



9 September 2014

Far North District Council
Attn: District Plan Department
Private Bag 752
KAIKOHE 0400

Dear Madam or Sir,

Re: Submission on Proposed Plan Change 18 - Genetically Modified Organisms (GMO)

Summary

NZBIO is the industry association for New Zealand's bioscience community. Our role is to help advance New Zealand's economic growth by assisting companies developing high value businesses from bioscience. While NZBIO members have a variety of interests, NZBIO has no direct financial interests in commercialised genetically modified organisms (GMOs).

NZBIO has concerns around the general way GMOs are treated in the proposed Plan Change¹ and in particular opposes proposals to prohibit release and restrict trials of GMOs. This stance will unnecessarily restrict the use of a technology that could meet the aims of the District's Plan 'to sustainable management of the natural and physical resources of the Far North District "in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety". The proposals will limit the district's ability to deal with climate change. They impose considerable economic risks on the ratepayers of the district and add expense and potential risks of litigation to council operations. The proposals are not based on fact-based evaluation of the potential risks and benefits of the technology and any actual risks are well managed by existing national regulation.

About NZBIO

NZBIO is the industry association for New Zealand's bioscience community. The aim of NZBIO is to advance New Zealand's economic growth by assisting companies developing high value businesses from bioscience. With over 60 corporate members and another 70 individuals, NZBIO has broad representation of the sector in the country from multi-national pharmaceutical companies to small start-ups.

As well as what might be considered 'core biotech companies' - those for which bioscience is the main activity and are focused on the production of bioscience products, we represent companies and organisations involved in primary production - such as forestry, farming and food production, industrial and environmental research and technologies, high tech manufacturing, alternative fuels, human therapeutics, diagnostics and devices, animal health products, and biologically-based clean tech companies.

¹ Plan Change 18 – Genetically Modified Organisms <http://www.fndc.govt.nz/services/environmental-policy-and-forward-planning/the-far-north-district-plan/plan-changes/plan-change-18>

Bioscience is obviously already a strong contributor to the New Zealand economy with core biosciences companies exporting \$0.5B in 2011² (the last year for which figures are available) and industries based on bioscience, such as the more advanced end of the food and agritech industries, contributing substantially more. The bioscience sector also invests a significant amount in R&D; \$101m by private industry in 2012,³ an investment that is aimed at increasing the productivity and export returns of the sector. If New Zealand is to reach the Government's goal of doubling exports in real terms by 2025 this investment by industry will need to be strengthened in what is very much a biobased economy.

NZBIO is not funded by any company currently commercialising GM agricultural products.

Introduction

NZBIO has strong reservations about the way GMOs are to be treated under the proposed plan change.

These proposals are:

- Likely to limit the economic growth of the district while providing no substantial benefits
- Likely to limit the district's ability to respond to climate change
- Based on a report which contains a number of misconceptions.
- Going to involve the Council in considerable expense to ratepayers to replicate functions provided by central government and protections provided by existing law, and are
- Likely to open the council to significant potential legal liability in replicating these functions,

In NZBIO's view these proposals in the draft plan are being driven by a small and vocal minority pursuing an anti-GM agenda for ideological rather than fact-based reasons. The proposals are being promoted without regard to the potential environmental and economic damage to the district, and the country, that not being able to use the technology in a timely fashion could cause.

Economic Risks

In NZBIO's view the most important risks from the proposal are economic. The district's, and particularly New Zealand's, economy is substantially based on primary production. This will be the case for the medium and even the long term. Resources in terms of land availability, water and labour are already stretched to achieve the district's current output. The environment is threatened by destruction of natural habitats, nutrient run off and contamination as agricultural production grows to meet the district's economic goals.

