 2015 – are fundamental to providing ongoing cross-sector workforce training and education.

Research, Development and Extension

One of the major reasons for Australia's dominance in agricultural publication citations is the existence of the 15 Research Development Corporations (RDCs). Australia has a long tradition of the various agricultural sectors collectively investing in RD&E through their different levy schemes, with the government matching these funds. This has provided long term stability and significant funds to CSIRO, DPI's and University groups to tackle the problems industry faces and develop the innovative solution that have helped to maintain our international competitiveness. In various economic reviews of these RD&E investments, the returns have been shown to be greater than $10 for every dollar invested.[10]

While it is important that Australia has developed a framework for creating a National RD&E strategy, this needs to go beyond the stage of mapping all of the existing resources to deciding on who are the 2-3 leading consortium in a particular field and focusing resources on these groups. The principles of the CRC scheme were essentially aligned with this concept; attract the best scientists in a field to create a critical mass to work together with Industry to address significant issues. The agriculture sector has been a major participant in the CRC scheme with 48 agricultural CRCs established.

AusBiotech strongly supports the principles of encouraging a greater exchange between researchers and industry and urges the government to ensure that any future investment in the National RD&E strategy leads to building stronger cooperation between industry and research organisations.

The issue of Food Security provides Australia with a significant opportunity to expand the value of our exports of high quality and safe proteins to the growing middle and higher income populations in Asia, however we cannot afford to be complacent. Many of our international competitors have significant opportunities to improve the productivity of their agricultural production systems, whereas in Australian the annual growth in productivity of Broadacre farming has dropped from 2.5% up to the 1990s to 0.8% since 2000. An important factor behind

[9] National Rural Advisory Council 2013, *Report on the workforce planning capabilities of agricultural employers.*

[10] Council Rural R&D Corporations (CRRDC) 2009 *Impact of investment in research and development by the Rural Research and Development Corporations*. www.ruralrdc.com.au

this decrease in productivity has been the very low rate of SME's emergence as a sector and the slow growth in public R&D investment.[11]

It is pleasing to see that the Government has prioritized agriculture as one of the five pillars of the economy, but it should be careful about implementing significant policy changes without allowing for industry consultation commensurate with the magnitude of the change and in consideration of other demands. A recent example has been the launch of a new $100 million rural RD&E programme, Rural R&D for Profit. The guidelines for this scheme were only announced on the 15th Oct 2014 with a deadline for full proposals set for the 15th Dec 2014. At the same time there is an on-going review of the CRC scheme, a Senate enquiry into levy funds and the announcement of five new Industry Growth Centres. A key component of the concept for these centres is that they be self-funding in 4 years, something that few people in the field would view as feasible given both overseas and local experience.

AusBiotech urges government to ensure that adequate time is allowed for consultation on major funding initiatives.

Conclusion

AusBiotech is pleased to have the opportunity to respond to the Agricultural Competitiveness Green Paper. Agriculture has rightly been identified by Government as one of the five pillars of the economy. AusBiotech believes that innovation and science, and more particularly agricultural biotechnology, will be central to the future productivity improvements of the sector, to industry's ability to compete with international markets, and to agriculture's contribution to the Australian economy.

[11] Gray, E.M. 2014 *Productivity in the broadacre and dairy industries*. Agricultural Commodities 4(1)162