

Unlocking Export Prosperity: Overview of the Results

Caroline Saunders

Paul Dalziel

Roger Harker

John Reid

Peter Cammock

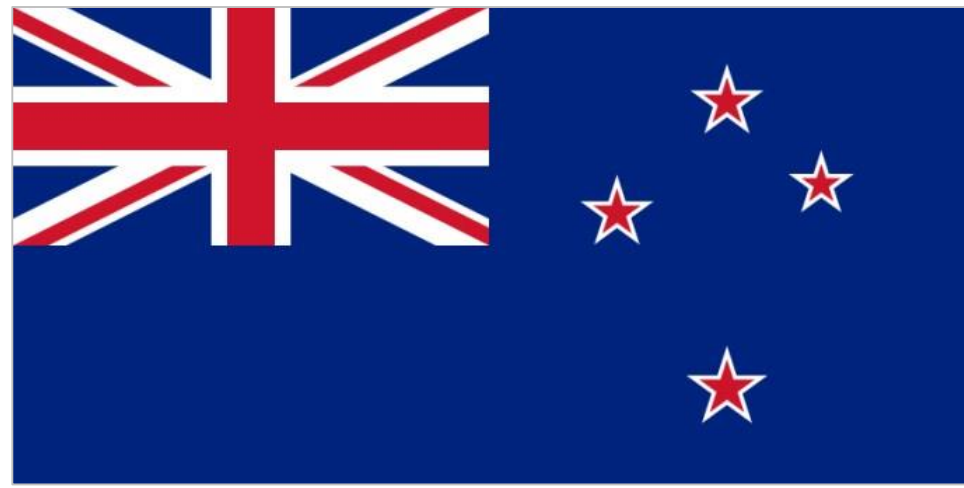


Agribusiness
& Economics
Research Unit
LINCOLN UNIVERSITY



Research Briefing 22-04 (October 2022)





Introduction



Loading "Clan McDougall" with frozen meat for England, date and photographer unknown.

Source: Archives New Zealand



PureAdvantage™



**FIT FOR
A BETTER
WORLD**

AOTEAROA
NEW ZEALAND

New Zealand's early prosperity grew out of exporting three land-based commodities to the United Kingdom: meat, dairy and wool.

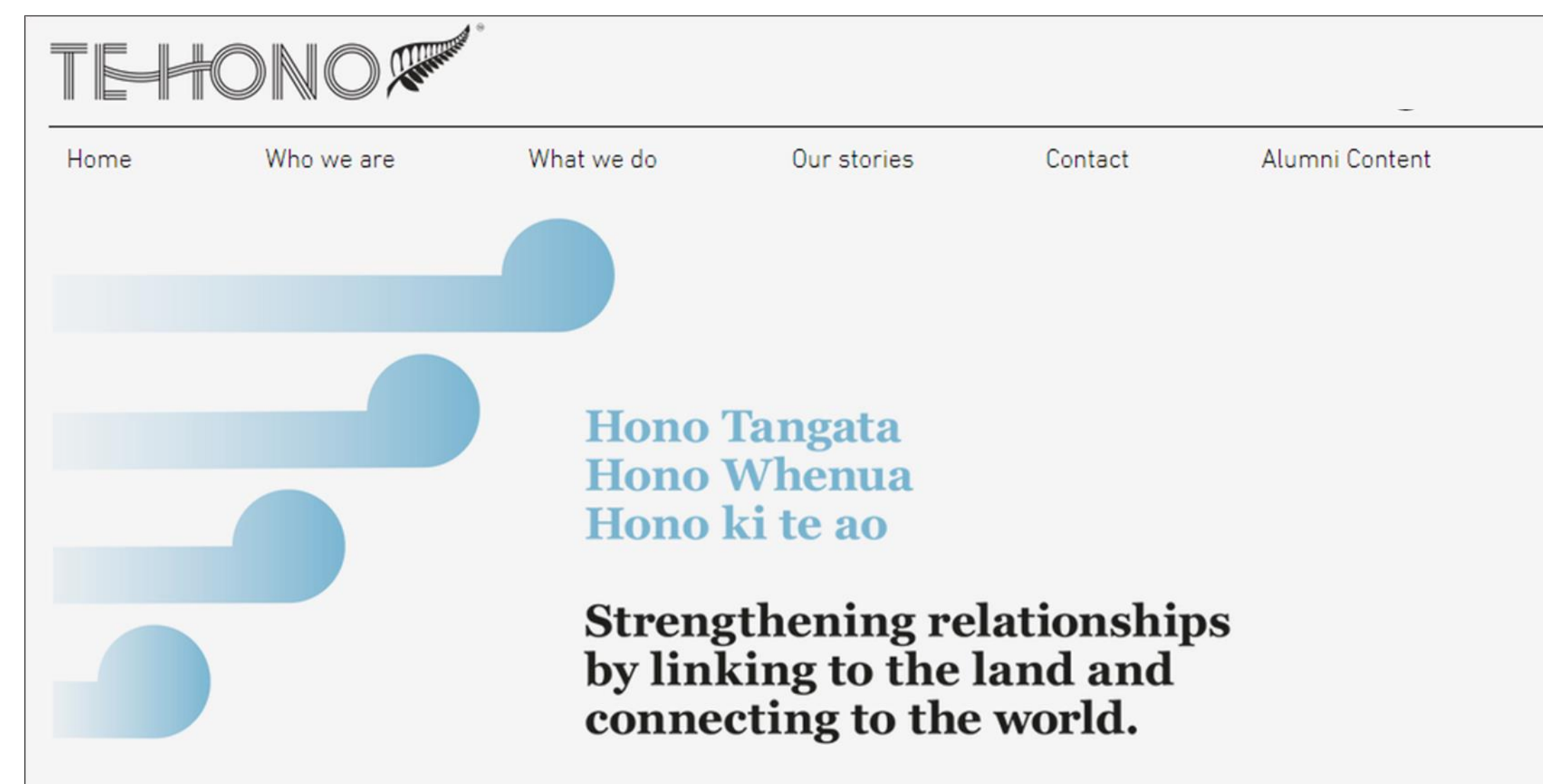
Currently, there are many initiatives, including those listed on the right, that aim to create and capture greater value from our food and fibre exports, which remain vital to the economy.

He Waka Eke Noa—
**OUR FUTURE
IN OUR HANDS**

From Volume to Value

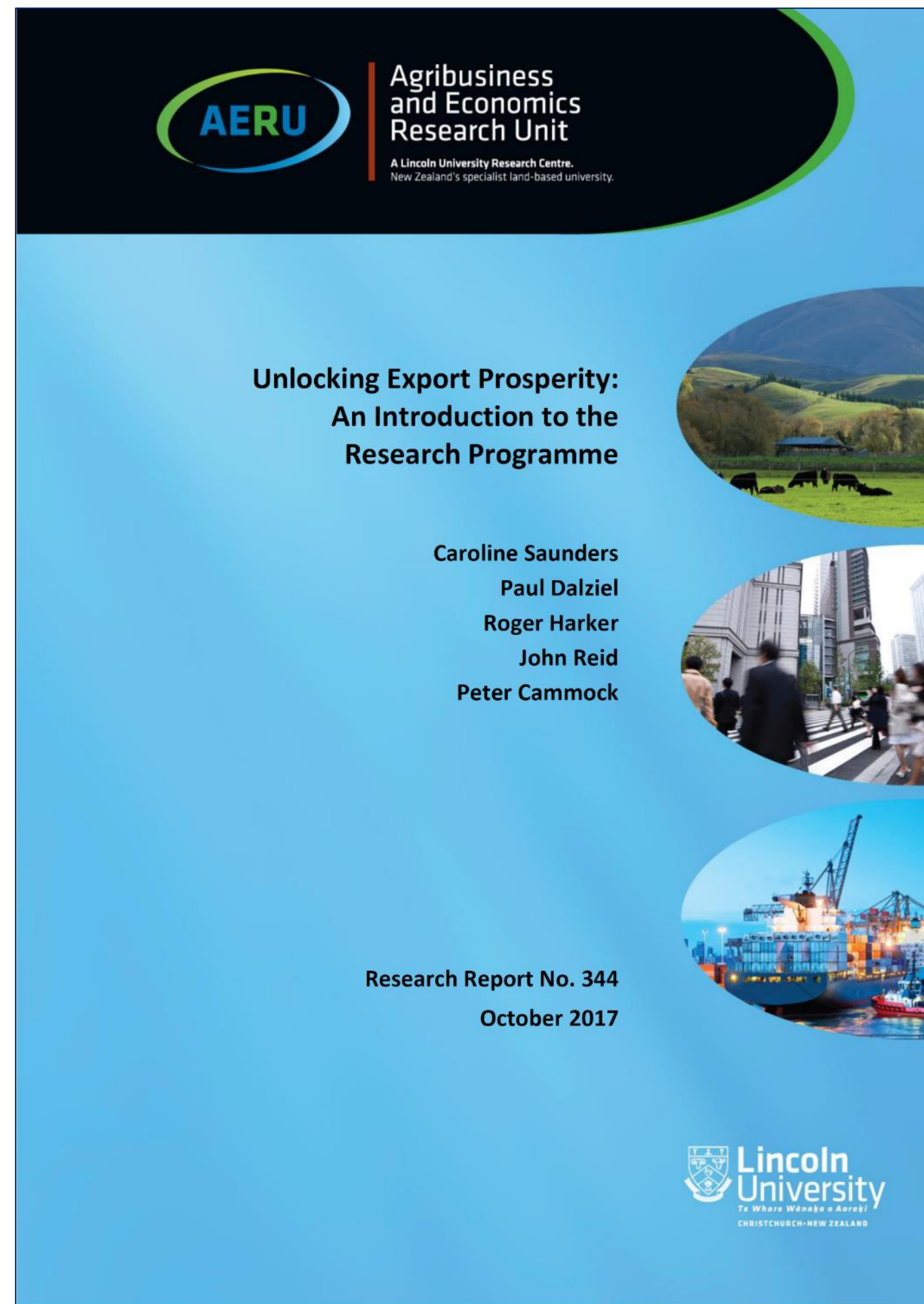
Te Hono, for example, is a partnership involving leaders of companies, iwi and government agencies championing Aotearoa New Zealand's food and fibre sector.

The partnership is driven by its mission to capture more value from the country's food and fibre exports.



“We are leading the charge to transform the way the sector operates from being predominantly focused on export volume, under a commodity-based trading model, to a value-based model; producing and exporting products of higher consumer value, whilst acknowledging the precious nature of the resources that make this possible.” ([Te Hono website](#))

Unlocking Export Prosperity, 2017-2022



Unlocking Export Prosperity was a five-year research programme designed to help support the transformation from volume to value.

It involved a partnership between researchers at four institutions:

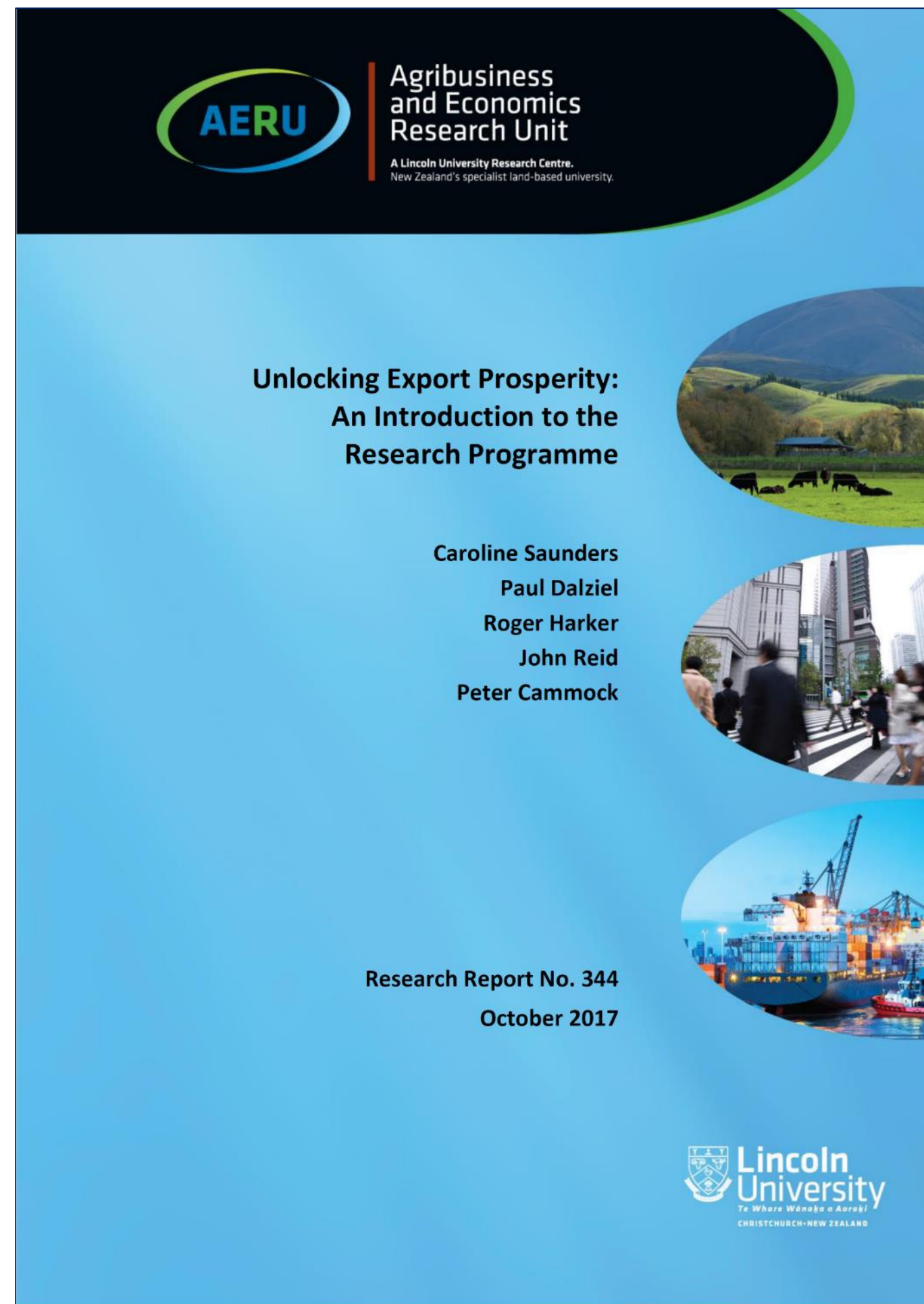
- The AERU at Lincoln University
- Plant and Food Research
- The Ngāi Tahu Centre at the University of Canterbury
- The Leadership Lab

Our purpose was to answer the question: *How can local enterprises achieve higher returns by ensuring their global consumers understand the distinctive qualities of the physical, credence and cultural attributes of agri-food products made in New Zealand?*

Four Themes

The research plan was published in [Research Report No. 344](#).
The programme involved four themes.

