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## **Submission to the Health Select Committee**

### **Gene Technology Bill**

**From:**

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## Introduction

1. Te Tira Whakamātaki is an independent Māori environmental not for profit and home to the Māori Biosecurity Network, hono: Māori Emergency Management Network, and Tikanga a Rangahau: Māori Research & Ethics Council.
2. Our mission is to protect the environment through research, education, and community support, upholding the rights of Māori under Te Tiriti o Waitangi, safeguarding Aotearoa New Zealand's biodiversity, and advocating for Indigenous knowledge in environmental and social policies.
3. We have conducted extensive research on Māori perspectives regarding synthetic biology and genetic technologies in environmental protection and pest management.
4. You can view some of our reports, and coauthored papers/articles here:
  - a. [Māori perspectives on synthetic biology for environmental protection](#),
  - b. [Perspectives on genetic technologies and pest management](#).
  - c. [Principles for introducing new genes and species for conservation](#)
  - d. [NZ's government plans to lift a ban on gene tech outside the lab – here's what people think](#).
5. Our CE, Melanie Mark-Shadbolt, participated in MBIE's Māori Focus Group for this Bill.
6. After reviewing the Gene Technology Bill 2024, we express profound concerns, particularly that it:
  - a. Contravenes international best practice and comprehensive scientific research.
  - b. Threatens the rights, sovereignty, and obligations guaranteed under Te Tiriti o Waitangi.
  - c. Lacks sufficient public consultation, especially with Māori communities.
  - d. Endangers Aotearoa New Zealand's economic interests by compromising the nation's GMO-free status, integral to our international reputation and export markets.
  - e. Introduces legal immunity provisions that remove accountability from those conducting gene technology research and development.
  - f. Centralises regulatory authority, stripping local communities and Iwi of decision-making power over the presence of genetically modified organisms (GMOs) in their regions.
7. For these reasons, we strongly oppose the Bill.
8. This submission outlines our concerns with the Bill and recommendations its withdrawal.
9. We request the opportunity to present this submission orally to the Select Committee.

## Key Concerns

10. This submission is not a full and comprehensive account of all our concerns but notes that some of the reasons we do not support the Bill.

### International Best Practice

11. The Bill diverges from established international best practices concerning gene technologies. Notably:
  - a. **Precautionary Principle:** International conventions, such as the Convention on Biological Diversity (CBD), advocate for a precautionary approach to synthetic biology and gene editing. The CBD emphasises the necessity of robust risk assessments and case-by-case evaluations before environmental release of genetically modified organisms (GMOs).
  - b. **Global Deliberations:** Many countries are engaged in ongoing discussions about the implications of synthetic biology, with several adopting moratoriums or stringent regulations on GMO releases to safeguard biodiversity and public health.
  - c. **IUCN Guidelines:** The International Union for Conservation of Nature (IUCN) recommends that any application of synthetic biology in conservation be assessed individually, considering ecological, social, cultural, and economic contexts.
12. The Bill's provisions, particularly those exempting certain gene-edited products from regulation, contradict these international standards, potentially exposing New Zealand to unforeseen ecological and socio-economic risks.
13. For the most comprehensive information on International Best Practice and comprehensive scientific research we refer you to the submission of Aroha Te Pareake Mead.

### Breach of Te Tiriti o Waitangi

14. This Bill undermines Māori sovereignty and self-determination by:
15. **Eroding Kaitiakitanga:** Gene technologies can disrupt natural ecosystems and whakapapa (genealogy), which are central to Māori cultural practices and stewardship obligations. The use of gene technology engages Māori rights and interests under Te Tiriti o Waitangi, including the right to exercise kaitiakitanga over specific species and places (MfE, 2003).
16. **Ignoring Established Treaty Obligations:** The Bill's development has lacked comprehensive consultation with Māori, despite officials acknowledging that many Māori will oppose the Bill, seeing it as a breach of Te Tiriti (MfE, 2003). Thus, it fails to honour the Crown's duty to engage in genuine partnership.

### Lack of Public Consultation

17. The Bill's progression has been marked by insufficient public engagement, particularly with Māori communities:

18. **Limited Māori Involvement:** Officials admitted that no formal consultation or full engagement with Māori was undertaken to shape, test, inform, and refine proposals (MfE, 2003).
19. **Public Sentiment:** Research indicates that public acceptance of gene technologies hinges on trust, understanding, and perceived benefits. The absence of meaningful engagement undermines social license and acceptance (McEntee et. Al, 2024).

