

# Te Ao Māori Approaches to Farming Enable Effective Local Solutions

The systems-thinking, holistic approaches to farming in te ao Māori have been demonstrated to enable effective local solutions, leading the way for others.



Photographed for Shepherdess magazine by Michelle Porter

The systems-thinking, holistic approaches to farming in te ao Māori have been demonstrated to enable effective local solutions, leading the way for others.

Farmers on ten commercial farms totalling approximately 2000 hectares in the Waikato-Bay of Plenty became better observers of their whenua because of their involvement in the Rere Ki Uta, Rere Ki Tai project funded by Our Land and Water. Over 18 months, the farmers became more connected to their whenua and embraced changes that led to improved outcomes for te Taiao (our world) including farmer wellbeing, whānau, awa and whenua.

The farmers embraced knowledge from te ao Māori, other farmers and science, and gained the confidence to share their learning at public forums, on-farm days and workshops. Lessons from the project are being scaled out by industry: DairyNZ hosted a farm day on one participating farm, and a collaboration in development with Miraka and Fonterra aims to implement the project's process and apply the findings to the wider agricultural community.

When funding for the project ended in March 2024, Rere Ki Uta, Rere Ki Tai opted to continue as an incorporated society, to collect long-term farm data and undertake outreach and education across New Zealand's primary sector.

Rere Ki Uta, Rere Ki Tai investigated the connection between farm practices to improve the mana and mauri of soil and improvements in soil, people, water, air and animal health; and farmer confidence to change farm practices when these are informed by mātauranga Māori, biophysical science and farmer knowledge.

---

*Three farms that adopted all practices reduced nitrogen inputs 62–80% without reducing milk solids per cow. Overseer modelling on two of the farms found reduction in nitrogen loss of 21–25% and GHG reduction of 11–15%, due to a decrease in application of soluble nitrogen and phosphate fertiliser, multispecies pasture and reduced imported feed.*

---

Rere Ki Uta, Rere Ki Tai aimed to provide practical, well-evidenced tools enabling farmers to better care for soils, in response to market demand for reduced environmental impacts from farming. This aligns with Our Land and Water's mission to improve water quality in Aotearoa without sacrificing agricultural production or profitability. The project was one of three place-based pilots under the Revitalise Te Taiao research programme.

A multidisciplinary team of farmers, researchers and mātauranga Māori practitioners, led by Dr Ashna Khan (Agrisea), brought together three knowledge systems – mātauranga Māori, biophysical science, farmer

knowledge – to inform land management decisions. There was a strong emphasis on the Māori knowledge that all aspects of te Taiao are interconnected.

Our Land and Water funding was uniquely suited to support this project, due to its commitment to respecting and understanding the importance of te ao Māori within its funded programmes, and focus on enabling stakeholder-, community- and practitioner-led research that respects multiple knowledge systems (farmer and practitioner knowledge, mātauranga Māori and contemporary science).

Intergenerational knowledge was shared by the ten farmers, who were included as co-researchers. Mātauranga Māori was shared by tāngata whenua (Waikato Tainui, Tuhoe). Institutional knowledge was shared by Agrisea, with Fonterra and Miraka supporting farm selection and market and value chain insights. Biophysical science was contributed by Lincoln University, AgResearch, Manaaki Whenua Landcare Research, and specialists in social science, market research, financial advice, communication, plus kaupapa Māori practitioners and kaiako from local schools.

Together this multidisciplinary team identified practices to improve soil health, implemented those practices and tracked their impact on the farms. A range of metrics were tracked: wellbeing, productivity, profitability, GHG emissions, animal health, freshwater, and market access. This was brought together in a new Pamu Ora framework. A scientific trial was replicated on the Lincoln University research farm.

---

*All farmers found the on-farm changes contributed to enhancing their wellbeing and that of their whānau and reported renewed hope for the future of agriculture. One farmer commented, "Now I see farming as fun again."*

---

A key finding was to prove the interconnectedness of soil health with the health of the plants, animals, people and food on the farms. Farms in the project adopted a mix of practices to improve the mana and mauri of soil, including reduced nitrogen fertiliser use, diverse pastures, māramataka, tree-planting and deferred grazing. Three farms that adopted all practices reduced nitrogen inputs 62–80% without reducing milk solids per cow. Overseer modelling on two of the farms found reduction in nitrogen loss of 21–25% and GHG reduction of 11–15%, due to a decrease in application of soluble nitrogen and phosphate fertiliser, multispecies pasture and reduced imported feed. One farm is now converting 3200 hectares to a biological farming system.

Underpinning these outcomes, all farmers reported changes in their thinking, observations and understanding, including a deeper connection with their soil, and understanding soil as a living entity rather than solely a producer of grass. Some farmers changed their information sources, such as seeking multiple sources of fertiliser information instead of relying on one company representative.

All farmers found the on-farm changes contributed to enhancing their wellbeing and that of their whānau and reported renewed hope for the future of agriculture. One farmer commented, "Now I see farming as fun again."

---

*This article was prepared as an impact case study for MBIE as part of Our Land and Water's 2023–24 annual reporting requirement.*

**Additional information:**

- [Revitalise Te Taiao](#) website
- [Rere ki Uta Rere ki Tai](#) project website

**Date:** 28 August 2024

**Author:** Annabel McAleer, Our Land and Water