1. Consumer perceptions of **physical attributes** such as flavour, texture, appearance and aroma, led by Dr Roger Harker.
2. Consumer perceptions of **credence attributes** such as animal welfare and environmental care, led by Prof Caroline Saunders.
3. Consumer perceptions of **cultural attributes** associated with Māori enterprises or family farms, led by Dr John Reid.
4. The practice of **values based leadership** in New Zealand agri-food exporting enterprises, led by Dr Peter Cammock.



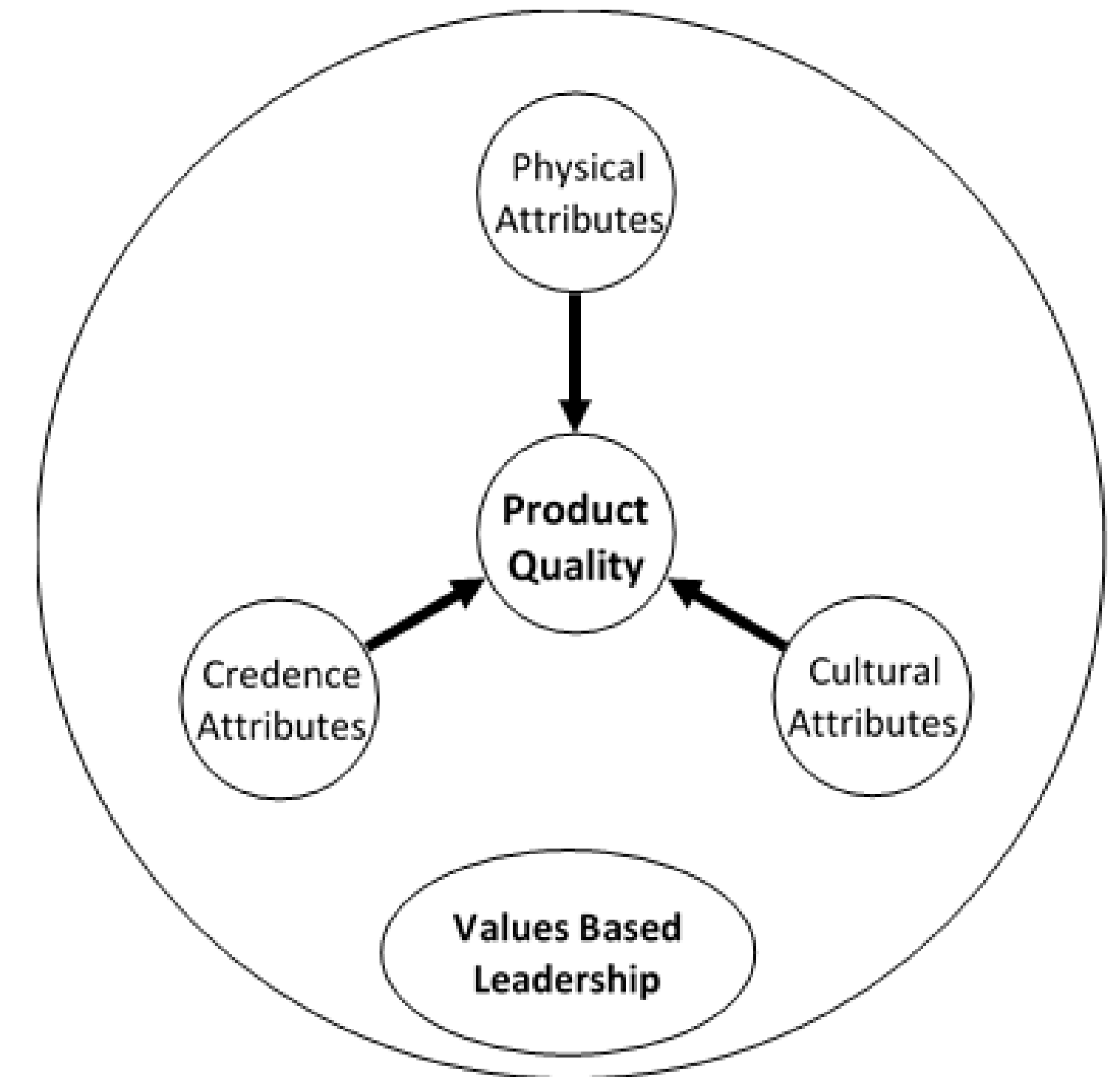
Quality Products

The four themes came from recognising two points:

- Global consumers are willing to pay a premium for a quality food and fibre product, based on that product's *physical*, *credence* and *cultural* attributes.
- New Zealand enterprises that achieve a global profile for quality require outstanding *leadership*, and this leadership is often values based.

This Research Profile presents research results from the four themes, with links to reports and websites with more details.

We thank the Ministry of Business, Innovation and Employment for their financial support, and thanks all our research partners for their participation in creating this new knowledge.



Section I

Consumer Perceptions of Physical Attributes



Distinctive Physical Attributes



The research on physical attributes was completed by [Plant & Food Research](#), led by Dr Roger Harker.

It began with a summary of previous research that confirms how the texture and flavour of food products contribute to an enjoyable experience by consumers. The report is available [here](#).

The report found that physical properties of New Zealand agri-foods often provide distinctive differentiation of our products from those produced by the rest of the world.

It presented examples of New Zealand products in the wine, apple, kiwifruit, red meat and seafood industries, recognised in global markets for having distinctive physical attributes.

Distinctive Physical Attributes



The report identified three categories of physical attributes that influence human perception of eating quality.

1. Flavour
2. Texture
3. Psychological factors:
 - Appearance
 - Odour / Aroma

The experience of these attributes can be diverse for different people, and take place within a wider setting of cultural norms about food and the practice of eating with others (see [Section III](#) below).

New Zealand Apples in the United States

Dr Harker developed a method for studying the influence of taste on consumer willingness to pay for premium New Zealand apples.

He then partnered with the [Food Innovation Center](#) of Oregon State University, USA, to implement this method in a taste experiment involving 122 consumers in Portland, USA.

Dr Harker also arranged for an on-line survey of another 120 Portland consumers to explore the difference that tasting the apples made to the consumers' responses.



Unlocking export prosperity: USA sensory study on the value of distinctive and superior eating quality

Roger Harker, Christina Roigard, David Jin, Grace Ryan, Sok Leang Chheang, Duncan Hedderley, Ann Colonna, Paul Dalziel

The New Zealand Institute for Plant and Food Research Limited



New Zealand Apples in the United States

A major result was that “profiling credence attributes such as sustainability can enhance a product’s perceived quality, but it cannot replace the fundamental importance of outstanding taste and other physical characteristics”.

The study also found that consumers who had not tasted the apples responded differently. This confirmed previous research that imagined food experiences can be exaggerations of actual experiences (both good and bad), which poses challenges for marketing campaigns.

Further details are available [here](#).



Unlocking export prosperity: USA sensory study on the value of distinctive and superior eating quality

Roger Harker, Christina Roigard, David Jin, Grace Ryan, Sok Leang Chheang, Duncan Hedderley, Ann Colonna, Paul Dalziel

The New Zealand Institute for Plant and Food Research Limited



New Zealand Apples in the United States



Dr Harker prepared a summary of his research, which is available [here](#).

The research confirmed that the enjoyment that arises while experiencing the texture and flavour of food has a **primary influence** on consumers' decisions to select or re-select a particular product.

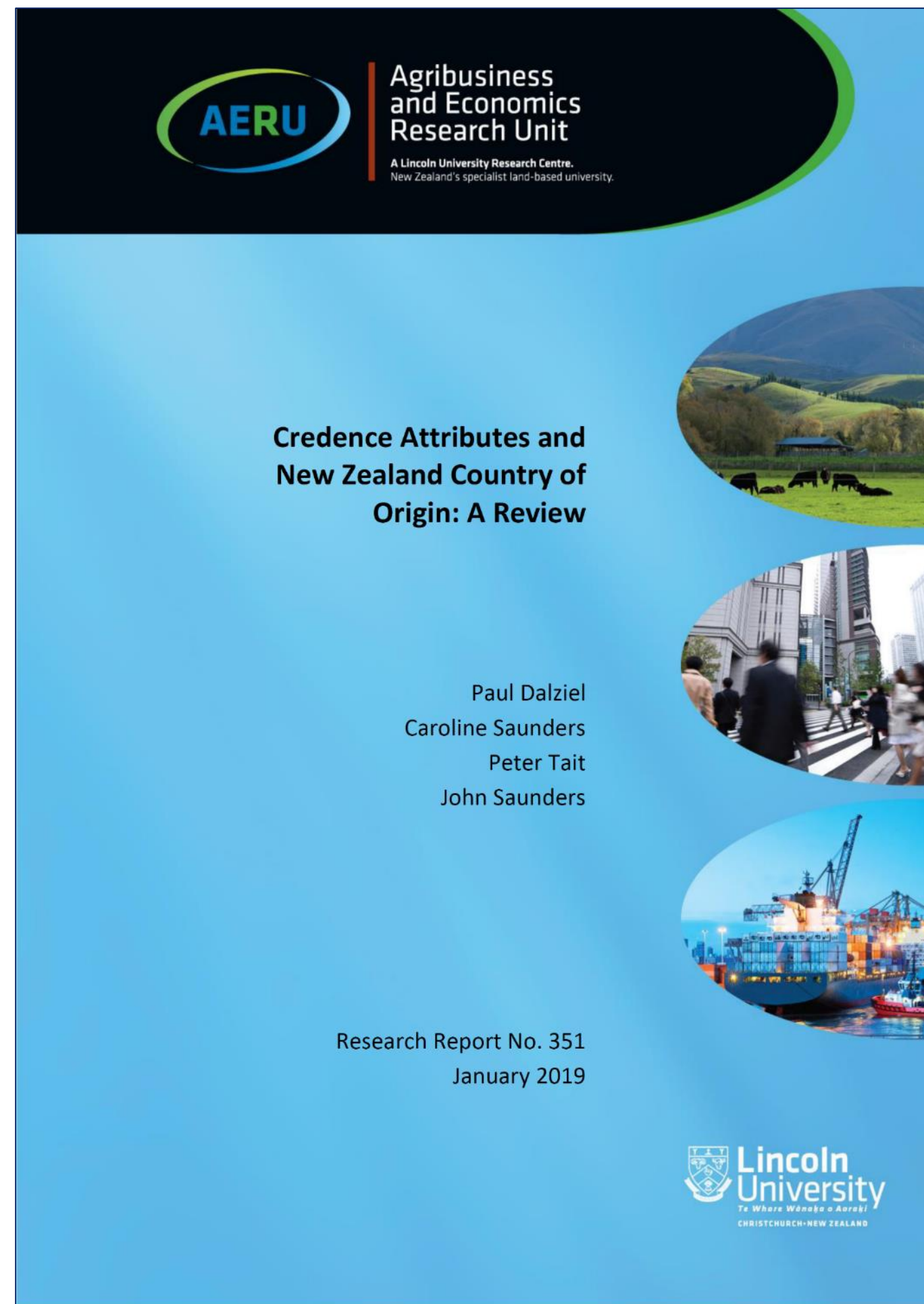
Consequently, Dr Harker's studies confirm that physical attributes such as flavour, texture, appearance, odour/aroma and convenience are essential elements of quality in the consumer's judgement of willingness to pay a premium.

Section II

Consumer Perceptions of Credence Attributes



Distinctive Credence Attributes



A credence attribute is a claim made about a product – or of the way it was produced and distributed – that the purchaser has to take on trust because it can't be seen or confirmed at the point of sale.

Examples include food safety, nutritional value, organic, animal welfare, environmental stewardship, social responsibility, worker wellbeing and cultural authenticity.

New Zealand exporters use distinctive credence attributes to obtain premiums for food and fibre products sold in global markets.

This is an important aspect of the [Te Hono](#) movement, for example, and of the [New Zealand Story](#) group as part of their respective leadership activities in moving from volume to value.

Know Your Consumers

Using credence attributes to create and capture a premium requires a knowledge of the **market segment** who value the attributes:

- Who are the consumers who value these attributes?
- What language do these consumers use for these attributes?
- How can digital tools connect producers with these consumers?

The AERU completed just over twenty on-line panel surveys of international consumers of New Zealand food and fibre products.

The researchers analysed segments within each market, and have published the results in two formats: written [reports](#) and through an on-line [data portal](#).



