

SUBMISSION ON

Options to Reduce Emissions from Organic Waste

10 July 2026

To: Ministry for the Environment

Name of Submitter: Horticulture New Zealand

Supported by: Strawberries New Zealand

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OVERVIEW

Submission structure

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Our submission

Horticulture New Zealand (HortNZ) thanks the Ministry for the Environment (MfE) for the opportunity to submit on the Emissions from Organic Waste in Landfill consultation and welcomes any opportunity to continue to work with MfE to discuss our submission.

HortNZ could not gain an advantage in trade competition through this submission.

The details of HortNZ's submission and decisions we are seeking are set out in our submission below.

HortNZ's Role

Background to HortNZ

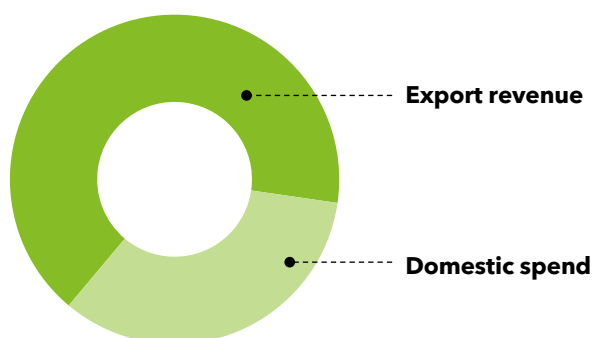
HortNZ represents the interests of approximately 4,300 commercial fruit and vegetable growers in New Zealand who grow around 100 different fruits and vegetables. The horticultural sector provides over 40,000 jobs.

There are approximately 80,000 hectares of land in New Zealand producing fruit and vegetables for domestic consumers and supplying our global trading partners with high quality food.

It is not just the direct economic benefits associated with horticultural production that are important. Horticulture production provides a platform for long term prosperity for communities, supports the growth of knowledge-intensive agri-tech and suppliers along the supply chain, and plays a key role in helping to achieve New Zealand's climate change objectives.

The horticulture sector plays an important role in food security for New Zealanders. Over 80% of vegetables grown are for the domestic market and many varieties of fruits are grown to serve the domestic market.

HortNZ's purpose is to create an enduring environment where growers prosper. This is done through enabling, promoting and advocating for growers in New Zealand.



Industry value \$7.54bn
Farmgate value \$4.89bn
Export revenue \$4.99bn
Domestic spend \$2.55bn

Source: HortNZ Annual Report 2025

Submission

1. Executive Summary

HortNZ supports efforts to reduce landfill methane emissions resulting from organic waste but considers that policies and decision-making must balance emissions reduction objectives with food security, household affordability, resilient domestic food production, and grower viability. A strategic national framework is needed to guide decision-making and ensure interventions deliver genuine environmental benefits without unintended consequences.

Food waste policy needs to support, rather than compromise, the capacity of growers to continue producing safe, affordable and nutritious food.

The following key themes run throughout our submission:

- Adopt a strategic national food waste policy framework
- Focus efforts that achieve the greatest emissions reductions
- Distinguish food loss from food waste
- Protect food security and the viability of domestic food production systems
- Support infrastructure and energy transition opportunities

New Zealand needs a strategic national framework to guide food waste policy and investment decisions. HortNZ seeks clear direction from MfE, including criteria against which policy options can be assessed. Relevant objectives include emissions reductions, sustainable production systems, household affordability, health and nutrition, food security, and economically resilient food production systems. Policy and decision-making frameworks should explicitly assess trade-offs and balance these objectives when evaluating options.

The Government's current fourth emissions budget consultation is considering the implications of emissions reduction pathways for domestic food production when updating its advice. HortNZ supports efforts to reduce food waste and biogenic methane emissions from landfills, provided food security, nutrition outcomes and supply chain resilience are protected. Food waste initiatives can deliver emissions reductions without compromising these wider objectives. However, initiatives must be carefully designed to ensure they do not contribute to food insecurity or inadvertently discourage New Zealanders from meeting healthy eating recommendations, including consuming "5+" servings of fruit and vegetables each day. From a supply perspective, some redundancy within the food system is also necessary to maintain a reliable, resilient and affordable supply of fresh, healthy food.

Maintaining an economically viable domestic food production system is fundamental to New Zealand's long-term food security. Some production-stage food loss is unavoidable due to weather, quality specifications, biosecurity risks and market fluctuations. Measures should not unintentionally reduce supply chain resilience or increase costs for growers.

