

## Te Ara Paerangi - Future Pathways Submission From the New Zealand Food Safety Science Research Centre

On behalf of the New Zealand Food Safety Science & Research Centre (NZFSSRC) I welcome the opportunity to provide a submission on Te Ara Paerangi. NZFSSRC considers that the experiences that our management team, researchers, industry partners and governance board have gained over our six years of operating, plus our highly collaborative operating model makes us exceptionally well placed to comment on a number of important aspects of how the Aotearoa New Zealand Science landscape could look and function in the future.

The NZFSSRC is a unique collaborative partnership, between eight research providers and government (MPI and MBIE) and industry members (Figure 1), which is hosted by Massey University Te Kunenga ki Pūrehuroa. The NZFSSRC has an independent governance board tasked with developing and overseeing policies and systems, a small operations team charged with managing the delivery of the science and engaging with stakeholders and a Science Leadership Team, comprised of representatives from our eight partner research organisations, whose role is to facilitate cross-disciplinary discussions and collaboration in order to ensure that projects are undertaken by the “best” team. An Industry Advisory Group (IAG) was established to provide a mechanism for two way dialogue between industry and the Centre and input into the development of our research proposals. An International Scientific Advisory Panel was also established to ensure that our research is current, encompassing and cutting edge and to provide feedback on the quality of the science outputs we achieve. Our research strategy was established through extensive and far-reaching stakeholder engagement and priority setting, and research projects are established via a combination of engagement with the IAG, specific industry taskforces, individual companies, MPI, MBIE, mana whenua, and the community. A Maori Advisory group provides advice on all aspects of our strategy setting, governance, operation, research design and delivery and our engagement with industry and the community.

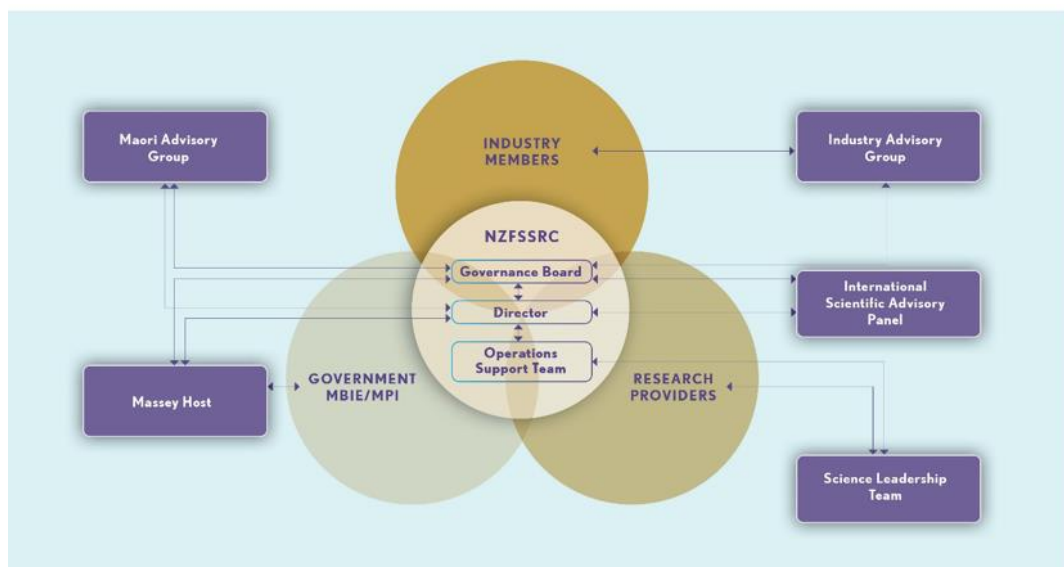


Figure 1. Structure and operation of the New Zealand Food Safety Science & Research Centre

There are many parts of Te Ara Paerangi that we, as a Centre, are in broad agreement with. However, for the purposes of brevity and clarity we wish to focus our comments on three main areas:

- Setting strategic direction and research priorities: the NZFSSRC process for developing a New Zealand food safety strategy could serve as a model to develop priorities in other fields
- Stakeholder engagement: via collaborative interactive groups where researchers develop proposals in collaboration with end users
- Funding and a 'best teams' approach: core funding provides stability and continuity for the research workforce

## **1. Setting strategic direction and research priorities**

We strongly support the concept of setting strategic direction and national-level research priorities using panels comprised of representatives from industry, research, government, mana whenua and lay people. This approach is particularly relevant for broad research and interrelated areas such as Public Health and Food Safety. Food safety, for example, involves a large number and wide range of readily identified and engaged stakeholders, with research carried out under this banner having an impact both on consumers and the food industry, in addition to a relationship with other research, in particular, in the areas of animal health and biosecurity.

Our strong endorsement of this approach is based on an example we can share: the experiences we gained through undertaking a Ministry for Primary Industries funded project, completed on 1 February 2022, which was to develop “A Food Safety Science Plan For Aotearoa New Zealand”.

To support the identification of key issues, set strategy and determine research priorities, we successfully developed this Plan collaboratively with science providers, mana whenua, government and industry partners.

To progress this work, we brought together a Leadership Group comprised of representatives from the Māori community, public health, food industry leaders, researchers, academics, and regulators to provide insights and give advice about the key science areas the Plan should focus on. The Science Leaders Group provided advice on cross-sector concerns and fundamental research needs. Finally, a broad Stakeholder Group (Food Industry representatives, researchers and regulators) provided input and feedback on the draft themes and established the research priorities, complete with indicative funding.

This process enabled us to canvass a very wide range of views and to develop a plan that we believe represents a shared vision for the short and longer term food safety needs of Aotearoa New Zealand. Critically, this vision, which was developed in partnership with Māori stakeholders, is designed to give active effect to our nation’s founding document, Te Tiriti o Waitangi, and incorporates clear processes to enable this. In addition, by involving all stakeholders in the development of the plan we believe this shared vision will give confidence to research providers to invest in human capital capacity and capability development and hence provide much-needed opportunities for emerging researchers to help meet the food safety needs of Aotearoa New Zealand, now and into the future. In summary, then, we consider that this methodology – underpinned by a partnership approach – provides a useful exemplar for how we might go about engaging an authentic stakeholder voice and developing and then fully championing our national research priorities.

## **2. Stakeholder engagement**

The NZFSSRC engages with and co-ordinates research for a broad range of stakeholder groups and as such we believe that the model we have developed could help to inform other prioritised research areas. One of the outstanding features of the research provided by the NZFSSRC is its applied nature and direct relevance to the food industry, which helps us to achieve the shared (the food industry, regulators, researchers) goal of ensuring the safety of all food produced and consumed in Aotearoa New Zealand. A vital component in the development of our research proposals has been the ability for the various food safety stakeholders to meet under the umbrella of the NZFSSRC, to get to know each other, understand various stakeholders’ capabilities and needs and to develop trust.

This “networking” has been successfully facilitated by the establishment of an Industry Advisory Group (IAG), comprised of representatives from our thirty-two full and affiliate members. Chaired by an industry representative, the IAG meets quarterly and discusses both sector-specific and cross-sector industry research needs. A good example of a project strongly supported and in-part funded by the IAG has been the development of an Emerging Risk Identification System (ERIS), which now publishes monthly newsletters (available from our website; [www.nzfssrc.org.nz](http://www.nzfssrc.org.nz)). The work of the ERIS team has garnered praise from all aspects of the national food industry and ERIS is now forging collaborations with similar international agencies.

In addition, we have developed four industry specific taskforces (dairy, horticulture, poultry and seafood; noting that red meat is pending) comprised of industry representatives, researchers and regulators. Many industry members of these taskforces, particularly those newer to the industry or from smaller companies, have

mentioned how much they learn from and enjoy engaging and getting to know some of the food safety “rock stars” in the taskforce and how invaluable it is to be able to hear the views from industry, researchers (including academics), public health experts and regulators in an open and convivial forum. Examples of projects that have developed from the taskforces include the tracking of *Campylobacter* in poultry flocks and the development of best practice guidelines to deal with pathogens in the dairy industry. Again, we offer this example by way of a possible exemplar for how we could leverage the very best of Aotearoa in terms of the design and functioning of a high-quality national science research system.