UK and USA alternative proteins consumer consumption behaviours and product preferences

Timothy Driver
Caroline Saunders
Paul Dalziel
Peter Tait
Paul Rutherford
Meike Guenther

Research Report No. 367
October 2020

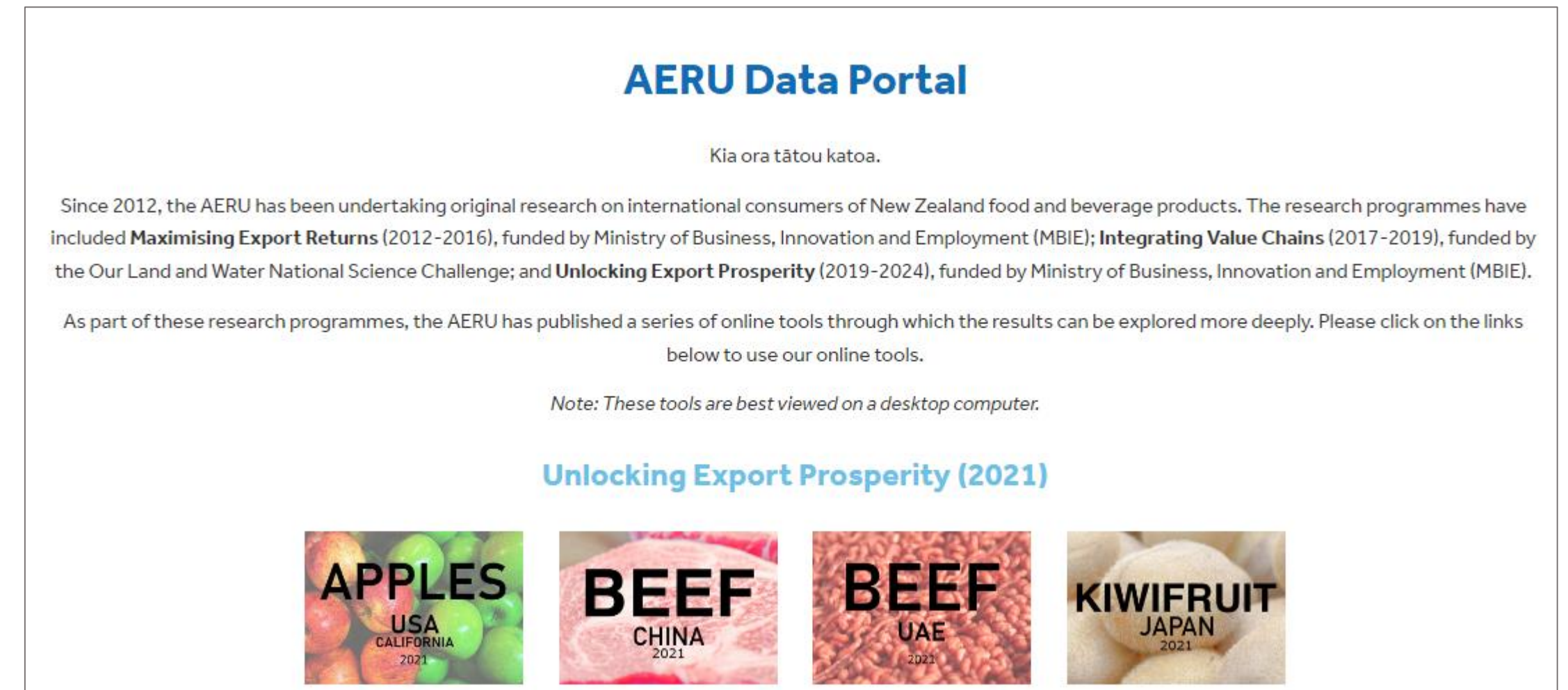
Know Your Consumers

The on-line [data portal](#) allows any user to access results from the consumer surveys in the AERU's research programmes between 2012 and 2022.

The portal also allows the user to filter the data by demographic characteristics such as age, gender, education, income and type of household.

Each survey presents its data under themes. For the most recent surveys, these themes are: consumer behaviour, consumer preferences, country of origin, sustainability, technology, and demographics.

The following slide lists the surveys since 2017 by product and country, with links to the relevant page provided by clicking on the year of the survey.



AERU Data Portal

Kia ora tātou katoa.

Since 2012, the AERU has been undertaking original research on international consumers of New Zealand food and beverage products. The research programmes have included **Maximising Export Returns** (2012-2016), funded by Ministry of Business, Innovation and Employment (MBIE); **Integrating Value Chains** (2017-2019), funded by the Our Land and Water National Science Challenge; and **Unlocking Export Prosperity** (2019-2024), funded by Ministry of Business, Innovation and Employment (MBIE).

As part of these research programmes, the AERU has published a series of online tools through which the results can be explored more deeply. Please click on the links below to use our online tools.

Note: These tools are best viewed on a desktop computer.

Unlocking Export Prosperity (2021)

APPLES
USA
CALIFORNIA
2021

BEEF
CHINA
2021

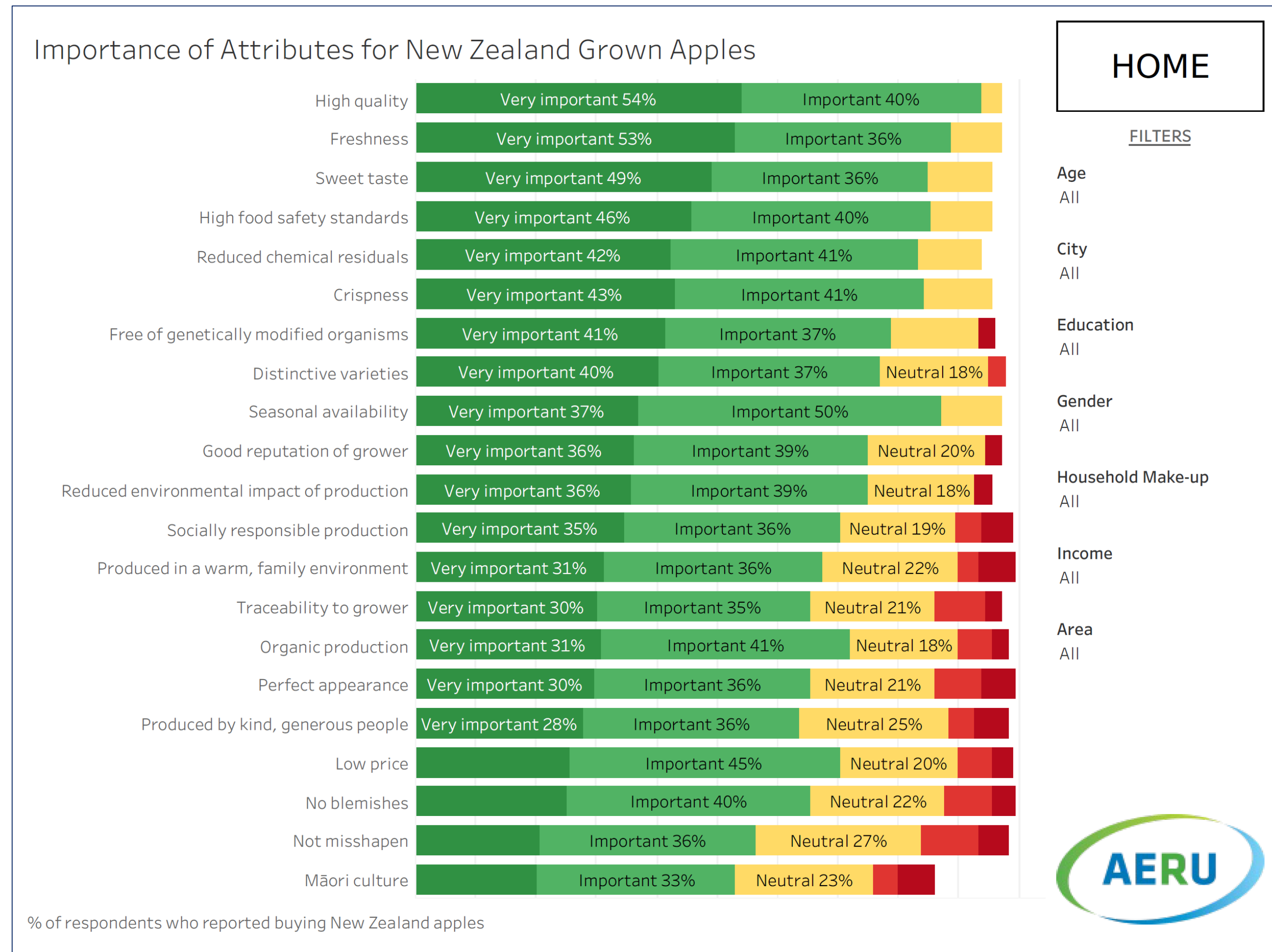
BEEF
UAE
2021

KIWIFRUIT
JAPAN
2021

Know Your Consumers

	Dairy	Meat	Horticulture	Wine	Alternative Proteins	Other
China	<u>2018, 2020, 2021</u>	<u>2019, 2021</u>	<u>2018</u>			<u>2019, 2020, & 2021</u>
Japan			<u>2019, 2021, 2022</u>			<u>2019, 2020, & 2021</u>
NZ						<u>2022</u>
UAE		<u>2019, 2021</u>				
UK		<u>2019 & 2020, 2021</u>			<u>2020</u>	<u>2019, 2020, & 2021</u>
USA		<u>2017</u>	<u>2020, 2021</u>	<u>2017, 2019, 2021</u>	<u>2020</u>	<u>2022</u>

Example of Data Portal Output



The diagram comes from the survey of apple consumers in the United States, completed in [2021](#).

It shows the ranking of different attributes for New Zealand grown apples, based on the responses of consumers who reported they bought New Zealand apples.

The outputs can be downloaded as a pdf, picture or PowerPoint file, as chosen by the user.

Consumer Willingness-to-Pay Estimates



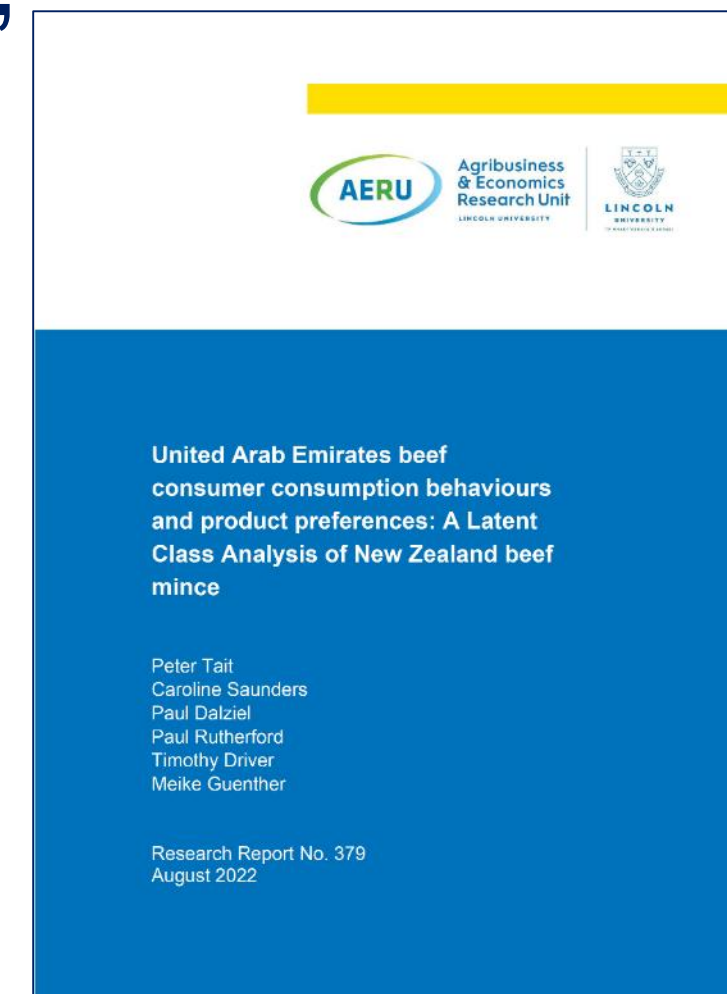
The screenshot shows the AERU website header with the logo and navigation links: 'Who We Are', 'What We Do', 'How We Do It', and 'What We've Done'. The main heading is 'Consumer Willingness-To-Pay'. Below it, a paragraph states: 'Since 2012, the AERU has engaged in a series of research to estimate the willingness-to-pay (WTP) of international consumers in markets for New Zealand's primary product exports for a range of product attributes. Summaries of the key results of this research are presented below, along with links to the original source reports.'

The data collected in a consumer survey allowed the researchers led by Associate Professor Peter Tait to provide an analysis of the consumer willingness-to-pay for different attributes.

These results are summarised on a separate page of the data portal, accessed [here](#), with links to the individual reports.

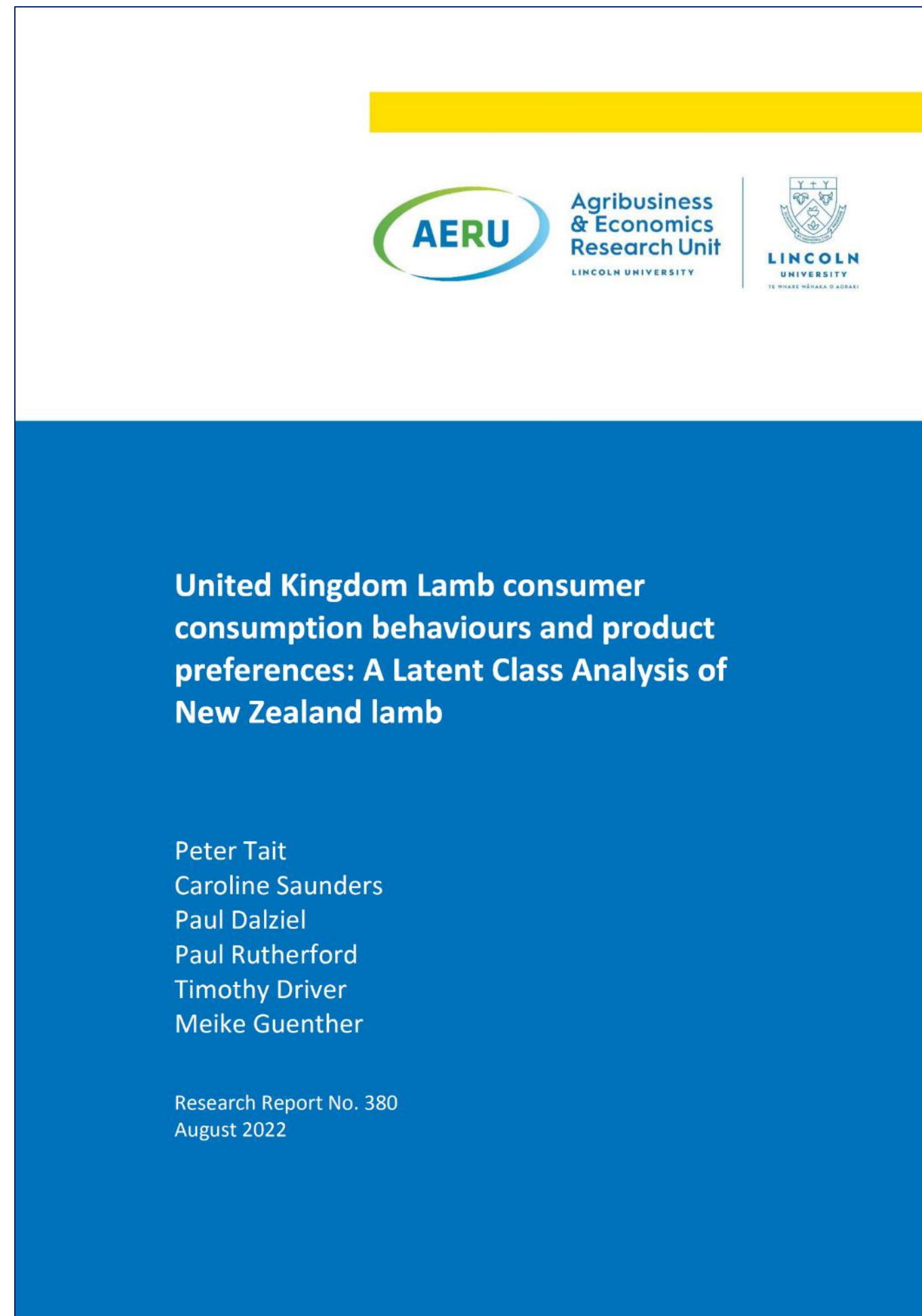
The analysis demonstrates that market segments *within* a country or region have different willingness-to-pay characteristics for different product attributes.