Clearly, if the local and domestic economies are to be maintained or even grow; more will have to be done with less resource in terms of both the quantity of primary production and the value achieved from it. GM is one tool amongst many that could achieve this goal and has proven to be a safe and effective one. Overseas experience shows that where the technology is available it is rapidly adopted

²http://www.stats.govt.nz/browse_for_stats/industry_sectors/science_and_biotechnology/Bioscience_HOTP2_011.aspx

³Research and Development in New Zealand: 2012' Statistics New Zealand, 15 August 2013, http://www.stats.govt.nz/browse_for_stats/businesses/research_and_development/research-development-in-NZ-2012.aspx

by farmers because it gives a better economic return.^{4,5,6} While the technology has yet to be applied in the field to a species of significance to New Zealand agriculture, a considerable amount of research has been conducted in New Zealand on improving species of importance to the country. These technologies could be applied in the near term to improve returns and lower resource use in agriculture but the proposals in the plan will prevent this in the Far North District.

Climate change is expected to make Far North hotter, dryer and windier⁷ which will have a considerable impact on the district's agriculture. The proposed plan has objectives to mitigate these effects while proposing to ban a technology that is well placed to help.

New Zealand, once a world leader in temperate climate agricultural production, has seen that position steadily eroded by Australia and particularly South America. Both areas are investing heavily in GM research and have accepted the use of commercial GM crops such as soya, maize, canola and cotton, which fortunately are not major crops in New Zealand. It is likely that these countries will begin using GMOs in areas such as horticulture, meat and dairy production where they will compete directly with New Zealand and Northland growers. This will place farmers in the district at a significant commercial disadvantage. The proposals in the draft plan will reinforce that situation and delay catch up by New Zealand farmers.

New Zealand and the Far North District have the chance to use GM without the issues around its initial adoption in row crops. The underlying technology has advanced significantly in recent years and a number of patents on the base technologies have expired. This means that New Zealand-based companies can commercialise the technologies without multinational influence and the concerns this may raise. It also makes it economically viable to develop products specifically for the New Zealand market which are too small to interest the multinationals. Advances in the technology have now made it possible to introduce traits that enhance product characteristics as well as lower production costs that can be specifically applied to the New Zealand situation.

Consumers are less concerned about GM than has been supposed and furthermore New Zealand is increasingly targeting markets, such as Asia (China is now our largest export market after Australia) and South America including for high value products. In these regions acceptance of GM has not been an issue and first generation GM crops are already in wide use. Studies have shown that even in Europe⁸, consumers express a spoken preference for non-GM products but when it comes to

⁴ Online Data Set, Adoption of Genetically Engineered Crops in the U.S., USDA, <http://www.ers.usda.gov/data-products/adoption-of-genetically-engineered-crops-in-the-us.aspx#.UvGTE2KSx8E>

⁵ 'Genetically Modified Crops' in 'FAO Statistical Year Book 2012, ,' FAO 2012, <http://www.fao.org/docrep/015/i2490e/i2490e04d.pdf>

⁶ Part 7, 'Economic Impacts of Transgenic Crops' in 'Agricultural Biotechnology: meeting the needs of the poor?' Food and Agriculture Organisation, 2004, <ftp://ftp.fao.org/docrep/FAO/006/y5160e/y5160e02.pdf>

⁷ Ministry for the Environment climate change projections for the Northland region <http://www.mfe.govt.nz/issues/climate/about/climate-change-affect-regions/northland.html>

⁸ 'Consumer Benefits and Acceptance of Genetically Modified Food,' Knight, J.G, Mather, D.W. and Holdsworth, D.K, University of Otago, 2005, <http://otago.ourarchive.ac.nz/bitstream/handle/10523/1605/ConsumerbenefitsGMOs.pdf?sequence=2>

purchase are happy to accept GM products with a price or quality advantage. GM status has been shown in consumer surveys to be a secondary consideration in purchasing decisions.⁹

In the 'Managing Risks Associated with Outdoor Use of Genetically Modified Organisms, Draft Section 32 Report' to the Northland Councils,¹⁰ which has raised the anti-GM proposals in the proposed changes to the District Plan, the authors make an economic argument that has not stood the test of time. They assert that in 1996 the \$300m exports of canola from Canada to Europe collapsed when Canada introduced GM varieties. However, the price of canola was relatively constant and farmers did not suffer as other markets were found. It is now 2014 and in 2012 Canada exported 31,000 tonnes of canola oil, 72,000 tonnes of canola meal and 101,000 tonnes of canola seed to the European Union, second only to exports to the US and China, despite widespread adoption of GM in Canada.¹¹ It is disappointing that a report published in 2013 relies on 1996 data without follow up. A Tasmanian Government report from 2013 estimates that the state has lost over \$40million in canola revenue due to its GMO ban.¹²

The scientific 'risks' identified in the Draft Section 32 Report have been thoroughly debunked by the Royal Society of New Zealand¹³ the country's leading scientific organisation.