### 3. Funding and a “best teams approach”

The NZFSSRC strongly supports the provision of targeted core and targeted competitive funding, complemented by competitive untargeted funding. Core funding is essential in order to underpin day-to-day operations (e.g. operating costs), provide employment security and continuity, and the ability to develop career paths and assist with capability development. It can also facilitate a long-term visionary national research agenda to solve big, complex problems, and to reduce the real costs (time and energy) associated with the current competitive funding regime and the associated duplication of resourcing. In sum, targeted (core and competitive) funding is required to ensure that the research being undertaken is a good fit with the strategy and the agreed research priorities, developed as per a process described under points 1 and 2. On the other hand, competitive untargeted funding is required to facilitate longer horizon or blue-sky research, which often drives innovation.

A lack of core funding has prevented the NZFSSRC from having a wider impact and limited its effectiveness. This is because, notwithstanding what we believe has been the outstanding success of the development of an Industry Advisory Group and sector-based taskforces, it is apparent that many vital pieces of research that are not operational in the short term are challenging to persuade industry to commit to investment. Indeed, in many cases, the need for and relevance of the research is not disputed, but it has proven very difficult to get individual companies to contribute to fund it.

Examples of research that the NZFSSRC are finding difficult to secure funding for include:

- research to develop better strategies to improve food safety communication both to the public (including communication/education targeted specifically at Māori communities) and to workers in the food industry;
- engagement with Māori to improve the safety of foods they grow, harvest (including wild foods) or prepare;
- the development of systems that can integrate food safety data across sectors and across user groups (e.g. to investigate and improve the safety of water used on-farm for irrigation and spraying and washing produce. A logical approach would be a cross sector initiative, incorporating data available from regional councils, horticultural, red meat and dairy sectors);
- nurturing and retaining capability in areas where there is either a current deficit or a deficit is likely because of an aging workforce,
- research that cuts across research domains, and research to develop more efficient research tools (more efficient whole genome sequencing approaches to facilitate the tracking of pathogens of importance to public health and food safety);
- research related to food safety and public health, and
- most importantly, the intersections between animal health, food safety and public health, despite the obvious relationships between these and a world-wide trend for governments to invest in a “one health” approach.

A further challenge that the NZFSSRC has wrestled with is the reluctance of Aotearoa New Zealand research providers to share research or funding opportunities, especially in areas where they believe they have an investment, a commercial advantage in or an “historical” claim. Many organisations are also adept at trying to predict and move into areas in which they see future funding opportunities. This has, of course, inevitably resulted in unnecessary competition, with needless duplication of resources and, ultimately, an inefficient science system.

In short, it is apparent that the current way in which the NZFSSRC is funded (that is, the research must secure 50:50 industry funding over the life of the centre), is not appropriate for a system designed to deliver world-class science in an effective and efficient manner. Rather, we believe a mix of co-ordinated funding mechanisms is required, incorporating funding for core activities (e.g. capability development; emerging risk scanning; the development of tools/approaches to underpin research such as more efficient Whole Genome Sequencing (WGS) methods; the maintenance of critical infrastructure, such as administrative support; the hosting of culture collections; pathogen monitoring; community education; engagement with Māori), blue sky contestable projects (including for targeted areas of research), applied projects (with industry contributions) and cross-sector projects (e.g. One Health).

Importantly, we also believe that any new funding system should be open to taking a 'best teams' approach with expertise drawn from across the research system including the incorporation of Te Ao Māori and Vision Mātauranga.

Finally, a more effective and efficient way of undertaking science will also require a new way of setting the over-arching research strategy, developing national research priorities, and managing the delivery of the science to meet these priorities. As outlined earlier in this submission, we believe that the NZFSSRC model (Figure 1), subject to a change in its funding mechanism, could act as something of a 'blueprint' for how publicly funded research is prioritised and managed in the future.

Thank you for the opportunity to comment and to make this submission on behalf of the NZFSSRC.



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