



Submission

**MPI Proposed amendments to the New Zealand Food Notice:
Maximum Residue Levels for Agricultural Compounds**
16 May 2025 (Final)

About the McGuinness Institute

The Institute was founded in 2004 as a non-partisan think tank working towards a sustainable future for Aotearoa New Zealand. Project 2058 is the Institute's flagship project focusing on Aotearoa New Zealand's long-term future. Because of our observation that foresight drives strategy, strategy requires reporting, and reporting shapes foresight, the Institute developed three interlinking policy projects: *ForesightNZ*, *StrategyNZ* and *ReportingNZ*. Each of these tools must align if we want Aotearoa New Zealand to develop durable, robust and forward-looking public policies. The policy projects frame and feed into our research projects, which address a range of significant issues facing Aotearoa New Zealand. The 11 research projects are: *CivicsNZ*, *ClimateChangeNZ*, *EcologicalCorridorsNZ*, *GlobalConflictNZ*, *OneOceanNZ*, *PandemicNZ*, *PublicScienceNZ*, *ScenariosNZ*, *TacklingPovertyNZ*, *TalentNZ* and *WaterFuturesNZ*.

About the cover

An image of a farm in New Zealand. The photo was taken by Lucy Roughan (an Institute staff member) on 27 February 2021 at Battle Hill Farm Forest Park, Paekākāriki Hill, Wellington.

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1.0 Executive Summary

This proposal represents a serious attempt to change New Zealand's policy on the maximum levels of residue levels for agricultural compounds. It is unclear why such a complex, and important issue for the country has been pushed forward at scale and pace.

If we get these levels wrong, there are a number of risks and costs, many of which are irreversible. Impacts of these substances cannot be contained and will ripple across the community, the economy, and the environment. Conversely, if our residue limits are managed well, it represents potential opportunities and benefits for New Zealand, particularly for our export market and international brand.

New Zealand is unique in our geographical isolation, beautiful natural environment, strong farming community, economic reliance on agricultural exports, and our powerful international brand. Unlike many other countries, we have an opportunity to develop and maintain a strong reputation as a leader in environmental stewardship and protection, whilst ensuring the country is a safe place for people, flora and fauna to thrive.

The Institute has had a significant interest in genetic modification/engineering and gene technology in New Zealand, and we see this proposal is fitting under the same umbrella. The common question is how much risk New Zealanders are willing to face, and whether the benefits (if any) outweigh the possible risks. One thing that is clear is that New Zealand is not a place we want to experiment with high levels of carcinogenic chemicals in our environment.

Over the past few years, the world (including New Zealand) has experienced significant social, economic and political uncertainty. Protecting our environment and our ability to grow safe and healthy food has become more important than ever. We need to ensure that any policy changes in this area protect New Zealand international reputation and export capabilities over the long term.

The views of New Zealanders need to be understood when designing public policy. Important proposals such as this should be done under consultation with the public, especially the agricultural sector and iwi.

It is clear that glyphosate is not safe for humans and may have serious health risks. More research is required to understand what levels, if any, are appropriate before making such a significant increase in the level allowed. The Institute recommends this proposal is rejected and the levels of glyphosate remain as currently set.

In order to consider the next steps forward for defining maximum residue levels for agricultural compounds in New Zealand, it is vital to assess the potential costs, benefits and risks. More research is required so that we can design efficient public policy that is fit-for-purpose, and most importantly, that protects human health and the environment.

2.0 Introduction

The Institute welcomes the opportunity to offer feedback on the *Proposed amendments to the New Zealand Food Notice: Maximum Residue Levels for Agricultural Compounds* (the Proposal). We would like to thank MPI for inviting public feedback.

We would welcome the opportunity speak to our submission.

3.0 Direct response to the proposed increase in glyphosate levels

An amendment to the entry for glyphosate, to set MRLs at 10 mg/kg in wheat, barley and oat; and 6 mg/kg in field pea (dry)

It remains unclear why the maximum residue levels (MRL) for glyphosate should be allowed to increase by such a significant amount.

A high level list of the reasons the Institute strongly opposes this amendment is below:

1. Serious risks to human health

The health risks of increased levels of glyphosate are extremely serious and should not be imposed on New Zealanders. The World Health Organization's International Agency for Research on Cancer (IARC) has investigated glyphosate¹ and come to concerning conclusions:

In March 2015, IARC classified glyphosate as "probably carcinogenic to humans" (Group 2A). This was based on "limited" evidence of cancer in humans (from real-world exposures that actually occurred) and "sufficient" evidence of cancer in experimental animals (from studies of "pure" glyphosate). IARC also concluded that there was "strong" evidence for genotoxicity, both for "pure" glyphosate and for glyphosate formulations...

