



AgForce Grains

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Regulations Review
Office of the Gene Technology Regulator
Email: ogtr@health.gov.au

Dear Sir or Madam

RE: AgForce Submission on the Technical Review of the Gene Technology Regulations 2001

AgForce is the peak lobby group representing the majority of beef, sheep and wool and grain producers in Queensland. AgForce exists to ensure the long term growth, viability, competitiveness and profitability of these industries. Our members provide high-quality food and fibre products to Australian and overseas consumers, manage more than half of the Queensland landscape and contribute significantly to the social fabric of rural and remote communities.

As the peak industry body for grain producers in Queensland we would like to provide a submission to the Office of the Gene Technology Regulator (OGTR) on the Technical Review of the Gene Technology Regulations 2001. These technological reviews are pivotal in ensuring that the regulatory environment is in line with current practices and technologies in a rapidly changing production environment. This also foreshadows the review of the Gene Technology Act 2000 (Cth) in 2017, which will ideally take a broader view of regulation in biotechnology to provide clarity on how to deal with new and emerging technologies, rather than only addressing existing ones.

AgForce Grains supports Option 4 which excludes certain new technologies from regulation on the basis of the outcomes they produce, rather than the method used. From a grains industry perspective, access to new breeding techniques (NBTs) and technologies that safely enable improved productivity and profitability is paramount. To achieve this, there must be a regulatory environment that is consistent, predictable and encourages innovation.

In line with this, where NBTs—specifically oligo-directed mutagenesis (ODM) and site-directed nuclease (SDN)—do not pose unreasonable or increased risks to human health or the environment, AgForce Grains believes they should be excluded from this regulation. As cited in the Discussion paper: Options for regulating new technologies (the discussion paper), the Gene Technology Technical Advisory Committee has determined that SDN-1, SDN-2 and ODM are unlikely to pose risks that are different to naturally mutated organisms. This view is also mirrored by Food Standards Australia New Zealand

review of new plant breeding techniques¹. Similarly, the perceived risks associated with these techniques (unintended off target effects etc.), due to their site-directed nature, reduce these effects when compared to methods that induce random mutagenesis.

Further, as outlined in the discussion paper, it is difficult to detect these organisms without prior knowledge of the modification and as such, enforcement of compliance under any regulation would be problematic, if not impossible.

The adoption of Option 4 will provide regulatory certainty, enable greater commercialisation in plant breeding and ultimately quicker and more affordable access to new and improved plant varieties, thus assisting in the productivity and profitability of grain production in Australia. Emerging gene editing² and gene marking technology enables crop breeding programs in Australia to improve drought and disease resistance, salinity tolerance and increase yields. For example, editing of a single gene using the RNA-guided cutting protein 'CRISPR/Cas9' has increased canola seed yield by 37 per cent and increased drought tolerance³ and is equally applicable to wheat and barley plant breeding⁴. NBTs contribute to ecologically sustainable practices by intensifying crop production on the same agricultural footprint rather than expanding crop areas.

Option 4 is also in line with a boarder policy goal, which is to strive for a regulatory environment that is outcomes focussed, scientifically sound, evidence based and commensurate with risk. AgForce in its submission to the Productivity Commission's Inquiry into the Regulatory Burden Imposed on Farm Businesses Review into Agricultural Regulation in February 2016, identified that Queensland agriculture, at the state level, was affected by over 75 Acts and Regulations covering over 17,590 pages (excluding local Government by-laws, associated codes or Commonwealth legislation).

While the Gene Technology Regulations 2001 do not directly affect Queensland grain producers or contribute to AgForce's stocktake of regulation, the inclusion of NBTs under the regulations, stands to further inhibit an industry which is striving for better access to new and improved technologies such as genomics and phenomics⁵. Molecular markers

¹ Food Standards Australia New Zealand. 'New plant breeding techniques' <http://www.foodstandards.gov.au/publications/Documents/New%20Plant%20Breeding%20Techniques%20Workshop%20Report.pdf>

² Rural Industries Research and Development Corporation, 'Gene editing' <https://rirdc.infoservices.com.au/downloads/16-036>

³ Grains Research and Development Corporation, 2016. 'Is GM technology being superseded?' by Dr Brian Jones, University of Sydney. <https://grdc.com.au/Media-Centre/Ground-Cover/Ground-Cover-Issue-123-JulyAugust-2016/Is-GM-technology-being-superseded>.

⁴ Australian Centre for Plant Functional Genomics Pty Ltd, 2016. 'Plant transformation' <http://www.acpfg.com.au/index.php?id=68>

⁵ Grains Research and Development Corporation, 2016. 'National genebank a regional R&D powerhouse' <https://grdc.com.au/Media-Centre/Ground-Cover/Ground-Cover-Issue-124-SeptemberOctober-2016/National-genebank-a-regional-RD-powerhouse>

and other plant breeding research through groups such as Australian Grain Technologies⁶ and Pulse Breeding Australia⁷ have developed better varieties of wheat, barley, durum and pulse crops for Australian conditions. On the other hand, excluding certain NBTs from regulation would provide certainty for industry and a clear path-to-market thus enabling industry to quickly (and more affordably) develop and commercialise products through the use of NBTs. Option 4 also minimises trade barriers with other countries which also do not consider NBTs as GMOs.

If certain NBTs do not pose a risk, and on the contrary, offer the plant breeding industry novel ways to better and more expeditiously create improved products, this should be vigorously encouraged.

If you would like to discuss this further, please contact _____, Grains Policy Director, by phone on _____ or by email at _____.

Yours sincerely

Wayne Newton
AgForce Grains President

⁶ Australian Grain Technologies, 2016. 'Plant breeding research' <http://www.agtbreeding.com.au/agronomic-information/breeding-research>

⁷ Pulse Breeding Australia, 2016. 'PBA Research Priorities' <https://grdc.com.au/Research-and-Development/Major-Initiatives/PBA/PBA-Research-Priorities>