This illustrates the importance of identifying the best market segment for a product, and of understanding the values of the consumers in that market segment.



The report cover features the AERU and Lincoln University logos at the top. The title is 'United Arab Emirates beef consumer consumption behaviours and product preferences: A Latent Class Analysis of New Zealand beef mince'. The authors listed are Peter Tait, Caroline Saunders, Paul Dalziel, Paul Rutherford, Timothy Driver, and Meike Guenther. The report number is 379, dated August 2022.

Example: Lamb Consumers in the UK, 2021



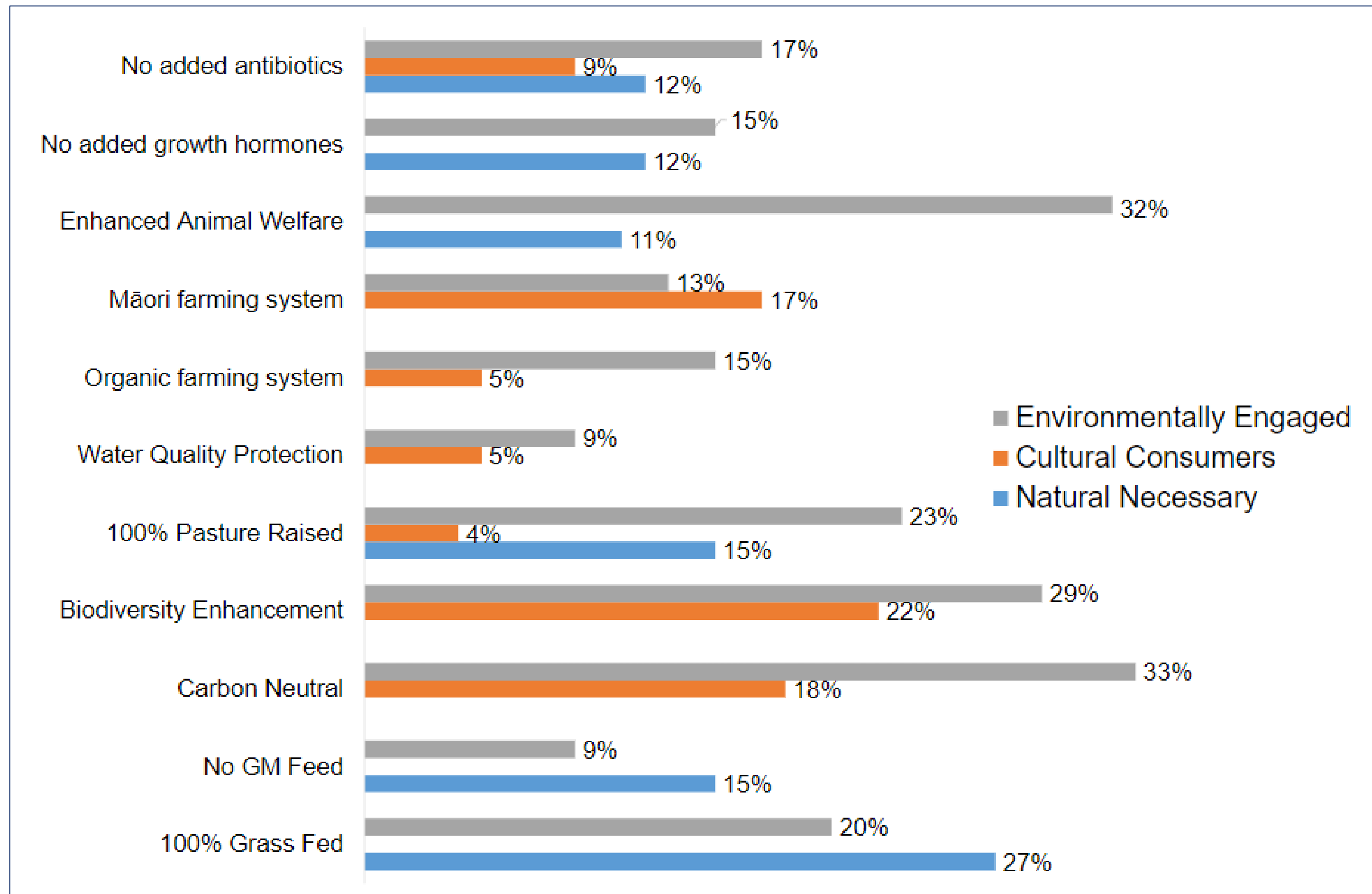
In July 2021, the research team completed an on-line survey of consumers in the United Kingdom who reported they purchased lamb at least once a month. The survey assessed their willingness-to-pay for different attributes associated with lamb leg.

The analysis was able to segment the consumers into 3 classes, each with different characteristics and preferences (see the full report [here](#)). These classes were labelled as:

- Environmentally engaged
- Cultural consumers
- Natural necessary

The next two slides describe these different classes of consumers.

Example: Lamb Consumers in the UK, 2021



The statistical techniques used by the research team allow it to segment the survey participants into three classes based on the similarity of their responses.

The figure reports the willingness-to-pay of the three classes for different attributes of lamb, expressed as a percentage of the average price of a leg of lamb.

These values range from zero to just over 30 per cent.

Example: Lamb Consumers in the UK, 2021

United Kingdom Consumer Willingness-to-pay Segments

1. Environmentally Engaged

49% of consumers

This segment is the largest of the three consumer groups. They have a broad set of considerations but preferences focus on environmental and animal health attributes. They have the highest WTP for these claims of the three segments.

Consumers in this segment are more likely to:

- Have higher usual spend on lamb
- Try to make purchases that minimise environmental harm
- Be younger

2. Cultural Consumers

32% of consumers

These consumers have significant preferences for environmental claims but importantly that have the highest WTP for Māori farmed lamb of the three segments.

Consumers in this segment are more likely to:

- Have higher awareness of Māori culture
- Be more open to cultures other than their own

3. Natural Necessary

19% of consumers

These consumers preferences encompass attributes which could be considered as representing natural farming systems, they value a 100% grass-fed claim the most, and highest of the three segments.

Consumers in this segment are more likely to:

- Be older
- Have higher NZ purchase frequency
- Rank NZ lamb highly

Based on the willingness-to-pay values, and on other data in the survey responses, it is possible to label each consumer class and describe their characteristics.

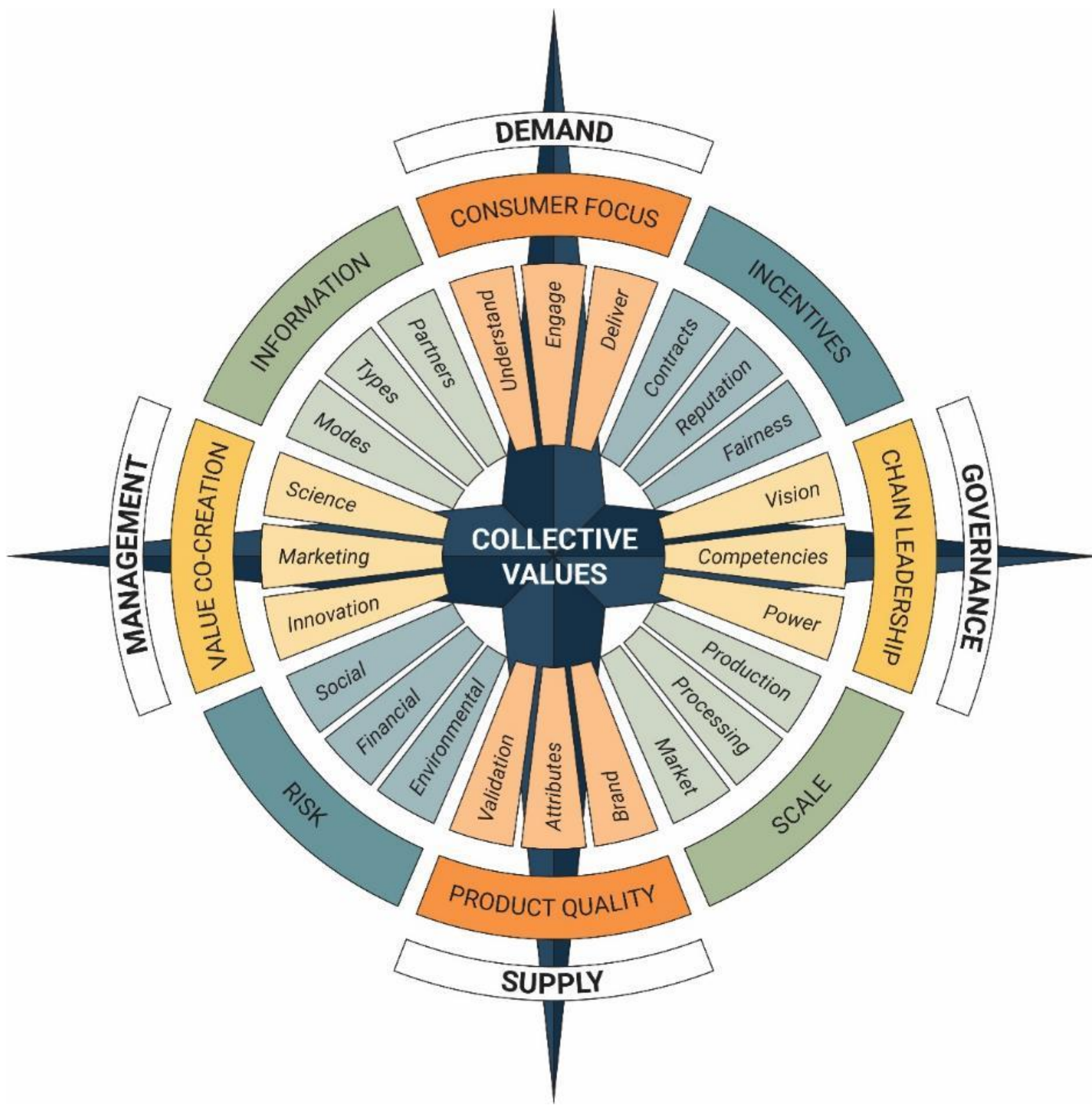
The table shows the largest group is the 'environmentally engaged' consumers (49 per cent). These consumers are more likely to be younger, and more likely to try to make purchases that minimise environmental harm.

The Value Chain Compass

In a related programme funded by [Our Land and Water](#) (a National Science Challenge), the AERU led research on characteristics of successful food and fibre value chains, with John Reid at the [Ngāi Tahu Centre](#), and with Reina Tamepo and Sylvia Tapuke at [Scion](#).

The team organised these key characteristics into a diagram we call the [Value Chain Compass](#).

It offers a guide for enterprises wanting to create a new value chain for food and fibre exports to international markets, or wanting to transform an existing supply chain into a value chain.



The Value Chain Compass

Two websites offer more details about the Value Chain Compass.

The AERU has an on-line tool that allows the user to explore each segment of the compass, which is accessed [here](#).

Our Land and Water NSC engaged [Vincent Heeringa](#) to prepare a range of written and visual resources explaining the Value Chain Compass.

The Value Project presents that material, which can be accessed [here](#).

The AERU Value Chain Compass

Welcome

E ngā manuhiri tūarangi, haere mai koutou ki tēnei rourou.

Distinguished guests, welcome to this resource.

The Agribusiness and Economics Research Unit (AERU) at Lincoln University welcomes you to this online version of the Value Chain Compass.

To learn more about each element in the Value Chain Compass, please click on the relevant segment in the figure.