To reach these conclusions, IARC reviewed about 1000 studies. Some of the studies looked at people exposed through their jobs, such as farmers. Others were experimental studies on cancer and cancer related effects in experimental systems.

A 2025 New York Times article² explains that the controversy around glyphosate in the United States is ongoing and has resulted in legal action and restriction on the use of glyphosate in some public areas:

Monsanto, which is now part of the biotechnology company Bayer, has maintained that glyphosate is safe at the level that most people are exposed. While denying that the herbicide can cause cancer, Bayer has spent approximately \$11 billion to settle lawsuits alleging that glyphosate exposure caused cancer and has paid millions in damages to some plaintiffs... Still, pressure from advocacy groups and community members has pushed lawmakers to ban or curtail the use of glyphosate in parks and playgrounds in cities including New York, Los Angeles and Baltimore. And in 2023, Bayer announced it would stop selling glyphosate for home gardeners.

Cancer risks associated with glyphosate use continue to play out in legal battles in the US and elsewhere. The size of the payouts is astonishing:

A US jury has ordered Bayer–Monsanto to pay over \$2 billion (£1.6 billion) to a Georgia man who alleges the company's glyphosate-based Roundup weedkiller caused his cancer.³

The risk of exposing carcinogens to New Zealanders is extremely serious. Furthermore, there are no clear benefits or reasons why that government would want to expose New Zealanders to this risk. We recommend you refer to the Environmental Law Initiative (ELI) application to the Environmental Protection Authority (EPA) for the reassessment of glyphosate to learn more about the risks to human health and the environment.⁴

It is clear that glyphosate is not safe for humans and has serious health risks. More research is required to understand what levels, if any, are prudent.

2. An irreversible decision with significant consequences

Once chemicals like glyphosate are released into the atmosphere, it is very difficult – potentially impossible – to get them back into containment. In such a situation where a policy change may have significant unknown impacts, a precautionary, rather than permissive, approach is recommended (refer to point 3 below).

There are very few decisions that a Government can make that it cannot undo. Unfortunately releasing chemicals into the environment is one of them. If this proposal is passed and becomes normal practice, we take away the rights of future generations to eat or trade organic food – or even simply eat or trade glyphosate-free food.

3. Far beyond international levels

Greenpeace noted that the proposed increase is extreme and goes far beyond international levels:

For wheat, oats and barley, this is a 100-fold increase. We note that for wheat, this is double the permissible limit allowed in both Canada and Australia.⁵

Furthermore – as outlined in the examples from the United States above – there are no international examples which show allowing glyphosate in the environment at such high levels has been a success. New Zealand is not a place to experiment with levels of chemicals in our environment.

Internationally, the use of glyphosate remains highly controversial and it is not a risk New Zealand should take. Scientific research on the reasoning behind this 100 fold increase, including data showing the proposals would not be harmful to human or environmental health, should be required for such a significant change.

4. Shift from precautionary to permissive approach

The proposed increase in MRL is an 100 fold increase from the current levels – such a substantial increase, without any research to explain why, goes against the precautionary principle. This is a concern because the use of the precautionary approach reflects the seriousness and risks of potential consequences when experimenting with new kinds and levels of substances in New Zealand's unique environment. It does not make sense to shift to a more permissive approach in 2025, at a time when all kinds of emerging technologies are developing at an increasing pace.

New Zealand's geography also means it makes sense to follow a precautionary approach. As an island nation, New Zealand's isolation creates a natural barrier that helps protect our environment and minimises cross-contamination. This benefits New Zealand financially and allows New Zealand farmers to claim and label their produce as glyphosate-free overseas. It is important to fully assess the impacts on our export markets. For example, Fonterra exports a lot of milk powder to China – has research been undertaken to understand the impacts of a more

chemicals on demand by the Chinese. This could have extremely negative impacts on New Zealand growers, farmers and producers, and our wealth as a nation for many years to come.

The Chinese Government has increased regulations after the melamine scandal in 2008.

[Consultant Jane Li of Li, Page & Co.] says the new regulations are aimed at reducing the number of baby formula brands. She believes the new regulations will only make it viable for major domestic players and multi nationals to play in China... As part of the China infant formula product registration process, China requires onsite audit of manufacturing facilities...⁶

In a May 2025 Dairy News article, Daniel McGowan, chief executive of Cure Parkinson's NZ, writes that the rates of Parkinson's are rising particularly quickly in rural farming communities.