A significant part of the change in consumer attitude is due to the continuing penetration of GM into the market for staple crops.¹⁴ The vast majority of soya production is now GM (79% of global planting) and a substantial amount of maize (32% of global planting, 84% of US production). Both are widely used as feed for animals in the US and South America which are exported as meat to Europe without significant effect on consumer choices. Europe also imports significant amount of GM stock feed. The European Union is in the process of licencing its second GM maize variety.¹⁵

GM ingredients are in over 70% of processed foods in the US. No health issues have been reliably related to the use of GM since it first appeared in the food chain nearly a decade ago. Were there any issues, the scale of GM consumption would have ensured they would have shown up. A broad range of national and international science organisations¹⁶ and scientific bodies have reviewed evidence on the consumption of GMO derived foods and found no health risks posed beyond those

⁹ 'Consumer views of GM food,' UK Food Standards Agency, 2003, http://multimedia.food.gov.uk/multimedia/pdfs/gm_rep.pdf

¹⁰ 'Managing Risks Associated with Outdoor Use of Genetically Modified Organisms, Draft Section 32 Report' Auckland Council, Far North District Council, Kaipara District Council and Whangarei District Council January 2013, <http://www.wdc.govt.nz/PlansPoliciesandBylaws/Plans/Genetic-Engineering/Documents/Proposed-Plan-Change/Final-GMO-Section-32-Report-2013.pdf>

¹¹ Online Data Set, Canola Council of Canada, <http://www.canolacouncil.org/markets-stats/statistics/>

¹² '2013 Review of the Moratorium on GMOs in Tasmania' Tasmanian department of Primary Industries, Parks, Water and Environment, November 2013, <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/EGIL-53876E?open>

¹³ 'Managing Risks Associated with Outdoor Use of Genetically Modified Organisms, Commissioned Report, RSNZ, July 2014 <http://www.royalsociety.org.nz/expert-advice/commissioned-reviews/yr2014/managing-risks-associated-outdoor-use-genetically-modified-organisms/>

¹⁴ Summary of 2013 Global Biotech Crop Report, ISAAA, January 2014

<http://www.isaaa.org/resources/publications/briefs/46/infographic/default.asp>

¹⁵ E.U Pushes Forward with GM Corn, The Scientist, February 13, 2014 <http://www.the-scientist.com/?articles.view/articleNo/39158/title/E-U--Pushes-Forward-With-GM-Corn/>

¹⁶ 'A decade of EU-funded GMO research' European Commission, 2010 http://ec.europa.eu/research/biosociety/pdf/a_decade_of_eu-funded_gmo_research.pdf

of the non-modified versions. Indeed, the anti-GM lobby which based a substantial amount of its opposition to GM on health fears and deliberately targeted the emotive issue of food for children has largely abandoned this line of argument. Recent action from these groups has revolved around the involvement of multinationals in GM seed sales. This is not a direct consequence of the technology and further is unlikely to be the case in New Zealand or the Far North District given the size of the market is not attractive to the multi-nationals currently producing GM seed.

The risk identified by the report to Northern District Councils in adopting GM is that it would impact on the premiums for organic produce. This can be avoided by good management of the use of GM technology. In a report prepared for the Tasmanian government, there was no evidence found that organic food grown in a GMO Free region attracted an additional premium over food grown in a region where GM crops were grown.¹⁷

Unnecessary replication of existing regulatory systems

There is no need for the Far North District to impose conditions on GMO release. New Zealand already has one of the most robust set of laws and regulations around the management of GM in the world. The addition of another layer of red tape at local body level is unnecessary and will be costly to the Council.