THE VALUE PROJECT ARTICLES

OUR RESOURCES

The Value Project.
GREATER RETURNS FOR PRIMARY PRODUCTS

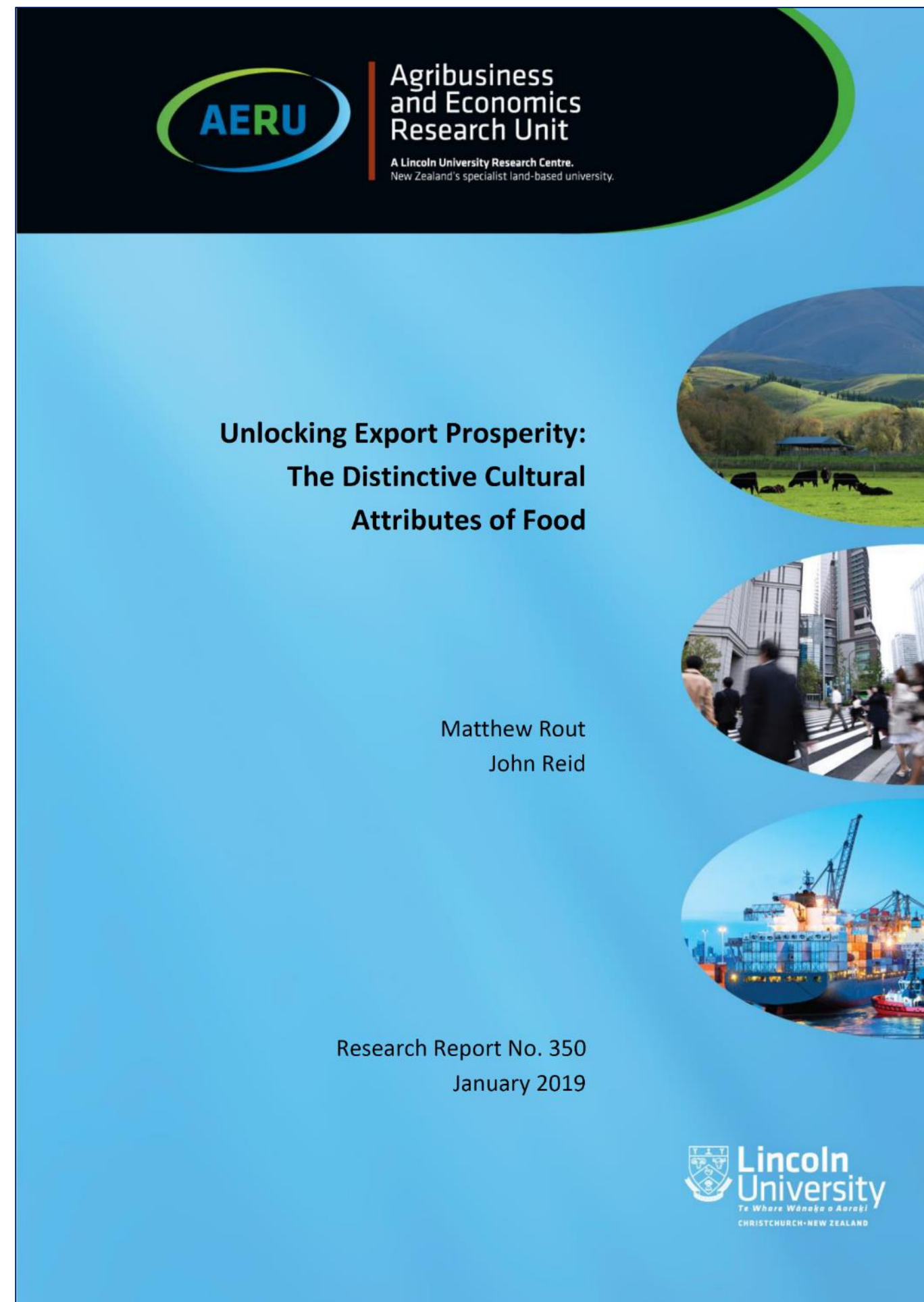
Welcome to The Value Project – exploring how Aotearoa New Zealand can generate greater returns from sustainable production.

Section III

Consumer Perceptions of Cultural Attributes



Distinctive Cultural Attributes



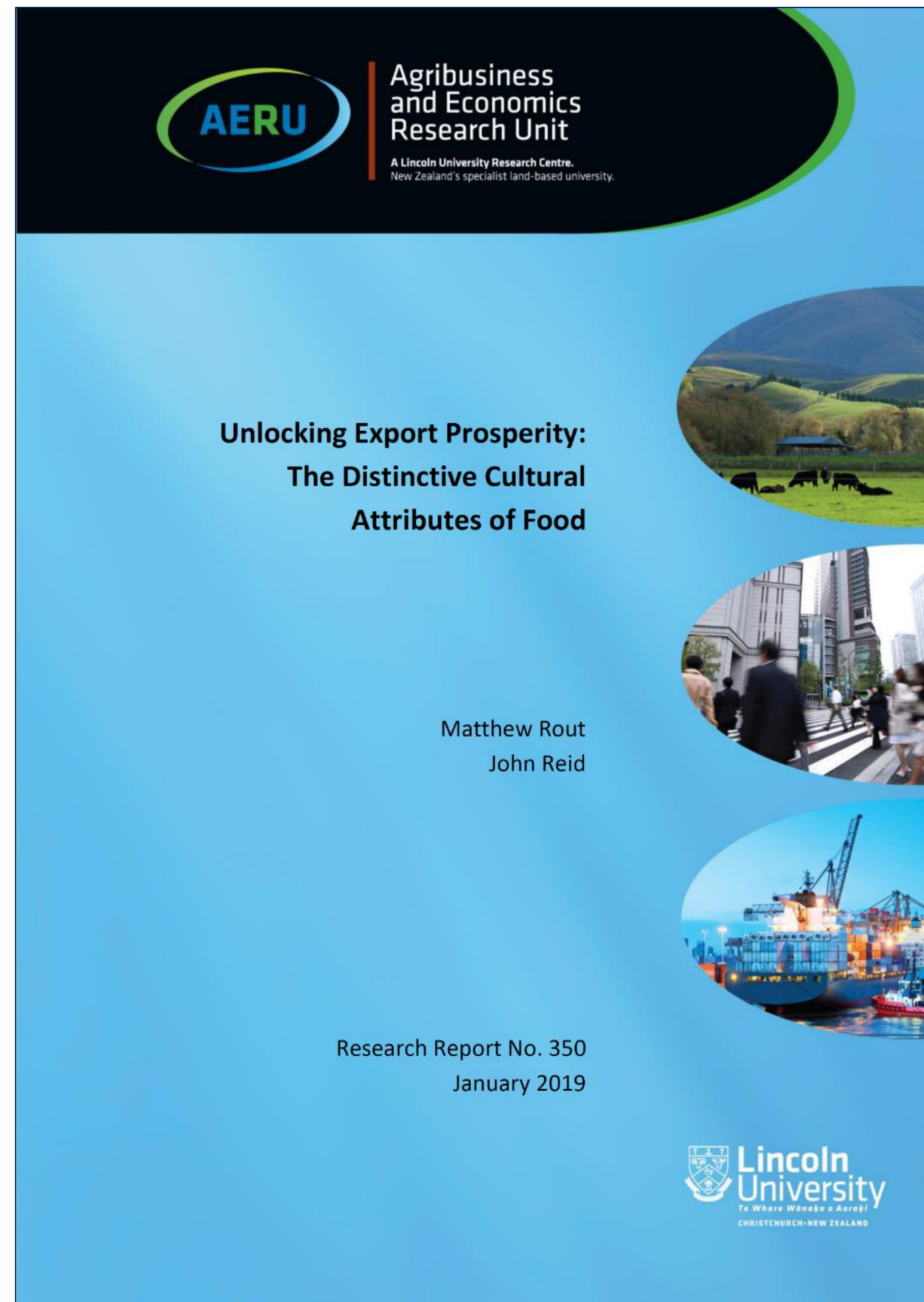
The research on cultural attributes was led by Dr John Reid, working with Matthew Rout.

It began with a [report](#) that examined ‘distinctive cultural attributes of food’ with a particular focus on how New Zealand producers can use these as a means of maximising export returns.

The report recognised that humans do not feed; they eat, in a context where cultural values are very important. Consequently, “each society has their own ‘food culture,’ which can be understood as both a reflection of their wider culture and as a core component of their culture” (page 4).

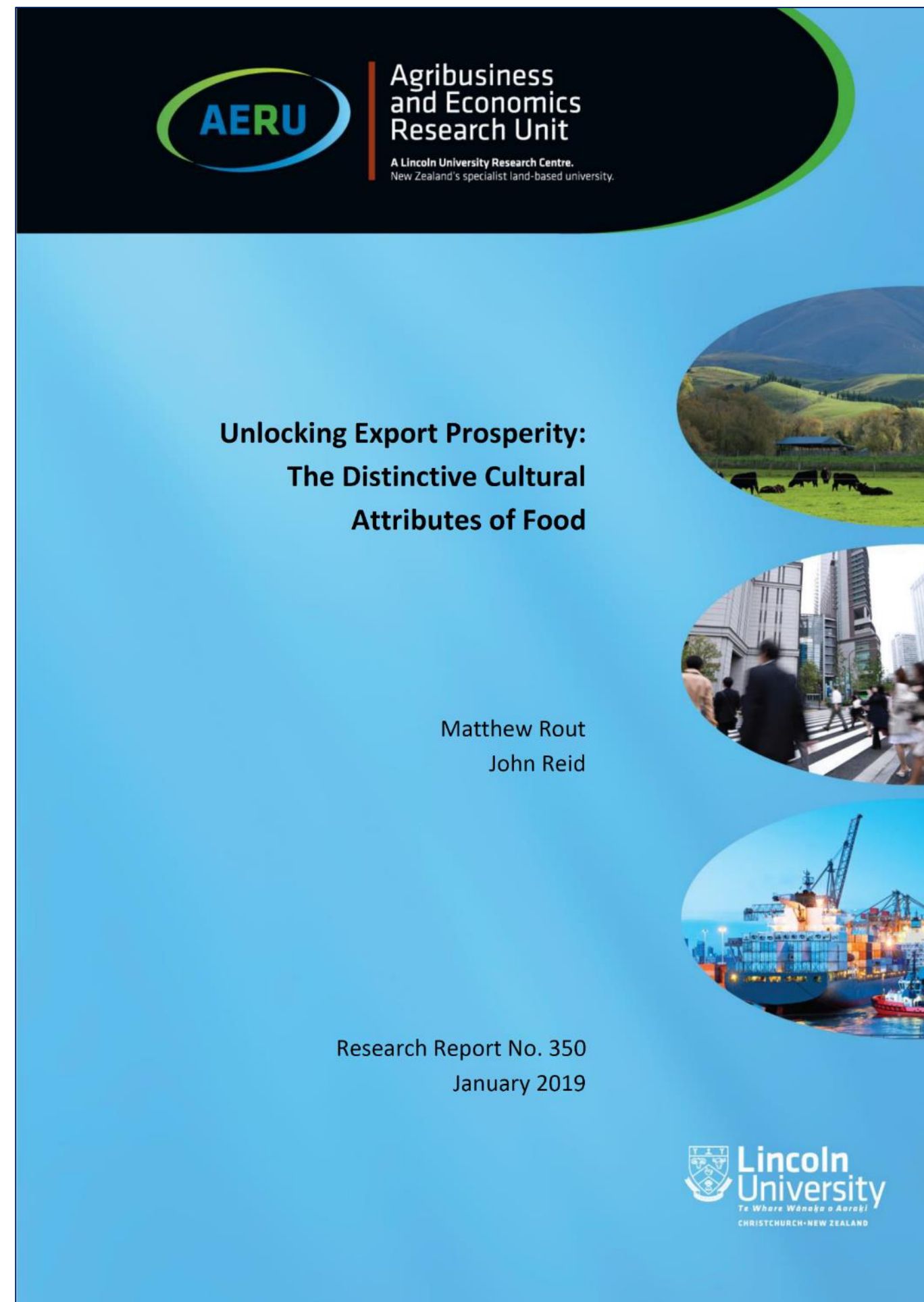
The report concluded that many opportunities therefore exist to use cultural attributes to add value to food and fibre products.

Seven Opportunities for Cultural Attributes



1. Understand both the societal culture and ‘food culture’ of the producer and the consumers.
2. Outline the company’s own culture, values and mission with a focus on those which match the producer society’s culture.
3. Develop a brand that embodies both the company and societal cultures, but also has flexibility in how it can be emphasised in different consumer cultures.
4. Understand the cultural attributes, values, beliefs, behaviours, emotional connections and associations that consumers have with food, with a particular focus on the importance of location, production technique and the similarities between consumer and producer regarding these attributes.

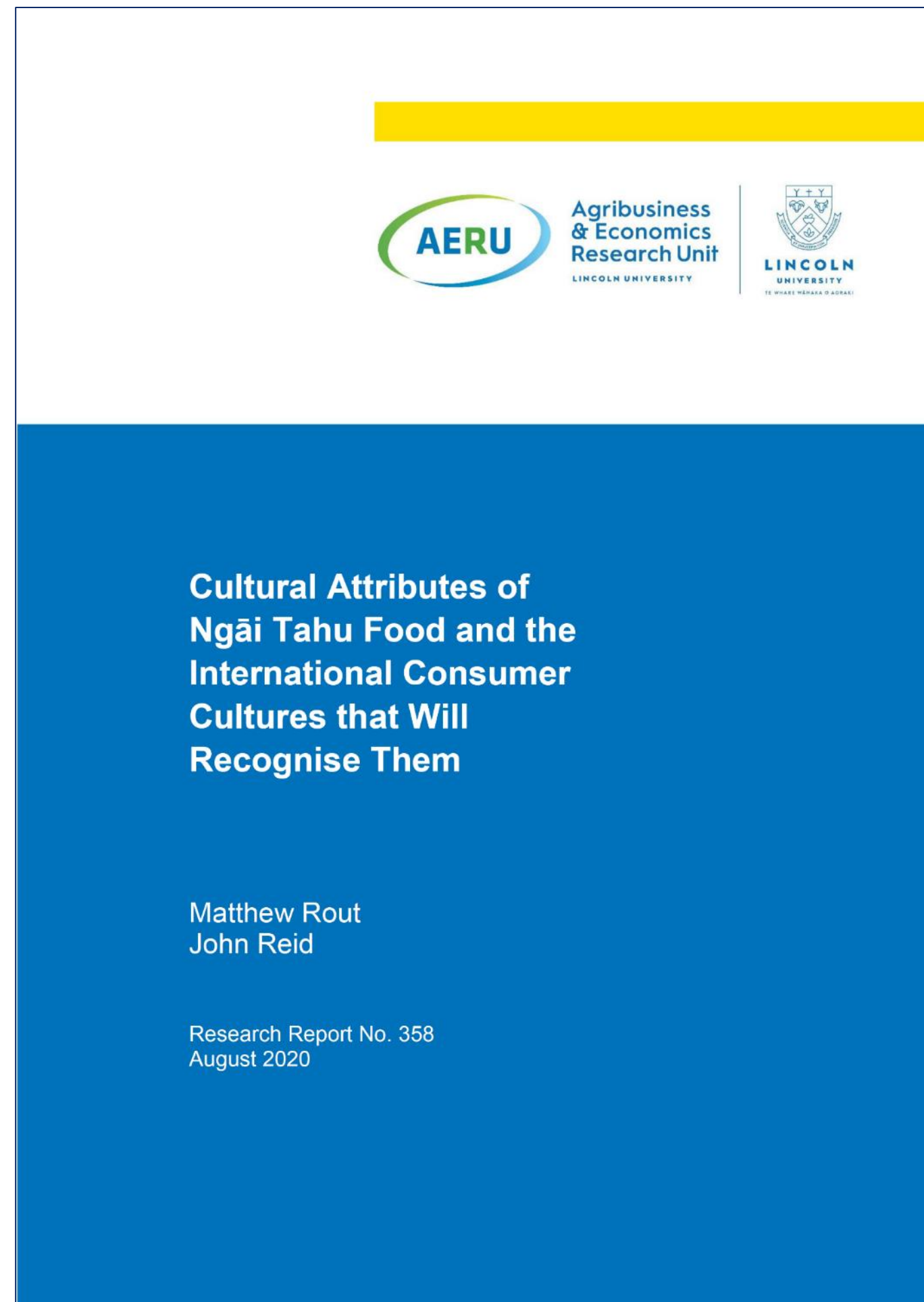
Seven Opportunities for Cultural Attributes



5. Create a marketing strategy that can effectively emphasise the authenticity of essential cultural attributes and the provenance of the product. Ensure the entire value chain embodies and communicates these values.
6. Collapse the value chain into a net to better focus on the consumer.
7. Provide some form of traceability that validates the authenticity and provenance of the cultural attributes.