Meaningful reductions in food-waste emissions will only be achieved by targeting the parts of the supply chain where most food waste occurs.

Achieving reductions in landfill methane emissions from food waste will require intervention and investment at the retail and household levels, where the most food waste occurs. These points are where behaviour change, food management practices, collection systems, infrastructure and diversion options are likely to have the most direct impact on landfill methane emissions.

Maintaining a clear distinction between food loss and food waste is essential for effective policymaking. HortNZ is concerned that the consultation document sometimes uses "food waste" as a catch-all term for both food loss and food waste. New Zealand has adopted separate definitions for food loss and food waste. These concepts occur at different stages of the supply chain, have different causes and effects, and may require different policy and intervention responses. This distinction shapes problem definition, how success is measured, and future investment and intervention priorities.

Most primary production in New Zealand is red meat and milk for export, and food loss and waste is likely to be broadly proportionate to production volumes across sectors. Horticulture is already incredibly emissions efficient, with fruit and vegetable production generating no methane emissions and only a small proportion of agricultural nitrous oxide emissions. Any proposed actions or targets aimed at reducing food loss at the production stage should be supported by evidence that the emissions reduction benefits outweigh the costs and potential impacts on food production and food security.

Produce diverted into processing, animal feed, composting, soil improvement or other productive uses should be considered as resource recovery rather than waste, particularly where the objective is reducing methane emissions from organic waste at landfill.

Organic waste diversion options should be assessed on their net environmental benefit, not simply on whether they avoid landfill. This should include consideration of transport requirements, processing infrastructure, composting, bioprocessing and landfill methane reduction outcomes.

Improved recovery of organic materials can strengthen New Zealand's bioeconomy through compost products, alternatives to synthetic fertilisers, biogas and biofuels. Greater strategic planning is needed to understand future biomass supply and demand, support investment in infrastructure, and improve energy security for sectors such as greenhouse horticulture that are seeking to transition to low-emissions energy sources.

2. Discussion Questions

Please note the question number corresponds to the questions in the consultation.

- Q. 1** General questions on business food waste reduction and recovery
- a. What existing initiatives are you or your sector working on to reduce food loss and waste, and to keep organic materials out of landfill?
 - b. Are you measuring and reporting food loss and waste? (If no, what support would you need to measure and report food loss and waste?)
 - c. What challenges or needs do you have in further reducing food waste and keeping organic materials out of landfill?
- Please outline any other suggestions (aside from the options outlined below) that could help your business and/or sector reduce food waste and divert it from landfill.

- a) What existing initiatives are you or your sector working on to reduce food loss and waste, and to keep organic materials out of landfill?*

The horticulture sector already works hard to minimise food loss and waste. Growers and post-harvest businesses have a strong incentive to make use of as much produce as possible and recover value from fruit and vegetables that cannot be sold.

Produce that is not sold through fresh retail channels may still be used productively through processing, animal feed, composting or on-site soil improvement. Treating all unsold or unharvested produce as “waste” risks overstating the scale of the problem particularly if the objective is to reduce methane emission from landfill. This approach also misrepresents how commercial food production systems operate in practice.

Fruit and vegetables that do not meet fresh food safety specifications are routinely used in other safe products rather than being sent to landfill. For example:

- b) Avocados are processed into avocado oil
- c) Kiwifruit is used in juices, purees, supplements and a range of other food products
- d) Cherries are processed into syrups, preserves and juices
- e) Bioprocessing of onion skins and other produce not destined for market, into powders, extracts and concentrates for the food and nutraceutical industries
- f) Diverting harvested produce not deemed safe/marketable to animal feed, or rotating crops with animals to consume excess plant material left in situ following harvest.
- g) Organic material is also used in innovative initiatives such as Seeka's giant worm farm, where tonnes of orchard organic waste is converted into worm castings and other beneficial products.

Where produce cannot be used in alternative ways it is sometimes donated to food rescue organisations on a voluntary basis, used as animal feed or re-used as a soil conditioning composted onsite.

Unharvested produce is often worked back into the soil to improve soil health (which sequesters carbon¹ and cycles important nutrients for the next crop) or it is donated as animal feed, bringing those nutrients back into the food system.

From a soil health perspective, incorporating crop residues back into the soil is a normal and essential part of horticultural production. Growers routinely return orchard prunings and post-harvest plant material to the soil, where it decomposes naturally, returning nutrients such as nitrogen, and supports soil biological activity. This process contributes to nutrient cycling, soil fertility and the long-term productivity of growing systems. These environmentally sustainable practices are used by growers as part of their Good Agricultural Practice (GLOBALG.A.P. and NZGAP) assurance programmes, alongside their food safety requirements.

