Our Land and Water National Science Challenge
Toitū te Whenua Toiora te Wai

Our Land and Water Symposium, 11-12 April 2017
Greater Value in Global Markets
Outline of the Session

Overview of the Greater Value in Global Markets Theme (Caroline Saunders)

1. Drivers and Credence Attributes
   - The Matrix Research Project (Caroline Saunders)
   - The Eutrophication Footprint Research Project (Stewart Ledgard)
2. Distribution of Value Across the Value Chain
   - Integrating Value Chains Research Project (Paul Dalziel)
3. Developing a Mātauranga Framework for Better Land and Water Use
   - Mauri Whenua Ora Research Project (Merata Kawharu)
4. The Value of a Rural Bioeconomy
   - Introduction to the Research Project (Anita Wreford)
How our research is structured

Three key themes, all interconnected with The Nexus
OUR LAND AND WATER
OUR LAND AND WATER
• Values of New Zealanders in land use choices (including the values of producers)
• “The Social Licence to Farm in New Zealand”
OUR LAND AND WATER

Does this have value in our global markets?

• Values of New Zealanders in land use choices (including the values of producers)
• “The Social Licence to Farm in New Zealand”
“Ko tātou enei – It’s who we are.”

This is the landing page for The New Zealand Story. Kaitiaki is one of the its key themes and the website illustrates again and again that Māori values and practices are an essential part of what makes our land and water distinctive.
Challenge Mission

“To enhance primary sector production and productivity while maintaining and improving our land and water quality for future generations.”
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Theme 1 is exploring whether New Zealand producers and processors can capture value in international markets because of this.

We are not alone in this vision...
The Te Hono Movement is a business-led and government-partnered group of over 180 influential leaders representing 80% of the New Zealand primary sector who have united around a vision for adding value to exports.

Vision: From price taking to market shaping. Transforming the primary sector to realise the opportunity for Aotearoa, New Zealand to be recognised for our natural environment and products, as world leaders in innovation...

Unlocking the power of New Zealand’s primary sector

From our land to the world.

A partnership helping to drive the success of the New Zealand primary industry and make Aotearoa, New Zealand, a place where our children and their children want to live, work and thrive.
This is challenging because our consumers are distant.

The graph shows the percentage of final sales of New Zealand primary sector products that are exported.

Distant consumers mean that we need to work hard to understand:

- What consumers value
- How we communicate to our consumers what we offer
- How we can capture a share of the value we provide
Capturing Global Value

All value that can be shared along a global value chain comes from what the final consumers are willing to pay for the product.
New Zealand Values are reflected in our land use choices and promoted through a distinctive country-of-origin profile.
Capturing Global Value

- Land Use Choices
- Country-of-Origin Profile
- Collaborative Value Chains
- Market Oriented Value Chains
- In Market Values

Degree of Performance
1. Drivers and Credence Attributes

The Matrix Research Project

- This project took place from May to September 2016.
- It was the first stage of a high level overview of national and international drivers that have the potential to affect land use change and/or practice in New Zealand.
- Review of consumer preference in market
- Compiled extensive data base of domestic and international drivers with page of information on each.
- Started to prioritise these with a workshop and a survey.
Drivers and Credence Attributes

The Matrix Research Project – Drivers that affect land use/practice in New Zealand

**Domestic** –
Water quality; biosecurity; environment; soil quality; health and safety.

**International Drivers** –
International trade and agricultural policy;
taste and product quality;
Credence attributes/qualities: food safety; animal welfare; environmental condition;
water quality; air Quality; nutritional value; country of origin....
Consumer willingness to pay for credence attributes – some examples

Beef with claim of ‘source of iron; - 25% to 33% in NL, B, Fr and UK
Beef country of origin US – discount of 53% Canada and 68% Australia compared to US
Beef Sweden – 43% if from EU; Traceable 12%; medication use 16%; organic 14%
Milk– Canada health information between 10 and 26%; Germany 8 to 25%
Infant formula – China COOL China -16% US +24%
Wine – average of USA, Fr, Germany, Canada and the UK 6.6% environmental logo; 14% organic; 3% carbon zero and -2.9 % less glass logo. Varies most for organic from 3% (UK) to 27% (Fr and Germany).
This diagram shows drivers grouped into four pillars:

- Social/Cultural
- Economic
- Environmental
- Governance

The diagram also gives an indication of their importance in New Zealand and three regions of the globe from selected New Zealand stakeholders.
Do you use your mobile device to purchase food and beverages?

China: All the time 0%
India: All the time 10%
Indonesia: All the time 20%
Japan: All the time 30%
NZ: All the time 40%
UK: All the time 50%

- Often
- Sometimes
- Rarely
- Never

MER – and New Zealand
1. Drivers and Credence Attributes

The Matrix Research Project

• The research also used the Lincoln Trade and Environment Model (LTEM) to analyse scenarios in international markets with the potential to affect domestic land use.
• LTEM is a model of international trade in agri-food products that allows the analyst to compare outcomes in a scenario with outcomes in the model’s baseline projections.
• Four scenarios were considered:
  ▪ Impact of climate change on international agricultural production
  ▪ Impact of extreme weather events in Australia and the United States
  ▪ Impact of better market targeting based on product credence attributes
  ▪ Impact of greater trade liberalisation in agricultural attributes
1. Drivers and Credence Attributes

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Modelled Impact of Climate Change on NZ Producer Returns

Dairy Products

- 4.9%

Sheep, Beef and Wool

- 21.1%

Cereals

- 4.9%

Total Agriculture

- 9.7%
# Modelled Impact of Better Market Targeting

## New Zealand Net Trade Value, 2024 (US$ millions)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Base Scenario</th>
<th>20% Premium</th>
<th>Per Cent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>1,654</td>
<td>2,054</td>
<td>24.2%</td>
</tr>
<tr>
<td>Sheep Meat</td>
<td>1,659</td>
<td>2,119</td>
<td>27.7%</td>
</tr>
<tr>
<td>Butter</td>
<td>2,281</td>
<td>2,414</td>
<td>5.8%</td>
</tr>
<tr>
<td>Cheese</td>
<td>1,421</td>
<td>1,795</td>
<td>26.3%</td>
</tr>
<tr>
<td>Whole milk powder</td>
<td>5,456</td>
<td>5,862</td>
<td>7.4%</td>
</tr>
<tr>
<td>Skim milk powder</td>
<td>1,636</td>
<td>1,977</td>
<td>20.8%</td>
</tr>
<tr>
<td>Total Dairy</td>
<td>10,795</td>
<td>12,049</td>
<td>11.6%</td>
</tr>
<tr>
<td>All selected products</td>
<td>14,108</td>
<td>16,222</td>
<td>15.0%</td>
</tr>
</tbody>
</table>
1. Drivers and Credence Attributes

The Eutrophication Footprint Research Project

- This project has just begun.
- It is led by Dr Stewart Ledgard (Principal Scientist at AgResearch).
- The driver is the European Union’s Product Environmental Footprinting (PEF) initiative under its Europe 2020 strategy for sustainable growth.
- PEF may become a requirement for product supply into Europe.

The aim is to develop an internationally agreed Eutrophication Indicator that is compliant with the European Union’s PEF but also relevant to New Zealand, tested using Taupo Beef exports to overseas markets as a case study.
Questions