Chapters in the report focused on Māori cultural attributes and on Pākehā cultural attributes, recognising resonances are developing between Māori values and environmentally focused farmers.

Ngāi Tahu Cultural Attributes of Food



In 2020, Matthew Rout and John Reid published a substantial report on cultural attributes of Ngāi Tahu food, and the international consumer cultures that will recognise those cultural attributes.

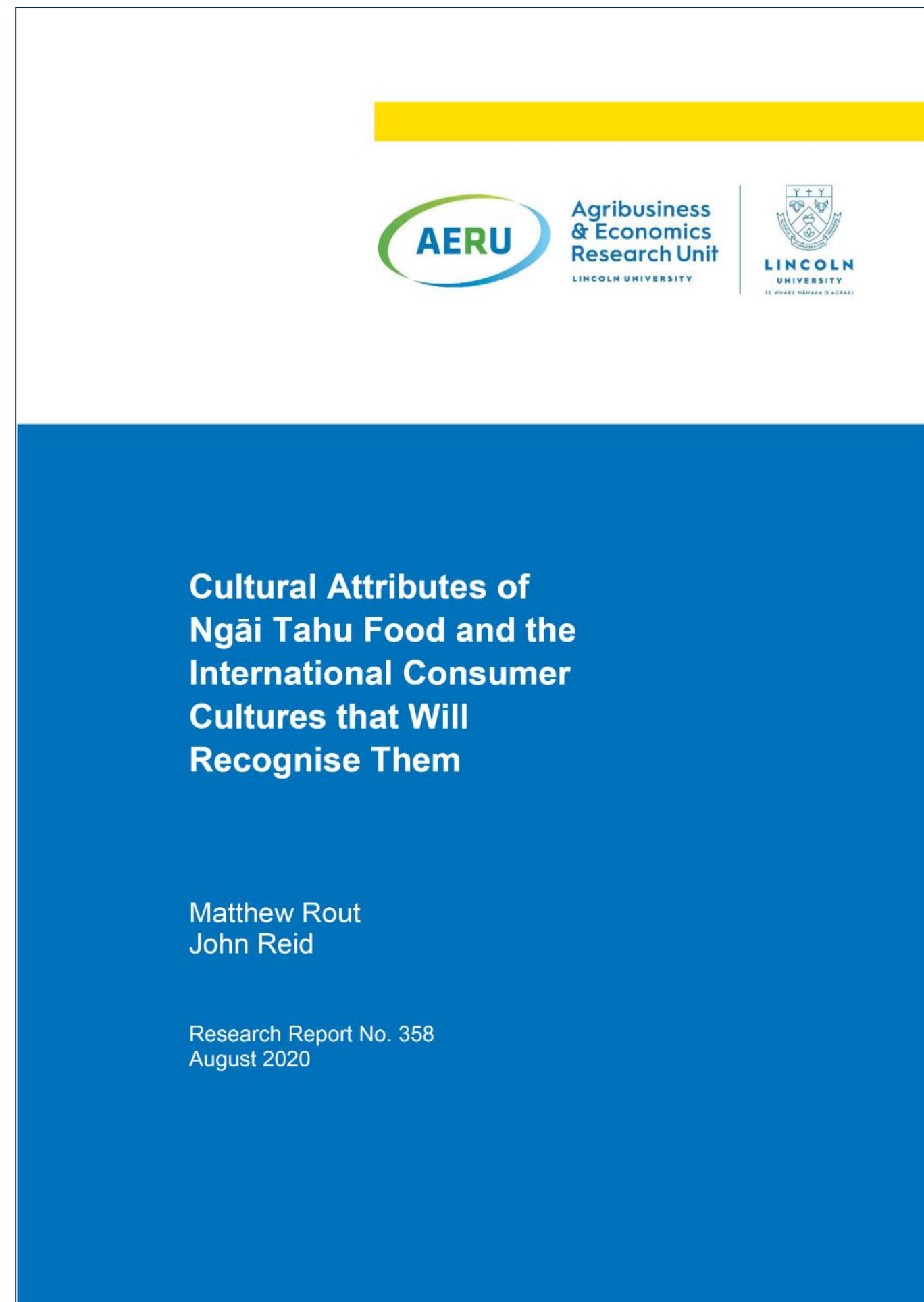
The report is available [here](#).

The report demonstrated that food produced by Māori agribusiness is substantively different from Western thinking and approaches.

It also presented material on global ‘food movements’ that might be willing to purchase or pay more for foods with Ngāi Tahu cultural attributes because of a strong cultural resonance.

These movements ranged from vegetarianism through to recent innovations such as the Paleo diet.

Ngāi Tahu Cultural Attributes of Food



The overall finding was that a number of core values and concepts have guided Ngāi Tahu food production, processing and exchange.

The report highlighted two fundamental cultural credence attributes that underpin Ngāi Tahu food - *mauri* and *mana*.

From a Ngāi Tahu, and Māori position, food is *mauri* (health and vitality) and *mana* (ethical standing) enhancing if it emerges from environments and social processes that are underpinned by *kaitiaki*-inspired actions and relevant observances.

The report also outlined fourteen closely interrelated cultural credence attributes. It constructed a table with Indigenous and Western understandings of each attribute, and identified market resonances and similar concepts.

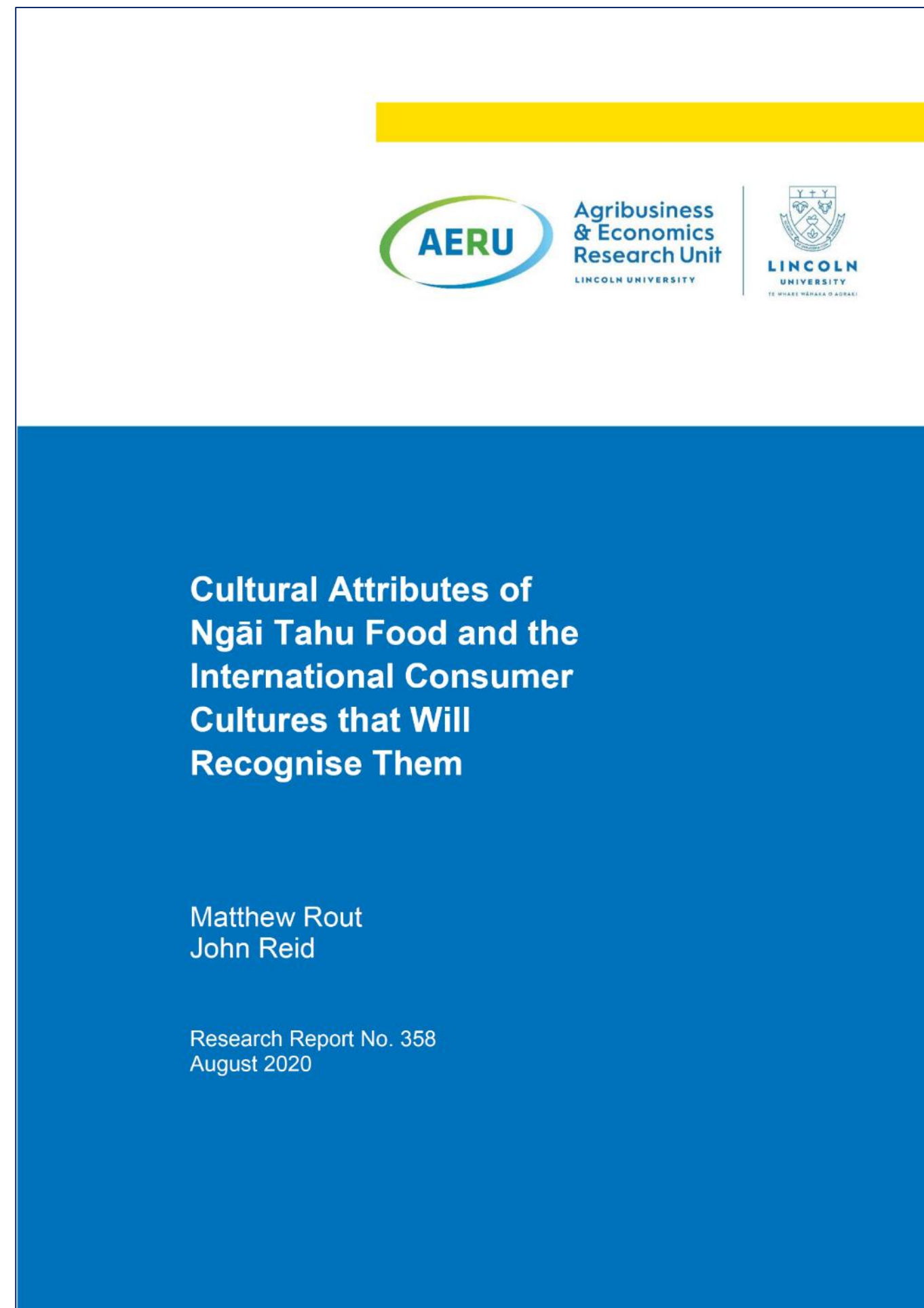
Example: Mana

Indigenous Understanding: Consumption of the food enhances the mana or dignity of the person consuming it and that of the atua domain from which it derives.

Western Understanding: Consumption of the food enhances the moral standing of the person consuming it and that of non-human community from it emerges.

Market Resonances: *Culture:* China; India; Japan; New Age.
Subculture: Vegetarian/Vegan; Organics; Alternative Food Networks (AFNs) and Short Food Supply Chains (SFSCs); Provenance, Authenticity and Tracing; Paleo.

Similar Concepts: Divine right; mandate of heaven; te/de; shakti; baraka; teotl.

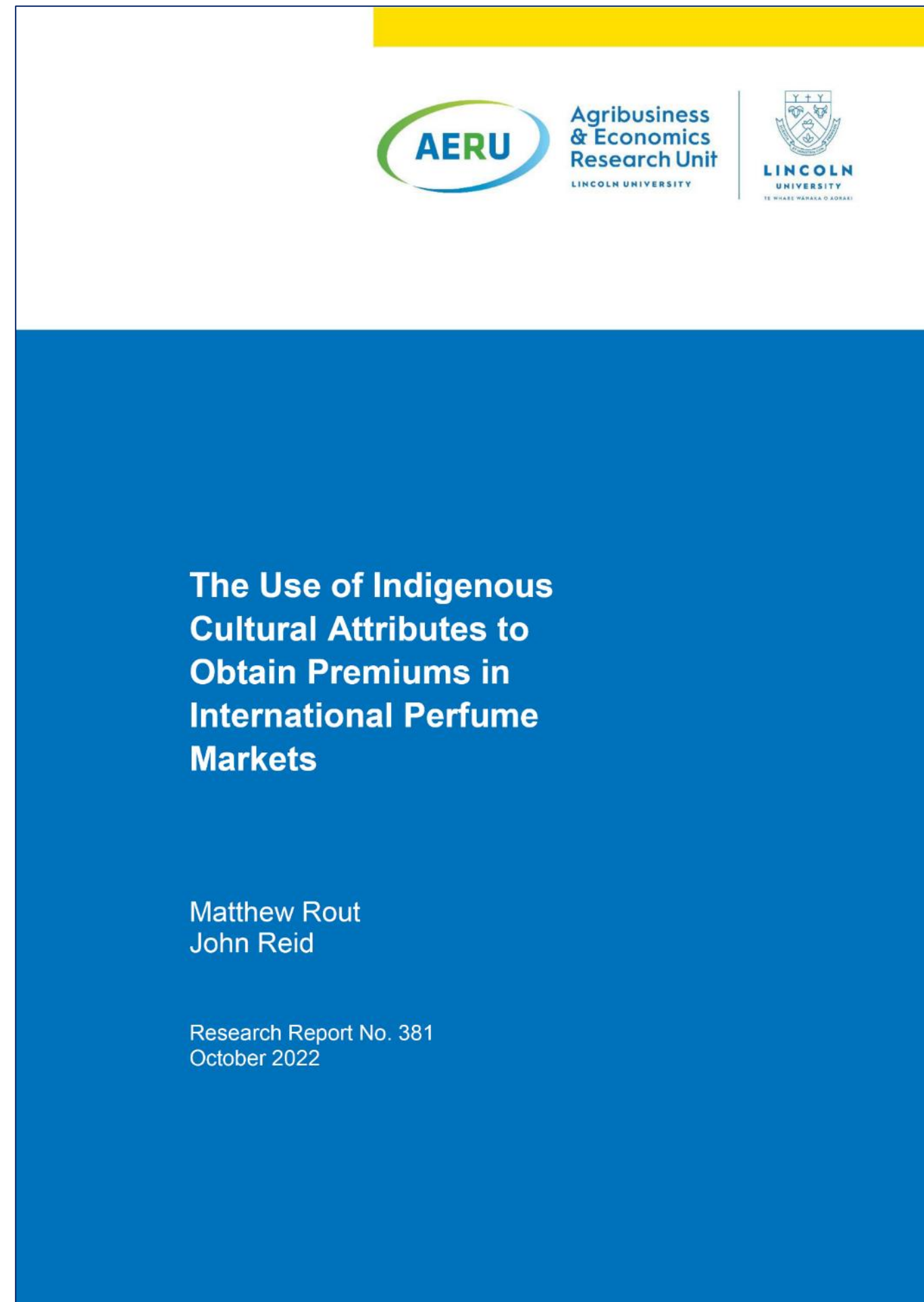


Cultural Attributes of Ngāi Tahu Food and the International Consumer Cultures that Will Recognise Them