### **Economic Implications of Losing GMO-Free Status**

20. New Zealand's GMO-free status is a cornerstone of our "clean, green" image, providing significant economic advantages.
21. **Market Premiums:** Our GMO-free and clean, green branding currently earns exports an extra 59% on its value as a premium product (Steele, 2024).
22. **Consumer Preferences:** Studies indicate that consumers, both domestically and internationally, prefer non-GM foods and are willing to pay a premium for them (HUB, 2020).
23. Introducing gene technologies could jeopardise these advantages, leading to potential revenue losses estimated between \$10-20 billion annually (Steele, 2024).

### **Overstatement of the Science**

24. While gene technology has potential, its benefits have arguably been exaggerated by proponents.
25. Instead of replacing traditional breeding, it should be considered as one tool among many. However, the risks and unintended consequences demand stronger regulations and a precautionary approach, rather than the rapid deregulation proposed in this Bill.

### **Other Concerns with the Bill**

26. Upon reviewing the Gene Technology Bill, we have identified several areas of concern regarding specific wording or proposals:
27. **Clause 187: Protection from civil and criminal liability:** This clause grants legal immunity, from civil or criminal liability, to individuals and organisations involved in gene technology decision-making. Such provisions could lead to a lack of accountability, leaving affected parties without legal recourse in cases of harm or negligence. It also implies a lack of confidence in this policy decision.
28. **Definition of Gene Technology:** The Bill defines gene technology as:
  - a. "(a) means any technology used to modify or construct genes or other genetic material; but (b) does not include- (i) conventional processes; or (ii) any other technology specified in the regulations for the purpose of this paragraph."
  - b. This definition excludes certain technologies from regulation, potentially allowing the use of other methods without adequate oversight, which may pose risks to health and the environment.

29. **Regulator's Independence:** The Bill establishes a Regulator within the Environmental Protection Authority (EPA) responsible for overseeing gene technologies. However, concerns arise regarding the Regulator's independence, as they are subject to general policy directions from the Minister, potentially compromising impartial decision-making.
30. **Centralisation of Regulatory Authority:** The Bill removes the ability of local authorities to restrict the use of gene technology, ensuring a nationally consistent approach. This centralisation disregards regional concerns and the specific needs of local communities, potentially forcing gene technologies into areas where they are unwelcome. Such a top-down approach could erode public trust and social license.
31. **Exemptions for Low-Risk Gene Editing:** The Bill proposes exemptions for low-risk gene editing techniques that produce changes indistinguishable from conventional breeding. This approach may overlook unintended consequences and long-term effects, necessitating a more cautious and comprehensive assessment framework.
32. **Public Consultation and Māori Engagement:** The Bill lacks explicit provisions for public consultation and meaningful engagement with Māori communities in decision-making processes related to gene technologies. This omission undermines the principles of partnership and participation enshrined, for all, in Te Tiriti o Waitangi.

## Counterarguments to Supporting Submissions

33. We acknowledge that some submissions support the Gene Technology Bill, citing potential benefits such as alignment with international regulations, attraction of biotech talent, advancements in healthcare, and increased agricultural productivity. However, we present the following counterarguments:
34. **Alignment with International Regulations:** While proponents argue that the Bill aligns New Zealand with international standards, it is essential to recognise that many countries maintain stringent regulations on gene technologies. For instance, the European Union upholds a precautionary approach, and even within countries like Australia, public consultations are ongoing to assess the implications of deregulation. Therefore, the Bill's approach may not reflect a global consensus and could position New Zealand as an outlier with more permissive regulations.
35. **Attraction of Biotech Talent:** The assertion that deregulating gene technologies will attract biotech talent overlooks the importance of robust ethical and safety standards in scientific research. Talented professionals are drawn to environments that balance innovation with responsibility. Eroding regulatory frameworks may deter experts concerned about the long-term implications of unregulated gene technologies.
36. **Advancements in Healthcare:** While gene therapies hold promise, they are still in developmental stages, and their long-term effects remain uncertain.
37. **Advancements in Crop Resilience and Yield:** While there have been successes in engineering crops for biofortification, insect resistance, and drought resistance, there has been no consistent increase in yield (Heinemann et al., 2016), marginal drought tolerance (Gurian-Sherman, 2012), and numerous failures reducing pest damage (Kranthi & Stone,

2020). In fact, studies have shown secondary pest outbreaks, requiring additional chemical control measures because of trials (Lu et al., 2010).

38. **Science is oversold:** Many of the big promises have not materialised as expected, and the successes of traditional breeding often outcompete GM crops in terms of cost-effectiveness, resilience, and adoption. Given there is no significant yield advantages, evidence of failed pest resistance and drought resistance, and many risks using gene technologies, the loss of economic advantage seems counter to the many unproved science claims.