Crop rotation and the incorporation of plant residues, which sometimes includes unharvested produce, are fundamental to sustainable vegetable production. Rotating crops helps manage soil-borne pests and diseases, improves nutrient management, and supports healthy soil structure and microbial diversity. These practices are critical to maintaining productive soils and should be encouraged rather than treated as food loss or waste.

HortNZ considers it important that growers are not penalised for, or perceived to be generating, food loss or waste when returning plant material to the soil as part of normal agricultural practice. Once produce has been harvested, washed and sorted, and is deemed safe and suitable for human consumption under the Food Act 2014, it has the potential to become food waste. However, plant material incorporated into soil before this point should be recognised as an integral component of sustainable crop production rather than food loss or waste.

b) Are you measuring and reporting food loss and waste? (If no, what support would you need to measure and report food loss and waste?)

HortNZ does not measure or report on horticulture food loss and waste.

One of the challenges we see with measuring food loss in New Zealand is that there isn't a consistent measurement and reporting framework. A key challenge around food loss is the concept of 'ready to harvest'. We seek clarity on what this means how it is quantified, for horticultural produce as well as milk and meat. For example, a grower knows roughly how many tonnes of a product they anticipate from a crop, but the challenge is in quantifying the volume and quality of crop remaining following harvest.

There are factors outside of a grower's control that means sometimes part or all of a crop is not harvested. Weather events, market specifications for fresh produce, and the price a grower receives at the point of sale for produce, are all key drivers. The price growers receive, particularly for food grown for the domestic market like vegetables, is an ongoing issue for many growers.

¹ [Soil Carbon Sequestration | FAO SOILS PORTAL | Food and Agriculture Organization of the United Nations](#) Accessed 28/06/26.

c) What challenges or needs do you have in further reducing food waste and keeping organic materials out of landfill?

Consumer behaviour, household food management, retail practices, food storage, date labelling, education, and access to food scraps collection and processing infrastructure are likely to be key to achieving the greatest measurable reductions in food waste to landfill.

The cost of landfill disposal provides a strong incentive for growers and businesses to find alternative uses for produce. As a result, fruit and vegetables that have been harvested and cannot be sold fresh, either because they don't meet market specifications or the market only buys enough to match demand, are generally diverted into processing, food manufacturing, animal feed, composting or other uses rather than being sent to landfill.

Q. 1.1 Create a national action plan to reduce food waste

a. Do you support the option to create a national action plan to reduce food waste?

HortNZ supports efforts to reduce food waste and emissions associated with organic waste to landfill. We support a national action plan to reduce food waste, if the drivers for the plan are clear, and the actions identified align with where the most meaningful and measurable reductions can be achieved.

A strategic policy framework is particularly important when developing a national action plan for food waste. The plan provides a process of deciding how to prioritise intervention and investment to achieve the desired outcomes. Different interventions will deliver different outcomes.

For example, actions to reduce household food waste is likely to have a direct relationship to reducing methane emissions associated with organic waste to landfill. Whereas actions focused on reducing food loss from primary production would not achieve the same outcome because by and large that produce is not destined for landfill.

Likewise, food donation and food rescue will not solve New Zealand's national food security but may improve local access to nutritious food for vulnerable groups. Whereas a focus on securing robust secondary markets would allow growers to receive compensation for produce they have grown and provide a lower cost alternative for consumers across the country. Trade-offs for policy and intervention options need to be clearly evaluated and explained.

In our view, if the primary objective of the national action plan is to reduce biogenic methane emissions, it should focus on the largest sources of food waste currently being sent to landfill and therefore the greatest opportunity for emissions reductions - household and retail food waste. If there are more objectives, the balance across objectives should be achieved and trade-offs explicitly evaluated.

Q.
1.2

Establish a government industry working group on food waste

- a. Do you support the option to establish a government-industry working group on food waste?

HortNZ is unclear how the proposed government-industry working group would differ from, or add value to, existing initiatives such as Kai Commitment or Food Waste Champions 12.3.

Further information is needed on the purpose, scope, membership, expected outcomes and decision-making role of the proposed working group. If established, the group should have a clearly defined purpose and focus on delivering practical outcomes that are not already being achieved through existing industry-led initiatives. Given that most food waste occurs at the household level, has MfE considered including household representation in a working/reference group.