Our increasingly ageing population is a factor, but this does not alone explain the rapid growth in incidence, especially given that fact that 20% of people living with Parkinson's experience symptoms before age 50. Genes play a role too, with approximately 15% of individuals with Parkinson's having a family history, but a lifetime of exposure to environmental factors, including herbicides and pesticides, industrial chemicals, and air pollution, is the key driver of disease.⁷

It is clearly time to take a precautionary approach.

5. Lack of consideration of economic risks

It is also relevant, as noted above, that due to New Zealand's isolated island location, we have an opportunity that many other countries do not. We have unique flora and fauna that has been able to thrive through careful conservation initiatives, as well as a developing tourism industry built on our 'clean and green' reputation.

We also are unique in that our agricultural sector has a premium place in international markets, with our farmers benefitting from consumer attitudes towards New Zealand meat and dairy products that are clean, ethical and sustainable. New Zealand's international reputation as a producer of safe, and environmentally- friendly food is vital to the success of our primary industries.

The lack of data on the economic impact of the proposal is concerning. It is recommended – at a bare minimum – that independent economic research is undertaken to understand the possible risks of increasing permitted levels of chemicals (particularly glyphosate) in New Zealand agriculture.

However a broader strategic view is required. New Zealand's exports are critically important but so is tourism. It is not possible to disconnect the two. New Zealand's clean green international brand is critical for our economic wealth and we need to understand what it is worth and the actions we can take to optimise that net worth, and equally the actions we should not take to reduce it. In 2001, MFE prepared a report *Valuing our Clean Green Image*. A supporting report answered the following question: *Our clean green image: What's it worth?* . This is what the research found:

Dairy sector

If New Zealand's environment was perceived as being degraded, on average the consumers surveyed would purchase 54% less consumer products. The actual loss in revenue would depend on how much of the lost product could be redirected to products and markets where environmental image plays a less important role, so the potential annual loss would vary between:

- \$241 million (all lost product redirected), and
- \$569 million (none of the lost product redirected).

Tourism

The extent of change in purchasing behaviour (measured by change in length of stay) varied by country. Under worsened environmental perceptions, tourists in New Zealand would alter their stay by an average of, for example:

- Australia – 48% reduction
- Japan – 79% reduction
- Korea – 77% reduction.

The annual loss to New Zealand from the five markets covered in the survey of tourists would be between NZ\$530 million and NZ\$938 million (depending on whether lost wages and GST effects are taken into account).

Organic produce

Buyers were presented with two scenarios: New Zealand allowing (a) limited field test of GM crops for research and (b) uncontrolled releases of GM crops. In the short term New Zealand's organic sector would not be affected by allowing field tests of GM crops for research, although in the long term buyers would probably shift to other sources. Adopting a policy of uncontrolled release would see New Zealand almost certainly suffer immediate losses, with buyers either stopping or substantially decreasing purchases.(p.4)⁸

Before this government starts taking risks it does not understand, it is critically important that it takes the time to ensure risks are calculated, interconnections are explored (second and third level effects), and where possible risks are managed. It is now 24 years since the last time New Zealand attempted to value its clean, green brand. It seems overdue to revisit and answer this important question so that decisions are made on complete information.

6. Lack of consideration on the long-term risks to New Zealand

The proposed changes do not include any information on how New Zealand will benefit over the short- or long- term. For agriculture businesses that plan to grow and export internationally over the long-term, it is essential their interests are taken under consideration. This includes consultation with the agricultural sector and the public, particularly young people who will have to deal with the consequences of this change.

The risks are high for exporters. We recommend reading the submission of Morgan Maw, founder of Boring Oat Milk, for an industry perspective:

This isn't solely a food safety concern; it's about preserving Aotearoa New Zealand's global reputation for clean, green, and premium food products. International markets, including Japan, China, Germany and South Korea, are highly sensitive to glyphosate residues. Even if the science says the new levels are still "safe," global consumers and trade partners may not see it that way. Perception is reality – and we risk losing the high ground. Let's not risk decades of brand equity for short-term gains.⁹

It is unclear how this proposal fits within any of the government department strategies currently in operation (see the Institute's *2024 Government Department Strategies (GDS) Index*).¹⁰ One of the strategies in operation is the *Stockholm Convention on Persistent Organic Pollutants (POPs)*. The Stockholm Convention on Persistent Organic Pollutants (POPs) website notes that on a 27 February 2024 post that:

[T]he EU has long threatened — but failed — to outlaw glyphosate, a controversial weedkiller that threatens biodiversity and has been linked to the development of cancer.¹¹

A February 2024 report by the Endocrine Society criticises the way regulators determine the toxicity level of chemicals and suggested that for a number of common compounds, no dose may be safe. They found:

While there are many ways that people are exposed to EDCs [Endocrine disrupting chemicals], our report reviews four areas as case studies: ◦ Pesticides: the report reviews three pesticides, including the world's most heavily applied herbicide, glyphosate. **Glyphosate exposure is widespread and can occur from direct exposures and indirectly through air, water, dust, and food residues.** A recent review found that glyphosate has properties of an EDC, with evidence to support impacts from glyphosate on eight of the ten EDC key characteristics. **Studies have identified associations between glyphosate and adverse reproductive health outcomes.** [Bold added]¹²

In contrast, it is clear that being glyphosate-free/low residues does fit within at least some New Zealand business export strategies – there are proven and long term benefits for keeping the level as it is but there is no proven evidence to support that the risks do not exist – quite the contrary. The evidence, as evidenced above, is mounting.

7. Failure to maintain the agricultural sector's public trust and social licence

As the agriculture industry works to provide a public good (feeding people), it is essential society places trust in them and their social licence to operate. New Zealanders should be able to trust that the government, and our farmers, are not allowing carcinogens to be of a high level in our food.

Furthermore, there is a lack of support for this change from the farming sector itself. Federated Farmers' arable vice-chairman Andrew Darling reported that most farmers do not see the need for levels of glyphosate to increase so significantly:

We're well below international MRL rates, so a small lift wouldn't be a problem... But from a Federated Farmers point of view, we struggle to see why it needed to be increased to 100 times what's been from 0.1 percent to 10 percent when we're well underneath that.¹³

8. Environmental risks

Allowing for increased levels of glyphosate will have serious ecological consequences on New Zealand's environment. This includes negative impacts through biodiversity loss, soil health degradation, aquatic contamination and resistance and development of super weeds. More detail on the science behind these environmental risks are included in the OANZ submission on this proposal.¹⁴

Glyphosate resistance is already an issue in New Zealand, and its prevalence is increasing. See, for instance, recent research by AgResearch showed a number of weed species in New Zealand have developed resistance to glyphosate:

Zachary Ngow, senior weeds science technician at AgResearch in Lincoln, Canterbury, said glyphosate was frequently used in vineyards, but resistance to herbicides was an increasing problem globally, including in New Zealand... Wild carrots were the third weed species in New Zealand to have developed a resistant to the herbicide... Italian ryegrass and perennial ryegrass had become glyphosate-resistant as a consequence of being treated with the herbicide over several years.¹⁵

9. Lack of consideration of the shared values of New Zealanders

Seven shared values of New Zealanders were identified by the Royal Commission in 2001 when it was analysing the use of gene technology in our country. They were:

1. the uniqueness of New Zealand
2. our cultural heritage
3. sustainability
4. being part of a global family
5. the well-being of all
6. freedom of choice, and
7. participation.¹⁶

These values were then used as a platform on which to develop the Royal Commission's recommendations on genetic engineering. We believe these 2001 values remain robust and relevant to New Zealanders in 2025. It is significant to note that these values have not been reflected in the proposals, which is a real lost opportunity. Any further discussion and decision-making on the use and application of chemicals in New Zealand should start with consideration of these seven shared values. Public policy should work harder to reflect the values citizens hold. We remain unsure whose interests MPI is trying to serve, as the evidence to date suggests this proposal is not in the interests of farmers, exporters, parents or health professionals.

4.0 Conclusion

The Institute supports MPI opening up this complex issue for public discussion. However, any new policy changes with potentially irreversible impacts should be developed with care and consultation. It is clear that glyphosate is not safe for humans and has serious health risks. More research is required to understand what levels, if any, are appropriate before making such a significant increase in the level allowed. The Institute recommends this proposal is rejected and the levels of glyphosate remain as currently set. Finding a policy solution that balances the need for caution and the need for progress cannot be rushed. This is a matter of national significance with potentially irreversible consequences.

We make two high-level recommendations:

1. That MFE updates the report, *Valuing our Clean Green Image* (2001), in 2025.
2. That a set of criteria is agreed in advance before final decisions are made. Suggestions are:
 - To protect human health, especially the health of farmers and the reproductive health of women,
 - To protect environmental health, including the health of flora, fauna, water and soil.
 - To protect and build New Zealand's international brand (i.e. clean, green, sustainable, pure, uncontaminated, and that workers and tourists are protected and safe).
 - Implement accountability and transparency frameworks to provide assurance that the above objectives are being met.

Thank you for the opportunity to comment. Please do not hesitate to contact the Institute if you have any questions. Next time we suggest you market the invitation to comment more widely. Post COVID-19, all government organisations should be working on ways to improve public consultation in order to build public trust in our institutions and processes.

Endnotes

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