Existing regulations and commercial law ensure that conventional agricultural practice, involving the use of sprays and other material that can damage organic status, works comfortably alongside organic certified farms. The use of GM can be dealt with in a similar fashion without the need for further bureaucratic intervention. The Environmental Protection Authority (EPA) has strong processes in place to ensure safeguards are put in place around genetically modified projects and equally strong liability conditions in place should these safeguards be breached.

It is notable that the draft plan does not propose additional controls on non-GM organisms newly introduced to New Zealand, which are, in fact, likely to have a much more damaging effect on the district's environment. National regulations very effectively control their release, a position accepted by the council: the difference being the emotion around GM rather than an assessment of the facts.

Conclusion

The proposals in the draft plan to ban release and restrict trials of GMOs, imposing additional regulation over that required by the EPA, contradict the District Plan's aim to achieve *'sustainable management of the natural and physical resources of the Far North District "in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety"* by restricting the use of a technology that could achieve it. GM has provided significant economic, social and environmental benefits¹⁸

¹⁷'An attitudinal assessment of key domestic market gatekeepers,' FreshLogic, November 2013
[http://www.dpiw.tas.gov.au/inter.nsf/Attachments/RJOS-9EA2HK/\\$FILE/Freshlogic_Tasmanian%20GMO%20Moratorium%20Attitudes%20Report_RFQ%2013-0156_Final%20\(3\).pdf](http://www.dpiw.tas.gov.au/inter.nsf/Attachments/RJOS-9EA2HK/$FILE/Freshlogic_Tasmanian%20GMO%20Moratorium%20Attitudes%20Report_RFQ%2013-0156_Final%20(3).pdf)

¹⁸ Adoption of biotech crops continues, Get Farming Australia, 17 February 2014
http://www.getfarming.com.au/pages/farming/news_view.php?nid=14020087

It is notable that the Australian states of Queensland and Victoria have recently lifted bans on GMO release. Tasmania has recently continued its moratorium on GM release. A comparison of these states' economic performance is a clear indication of the success of the measure.

Consumers¹⁹ and even former GM opponents are realising that GM is a valuable technology to meet environmental and social goals. Mark Lynas, environment campaigner and once a leading voice against the use of genetic modification has now apologised for his stance saying that "the biggest risk of all is that we do not take advantage of all sorts of opportunities for innovation."²⁰ Let us hope that it does not take the far North District and New Zealand another 20 years to catch up. Former Greenpeace activist and Canadian ecologist Patrick Moore has accused Greenpeace of 'crimes against humanity' for its stance against Golden Rice, a GM solution to vitamin A deficiency amongst poor children in the tropics.²¹

The value of GM crops have already been shown by their safe consumption by 10s of millions of people, intensive scientific research into their safety, their widespread adoption by farmers seeking improved financial returns and their general acceptance by consumers. There is therefore no reason to impose the prohibited activity status.

No part of this submission needs to be withheld under the Official Information Act 1982.

Yours sincerely,



Will Barker
Chief Executive
ceo@nzbio.org.nz
+64 27 700 8122

¹⁹ 'Public Attitudes Towards Biotechnology in Australia', Australian Department of Innovation, Industry, Science and Research, <http://www.innovation.gov.au/industry/nanotechnology/PublicAwarenessandEngagement/Documents/AustBioAttitude2010.pdf>

²⁰ 'Lecture to Oxford Farming Conference, 3 January 2013' Mark Lynas, <http://www.marklynas.org/2013/01/lecture-to-oxford-farming-conference-3-january-2013/>

²¹ 'Former Greenpeace leading light condemns them for opposing GM 'golden rice' crop that could save two million children from starvation per year' The Independent, 9 February 2014 <http://www.independent.co.uk/news/science/former-greenpeace-leading-light-condemns-them-for-opposing-gm-golden-rice-crop-that-could-save-two-million-children-from-starvation-per-year-9097170.html?origin=internalSearch>