## Recommendations

39. **Immediate Withdrawal of the Bill:** We urge the Select Committee to withdraw the Gene Technology Bill in its current form, as it fails to meet constitutional, legal, and human rights standards.
40. **Genuine Partnership with Māori:** Any future considerations of gene technology legislation must involve:
  - a. **Comprehensive Consultation:** Engaging with Iwi, hapū, and Māori organisations to ensure their perspectives and rights are respected.
  - b. **Upholding Tino Rangatiratanga:** Recognising and honouring Māori sovereignty and decision-making authority in matters affecting their taonga and environment.
41. **Preservation of New Zealand's GMO-Free Status:** Given the significant economic and cultural benefits of maintaining a GMO-free status, we recommend:
  - a. **Robust Risk Assessment:** Conducting thorough evaluations of the potential economic and environmental impacts of introducing gene technologies.
  - b. **Sustainable Development:** Prioritising approaches that align with New Zealand's clean, green image and uphold our international reputation.
42. **Revisions to the Bill's Wording:** Should the Bill proceed; we recommend significant edits to the wording in the Bill.

## Conclusion

43. Te Tira Whakamātaki strongly opposes the Gene Technology Bill, viewing it as a threat to Te Tiriti o Waitangi, Māori self-determination, and New Zealand's economic interests. We urge the Select Committee to reject this Bill and commit to a process that genuinely reflects the Treaty partnership and the values of all New Zealanders.
44. We request the opportunity to present this submission in person to the Select Committee.

Ngā mihi,

Melanie Mark-Shadbolt

Tumu Whakarae, Chief Executive Officer

## References

Te Tira Whakamātaki. (2024). *Māori perspectives on synthetic biology for environmental protection*. [https://www.ttw.nz/\\_files/ugd/522737\\_41b7b2266c50470e94021974d0325500.pdf](https://www.ttw.nz/_files/ugd/522737_41b7b2266c50470e94021974d0325500.pdf)

Te Tira Whakamātaki. (2024). *Perspectives on genetic technologies and pest management*. [https://www.ttw.nz/\\_files/ugd/522737\\_d8fcd65237154166b28a4607db470a8d.pdf](https://www.ttw.nz/_files/ugd/522737_d8fcd65237154166b28a4607db470a8d.pdf)

Schwartz, M. K., Dunn, S. L., Gendron, W. A. C., Helm, J. E., Kamau, W. S., Mark-Shadbolt, M., Moehrensclager, A., Redford, K. H., Russell, G., Sandler, R. L., Schultz, C. A., Wiedenheft, B., Emmel, A. S., & Brodie, J. F. (2024). *Principles for introducing new genes and species for conservation*. *Trends in Ecology & Evolution*. <https://doi.org/10.1016/j.tree.2024.11.011>

McEntee, M., Medvecky, F., Shadbolt, M. R., Mark-Shadbolt, M., Heimlick, M., & Macknight, V. (2024, September 24). *NZ's government plans to lift a ban on gene tech outside the lab – here's what people think*. *The Conversation*. <https://theconversation.com/nzs-government-plans-to-lift-a-ban-on-gene-tech-outside-the-lab-heres-what-people-think-239707>

Ministry for the Environment and the Treasury. 2003. *Economic Risks and Opportunities for the Release of Genetically Modified Organisms in New Zealand*. <https://environment.govt.nz/assets/Publications/Files/economic-risks-final-apr03.pdf>

McEntee, M., Medvecky, F., Macknight, V. & Mackey, L. (2024). *National Conversations on Genetic Technologies for Environmental Purposes: Using Deliberative Processes To Gather Perspectives From Across Aotearoa*. Biological Heritage National Science Challenge. <https://www.talkingecogenetech.nz/reporting>

Steele, M. 2024. *Cost of losing GE-free label on primary exports unknow-report*. Retrieved from <https://www.rnz.co.nz/news/country/534887/cost-of-losing-ge-free-label-on-primary-exports-unknown-report>

Hub – Pokapū Akoranga Pūtaiao. 2020. *Economic impacts of GM crops*. Retrieved from <https://www.sciencelearn.org.nz/resources/2180-economic-impacts-of-gm-crops>

Heinemann, J. A., Massaro, M., Coray, D. S., Agapito-Tenfen, S. Z., & Wen, J. D. (2016). Sustainability and innovation in staple crop production in the US Midwest. *International Journal of Agricultural Sustainability*, 14(4), 362–388.

Gurian-Sherman, D. (2012). High and dry: Why genetic engineering is not solving agriculture's drought problem in a thirsty world. *Union of Concerned Scientists*.

Kranthi, K. R., & Stone, G. D. (2020). Long-term impacts of Bt cotton in India. *Nature Plants*, 6, 188–196.

Lu, Y., Wu, K., Jiang, Y., Guo, Y., & Desneux, N. (2010). Ecological consequences of genetically modified crops: Ten years of Bt cotton in China. *Biological Conservation*, 144(1), 314–320.

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