Matthew Rout
John Reid

Research Report No. 358
August 2020

Creating a Taramea Premium Value Chain



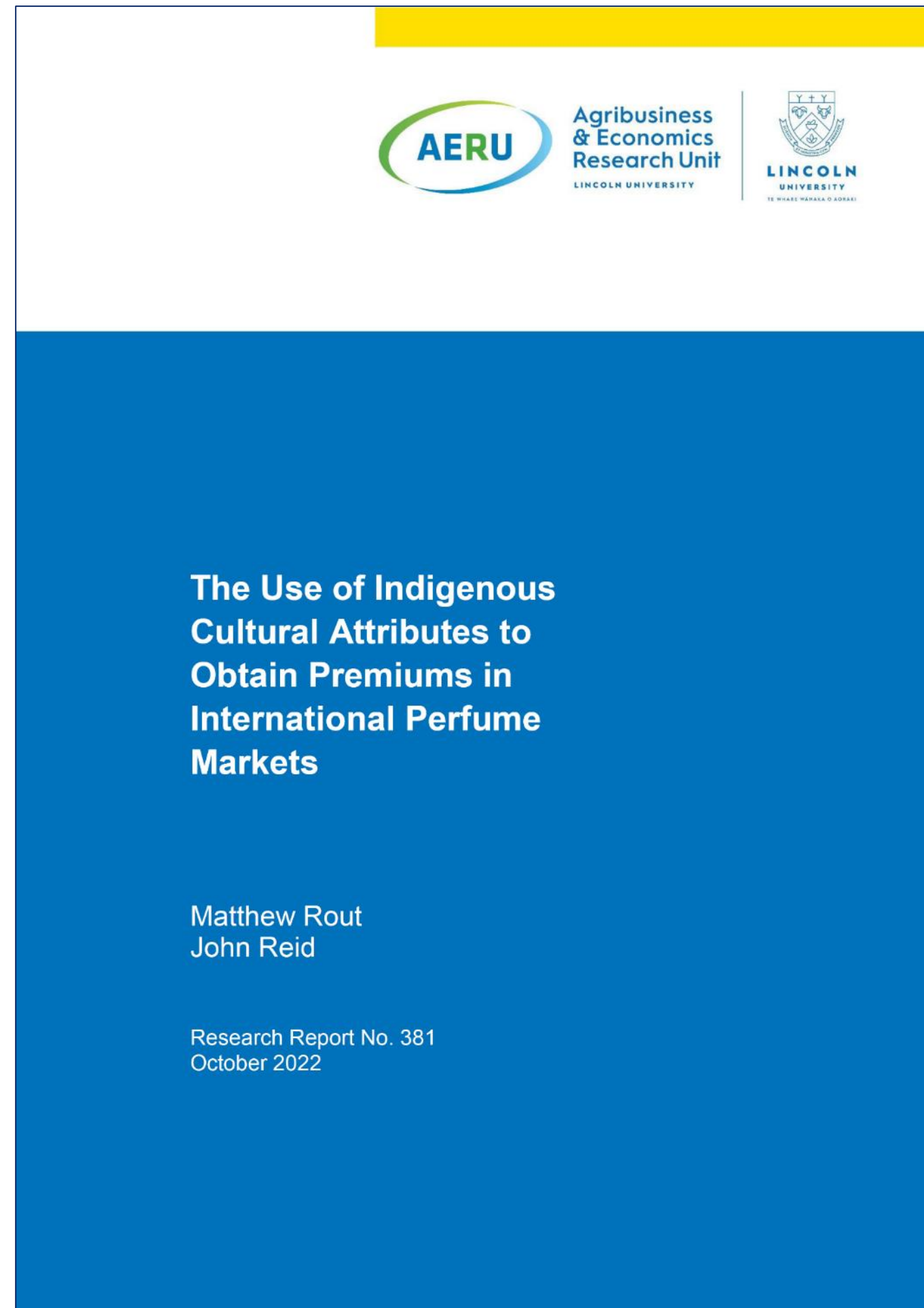
Matthew Rout and John Reid completed a case study of an idea to use Indigenous cultural attributes to obtain premiums in international perfume markets. Their report is available [here](#).

Taramea is a plant species native to Aotearoa New Zealand and a taonga to Ngāi Tahu. Traditionally, taramea was harvested and processed by Ngāi Tahu to produce a prized perfume.

An enterprise by Puketeraki Rūnanga has revived this tradition. Their initiative developed a bottled perfume oil, which is available for sale online and through selected tourism outlets.

The report explores the global potential for developing and marketing a premium perfume based on taramea.

Creating a Taramea Premium Value Chain



The report provides an overview of the history and background of taramea, from its distinctive ecology and role in traditional Ngāi Tahu culture, through to its contemporary use in the production of a commercial fragrance.

The report explores international market trends, and in particular the development of fragrances with indigenous stories and provenance. There is significant growth in demand for artisanal fragrances with an authentic brand story within large progressive Western metropolitan areas.

The report suggests that a taramea fragrance would likely resonate with such markets.

Section IV

Values Based Leadership



Leadership

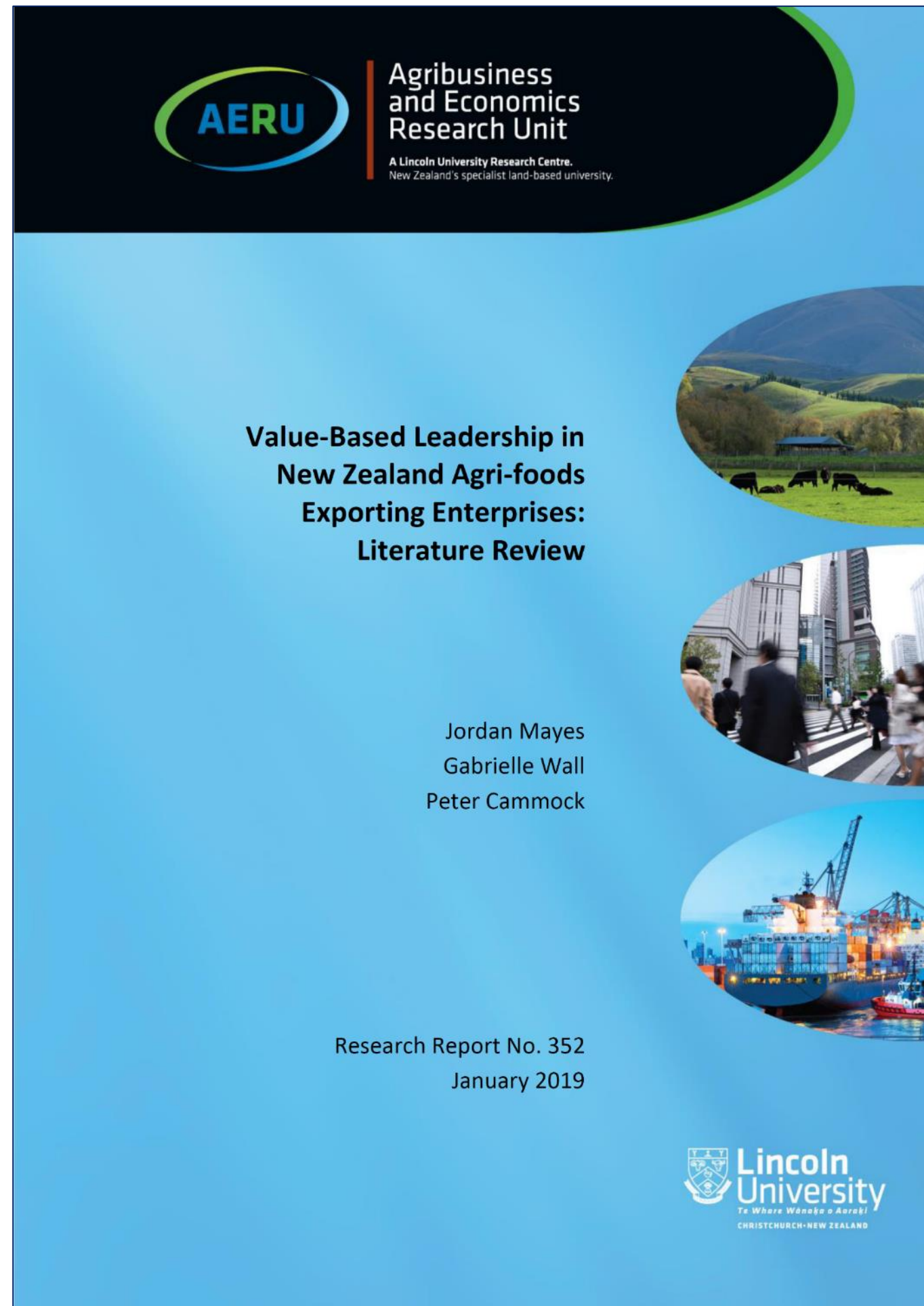
The programme's research on leadership was completed by a team at [The Leadership Lab](#), led by Dr Peter Cammock.

Jordan Mayes, Gabrielle Wall and Peter Cammock published a literature review in 2019 on value-based leadership in New Zealand's agri-foods exporting enterprises. It is available [here](#).

The report focused on the role of leadership in three value-adding processes: innovation, coordination, and marketing strategies.

