



Science of Food Programme

Principal Investigator – Distinguished Professor Harjinder Singh, Riddet Institute
Research Investment: \$1.75 million over 5 years

The Science of Food platform is supporting and enabling the High Value Nutrition (HVN) National Science Challenge’s mission of “developing high-value foods with validated health benefits to drive economic growth.” The platform addresses the technological challenges of designing and manufacturing food products that deliver scientifically proven health benefits to meet consumer and industry needs.

In phase 1 of the programme, new food formats were created, which had added health-beneficial plant extracts, without negatively affecting product quality. These products included low-fat yoghurts fortified with a plant bioactive (polyphenol) for managing diabetes, a plant based protein bar for metabolic health, and a high-fibre kūmara powder to stimulate healthy gut bacteria in weaning infants.

These products were produced on a semi-commercial scale for use in human clinical trials. The programme also developed a novel, patented technology for incorporating healthy plant extracts into food products in a way that overcomes the downsides of these extracts, such as bitterness and negative reactions with other food components.

The Science of Food platform maintained active engagement with a number of New Zealand food and beverage companies throughout the programme.

“By collaborating with NUKU ki te Puku™, a cluster of innovative Māori businesses, we co-developed a high-value nutrition bar that was tested for health benefits under the Metabolic Health Platform, targeted to pre-diabetic consumers in China,” says Principal Investigator, Distinguished Professor Harjinder Singh from the Riddet Institute.

“This relationship afforded us not only the opportunity to provide technical guidance and capability to the cluster in the development of its trial product, but also allowed us to support the development of best-practice guidance for Māori Small to Medium Enterprises translating mātauranga Māori and Māori values into their food innovation business models.” he says.

“We produced comprehensive reports on trends and developments in regulatory and intellectual property landscapes as well as product launches relevant to Immune, Metabolic, Digestive Health and Infant Health Platforms, ,” he said.

“Overall, the Science of Food platform has allowed the development of critical research capabilities in food science that are at the leading edge of food developments internationally and which are

critical to complete the mission of the High-Value Nutrition National Science Challenge,” says Ms Joanne Todd, Challenge Director.

“More importantly, by fully embedding food science within each of the Challenge’s health platforms, health scientists and food scientists were empowered to work together to achieve the common goals of the Challenge and deliver the most relevant, impactful results to support Aotearoa New Zealand’s long-term, sustainable, agri-food success,” she says.