Q. 1.3

Compile research on barriers to food waste reduction and educate businesses on how to address them

- a. Do you support the option to compile research on barriers to food waste reduction and educate businesses on how to address them?

It is unclear whether the consultation is referring to food loss and food waste collectively, or to food waste only, consistent with the national definitions. This distinction is important, as are clearly stated outcomes and prioritisation criteria for decision-making, particularly where it is intended to direct future research, investment, and interventions.

Improving the understanding of barriers to reducing food waste will help identify opportunities for further improvement. Research needs to build on existing knowledge and avoid duplicating work that has already been undertaken by industry, government and organisations working in this area.

Efforts should be focused where the greatest impact can be achieved. If reducing biogenic methane emissions is the primary objective, actions need to target the largest sources of food waste to landfill, i.e. household and retail, where the greatest emissions reduction opportunities exist.

There is a risk that food-producing businesses become the primary focus of intervention, with food rescue presented as a key solution to food insecurity. However, both emissions reduction and food insecurity are complex challenges that require a broader range of responses. Focusing disproportionately on the production end of the supply chain means that larger and more achievable opportunities for emissions reductions are overlooked.

We urge the Government to also consider the role of consumer education and behaviour change at the house level, as a significant source of food waste. We are mindful that initiatives in this area need to ensure they do not contribute to food insecurity, and that New Zealanders are not inadvertently discouraged from eating "5 plus" a day.

Q. 1.4

Share voluntary templates for planning food waste reduction and diversion

- a. Do you support the option to share voluntary templates for planning food waste reduction and diversion?

Providing voluntary templates may assist businesses that are seeking to better understand and manage food waste. Templates could provide a useful starting point for businesses that do not currently have systems in place to identify opportunities for reducing waste and diverting organic materials from landfill.

However, any templates should remain voluntary, be simple and practical to use, and be flexible enough to accommodate the different circumstances of businesses and sectors. A one-size-fits-all approach is unlikely to be effective given the diversity of New Zealand's food system.

Q. 1.5

Produce a nationally consistent, voluntary food waste reporting framework for businesses

- a. Do you support the option to produce a nationally consistent, voluntary food waste reporting framework for businesses?

HortNZ would like further information on the purpose of the proposed reporting framework and the outcomes it is intended to achieve.

While a nationally consistent framework may improve the comparability of data where businesses choose to participate, the consultation document does not clearly identify the problem the framework is seeking to address, how the information collected would be used, or what success would look like.

Participation in a voluntary reporting framework is likely to vary across sectors and businesses, which may limit the usefulness and representativeness of the data collected. It is therefore important to understand how any reported information would inform future policy development and whether the benefits would justify the administrative effort required.

Delineating between food loss and waste is critical for reporting. There are two separate definitions in New Zealand, yet the national baseline report does not differentiate. If we are to undertake more research and collect new data, distinction between the two is important. It will drive future investment, intervention and potential future national targets.

As mentioned earlier in our submission, food loss concepts like 'ready to harvest/slaughter' are challenging and it needs to be clear how these would be measured and for what purpose.

- Q. 1.6** Provide updated guidance to businesses on managing unavoidable organic waste
- a. Do you support the option to provide updated guidance to businesses on managing unavoidable organic waste?

HortNZ would support practical guidance where a need has been identified. However, the consultation document does not explain what deficiencies exist in current guidance, what new information would be provided, or how updated guidance would improve outcomes compared with the range of resources already available through government agencies, industry organisations, local authorities and initiatives such as Kai Commitment.

- Q. 1.7** Which options would have the most impact and should be prioritised for implementation? Please rank from 1 (highest priority) to 6.

The following table presents our suggested prioritisation of options and reasons for this.

Ranking	Action	Reason
1	Compile research on barriers to food waste reduction and educate businesses on how to address them	Understanding the actual barriers is the most likely to identify practical actions and investments that will reduce waste. If done well, it should inform all other measures.
2	Provide updated guidance to businesses on managing unavoidable organic waste	Practical guidance may help businesses identify alternatives to landfill and improve management of unavoidable organic materials.
3	Create a national action plan to reduce food waste	Could provide strategic direction and coordination, but its effectiveness depends on the actions it contains.
4	Share voluntary templates for planning food waste reduction and diversion	May be useful for some businesses, but likely to have a modest impact given many businesses already have systems in place.
5	Establish a government-industry working group on food waste	The purpose and added value are unclear given existing organisations such as Kai Commitment.
6	Produce a nationally consistent, voluntary food waste reporting framework for businesses	Unclear what problem this would solve. Voluntary participation may limit the usefulness of the data collected, while still creating administrative costs for businesses.

Q. 3**General questions on organic processing solutions**

- a. What factors do you think are most important when selecting an organic waste processing solution?
- b. What data or information do you think would be most useful to support decision-making on organic processing solutions?
- c. Could improved data from anaerobic digestion and composting facilities (ie, from a voluntary reporting scheme) help inform decision-making on organic waste processing solutions? If so, how?
- d. Please outline any other suggestions (aside from options outlined below) that could help organic processing solutions, including biogas.

- a) *What factors do you think are most important when selecting an organic waste processing solution?*

Consider the lifecycle assessment of alternatives to food waste to landfill, for example home/business composting and bioprocessing. We believe it is important to compare the lifecycle emissions and cost of trucking and processing home and business composting, and investment and emissions from bioprocessing operations required at scale to address food waste reductions, relative to methane emissions generated at landfill from food waste, to ensure that are not creating carbon leakage in our attempts to tackle the issue of food waste.

Include the option of supporting home composting, a process of aerobic digestion that does not create biogenic methane. Consider options to subsidise home composting systems or worm farms, alongside community education initiatives.

- d) *Please outline any other suggestions (aside from options outlined below) that could help organic processing solutions, including biogas.*

Providing funding support for collective digesters at scale that could produce electricity, or maybe a factory that could value add fresh produce that doesn't meet retail specification, for example broccoli powder, onion powder.

Q. 3.1**Map local infrastructure gaps and opportunities for diverting organics**

- a. Do you support the option to map local infrastructure gaps and opportunities for diverting organics?

Mapping infrastructure gaps may help identify barriers to diverting organic materials from landfill and inform future investment decisions. However, the benefits of this work should be weighed against the costs of undertaking and maintaining it. For example, the tax payer cost and carbon footprint of efforts to divert organic material outweighs the reductions in potential landfill emissions.

For the horticulture sector, we see two opportunities to promote greater composting to facilitate the bioeconomy, and provide an alternative pathway for organic waste, rather than going to landfill:

- A supply chain for alternatives (e.g., compost-type products) to synthetic fertiliser. This could be further supported by research and investment in developing compost that is more of a known variable in respect of nutrients and GHG emissions.
- Supply of biogas and/or biofuels.

Priority could be given to sectors and regions where significant volumes of organic material are entering landfill and where infrastructure constraints are limiting diversion opportunities.

Q. 3.2

- Do you support the option to provide more information on biogas through a waste lens, including updated waste-to-energy guidance?
Yes | No | Maybe/unsure
- Please share any further thoughts or ideas on this option.

a) Do you support the option to provide more information on biogas through a waste lens, including updated waste-to-energy guidance?

HortNZ supports more information on biogas particularly as it relates to energy security. For horticulture, this presents the biggest opportunity and challenge.

b) Further thoughts and ideas on this option

HortNZ supports more security of supply, particularly availability of biomass to electricity. The case study provided on page 26 demonstrates the potential for infrastructure to strategically located to benefit local sectors like greenhouses seeking alternative fuels and partnering with local businesses to deliver on resource recovery objectives.

Covered crop growers need to improve energy efficiency and switch to low emission fuels like biogas. This requires capital investment in heating technology while managing the uncertainty about the availability of low emissions fuels, not to mention their likely cost.

A key challenge for the greenhouse sector (aside from the capital cost) is the lack of security of supply for alternative fuel sources to enable an investment to be made in transitioning. There also needs to be resilience in supply – e.g. we are aware of a situation where biomass was unavailable due to flooding. These areas require clear signalling and investment, to enable transition and certainty for growers.

There could be an opportunity to co-locate production with urban centres and co-locate heat and power production (e.g., through small and medium scale biogas) to serve markets. The hubs opportunity is limited in New Zealand, but there may be some strategic locations where investment in energy hubs is viable.

We seek that strategic planning is undertaken to understand and enable these opportunities further, including:

- Detailed modelling of biomass supply, and supply and demand across sectors, and assessing the ability of the regional biomass supply out to 2035 and 2050 that could better inform the industry of the prospects of products.

- Include a strategy for ensuring there is a supply of biomass that meets the needs of the transition. The strategy also needs to address the generation and distribution infrastructure – so there is certainty over where electricity will be an option as an alternative energy source for users such as greenhouses.