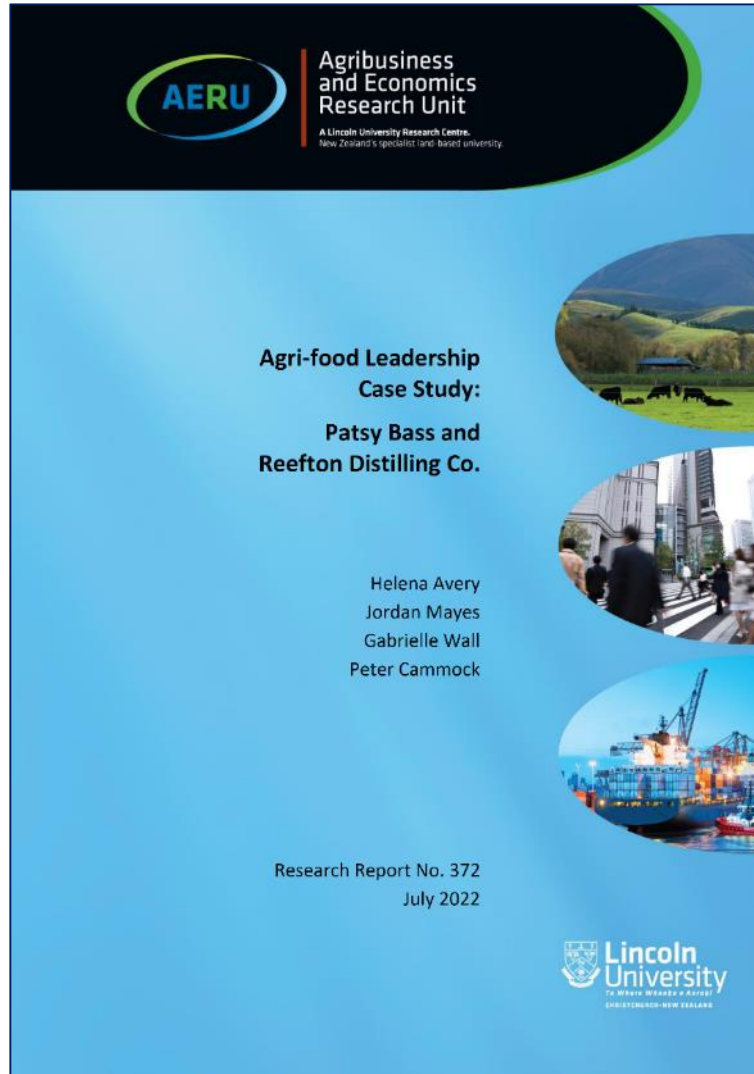
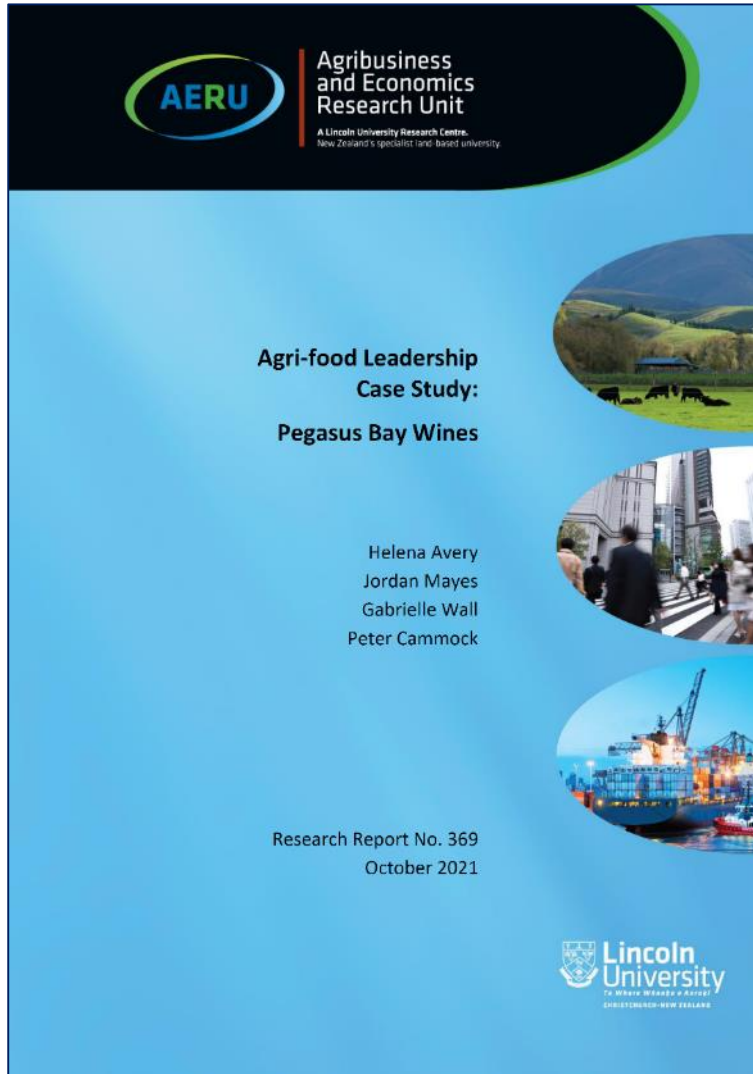
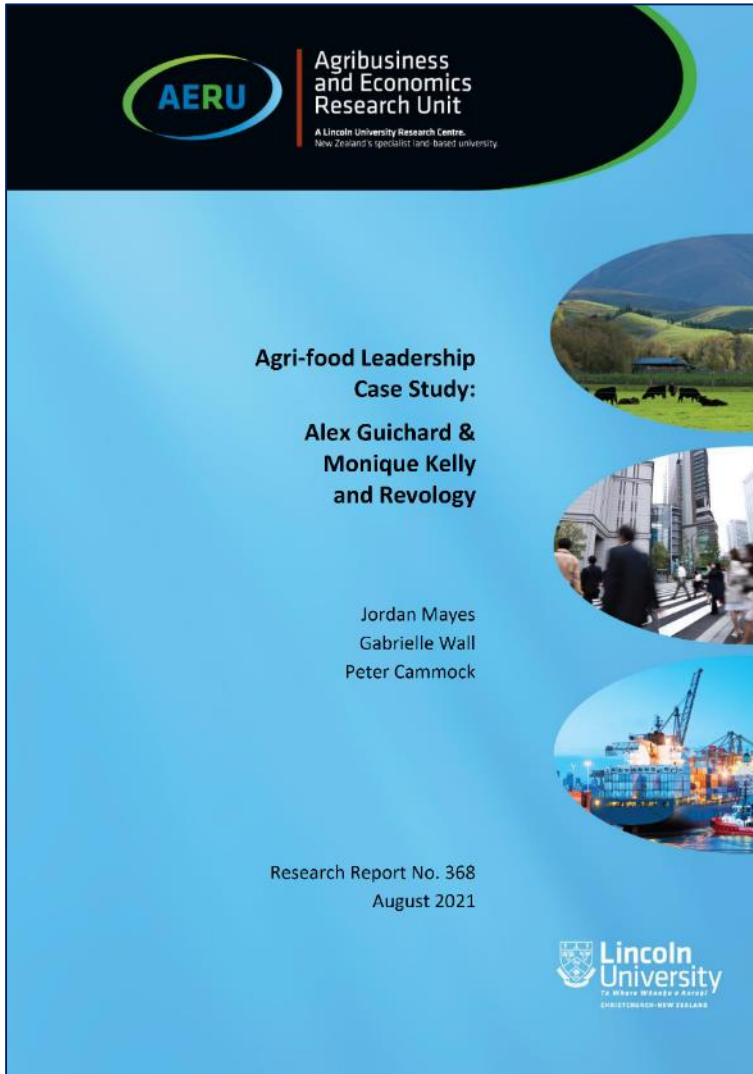
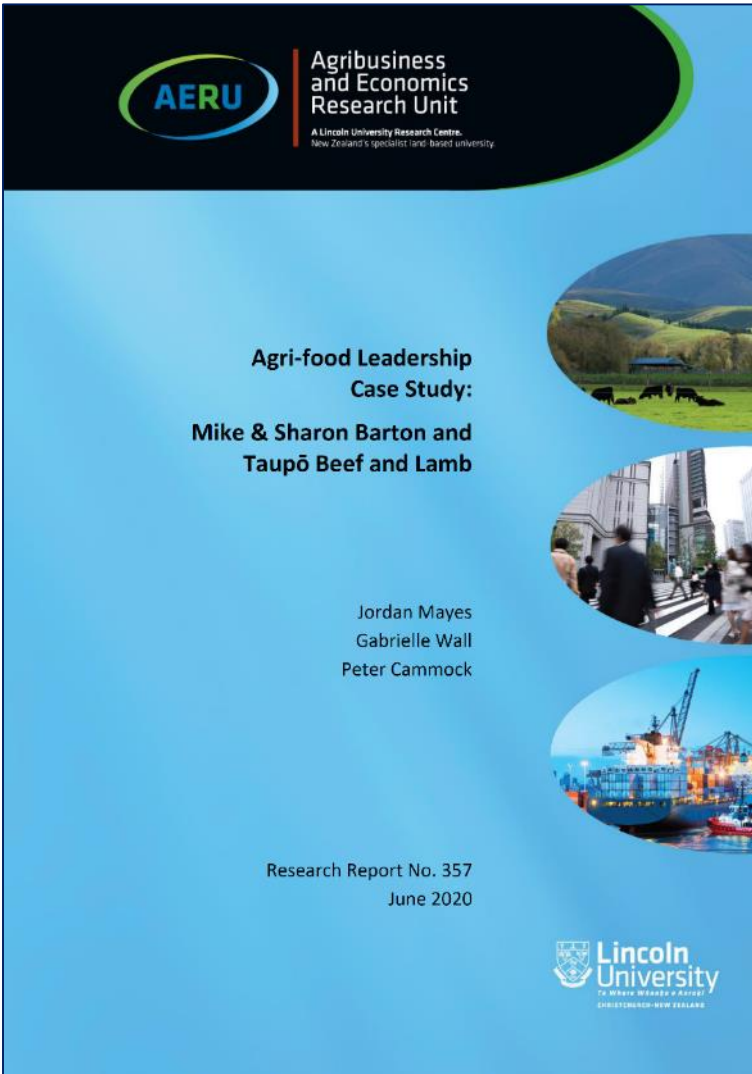
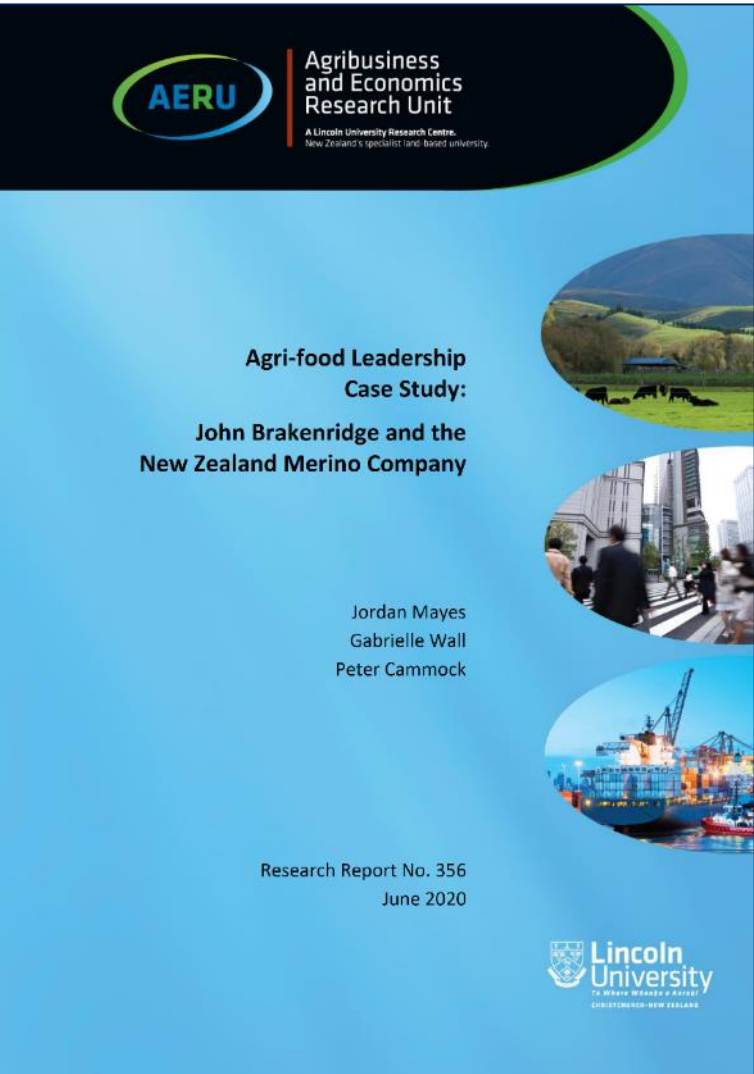
It warned against simplistic understandings of leadership, arguing that leadership style must be evaluated within its specific context.

Leadership does not directly add value to agri-food products, and so success depends on the whole enterprise, not just the leader.



Leadership

[The Leadership Lab](#) published five case studies of leadership in which the enterprise brought together commercial acumen and a values-based approach to develop successful value chains.¹ Clicking on an icon below links directly to the relevant report.



¹ A sixth study has not yet been published at the request of the enterprise.

Creating Value from Values



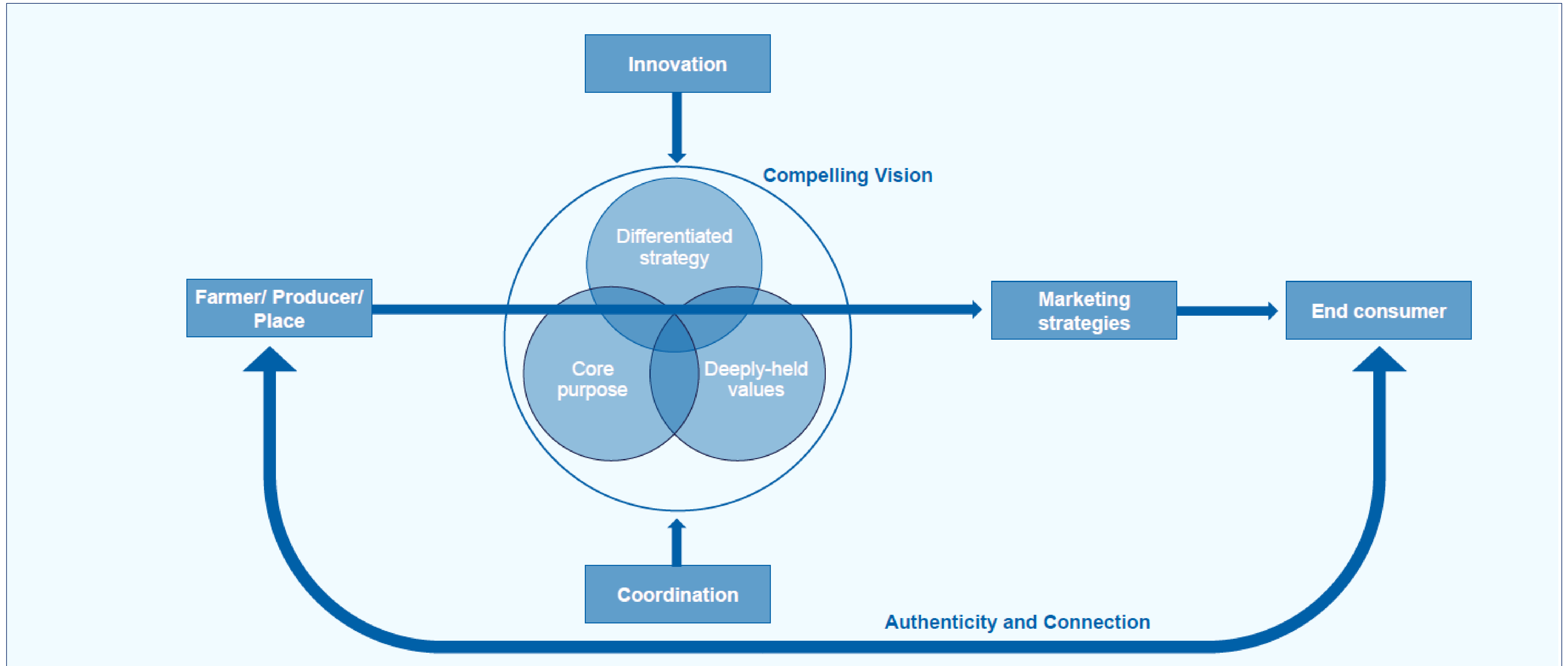
Helena Avery, Jordan Mayes, Gabrielle Wall and Peter Cammock prepared a summary of the main findings from their six case studies. This report is available [here](#).

The case studies revealed strategies designed to create value by appealing to socially conscious consumers and the leadership practices underpinning those strategies.

The Leadership Lab used a model of value-adding leadership to frame their research. This is depicted on the following page.

Central to the model is a “compelling vision” in which deeply held organisational purposes and values are expressed in “differentiated” strategies that offer high value to particular segments of socially conscious consumers.

A Model of Value Adding Leadership



Creating Value from Values - Authenticity



“Critically all of the organisations demonstrate authenticity in enacting their purpose and living their values. Ideally their end use consumers experience both the highest quality products and a sense of connection, with the people and places that produce them, and with like minded consumer cohorts who are seeking to contribute to present and future global wellbeing.” (Page 6)

“Socially conscious consumers are well informed and hyper-connected. Consequently the purpose and values of the case study organisations cannot be faked. Any discrepancy between espoused values and actual practices will inevitably come to the attention of their consumers. Consequently the purpose and values of the case study organisations are something of a two edged sword. They provide the tremendous benefits of being purpose driven and at the same time demand absolute integrity between what is espoused and what is practiced.” (Page 20)

Passion + Purpose = Calling



“The good news is that passionate leaders with a genuine sense of calling can achieve extraordinary success in creating and exporting high value New Zealand agri-food products. The not so good news is that the attributes that underpin these successes cannot be faked. They have to be authentic to the core. They have to be authentic, in that they reflect the deep purpose and values of the

organisation. More significantly they have to be authentic in that they manifest the motivations of leader’s who have a deep and heartfelt sense of commitment and calling that goes way beyond profit and career advancement. These are the products of personal leadership journeys that take place over years. They speak to leadership qualities that cannot be quickly developed in workshops or formal training.” (Page 28)



Conclusion



Vision

In October 2022, a function at Lincoln University celebrated the 60th anniversary of the founding of the Agribusiness and Economics Research Unit by a decision of the New Zealand Cabinet.

The Director of the Unit, and Science Leader for this programme, Distinguished Professor Caroline Saunders, ONZM, FRSNZ gave an address in which she outlined the vision for this research:

New Zealand's land-based export products should be marketed to international consumers as more valuable than basic commodities.



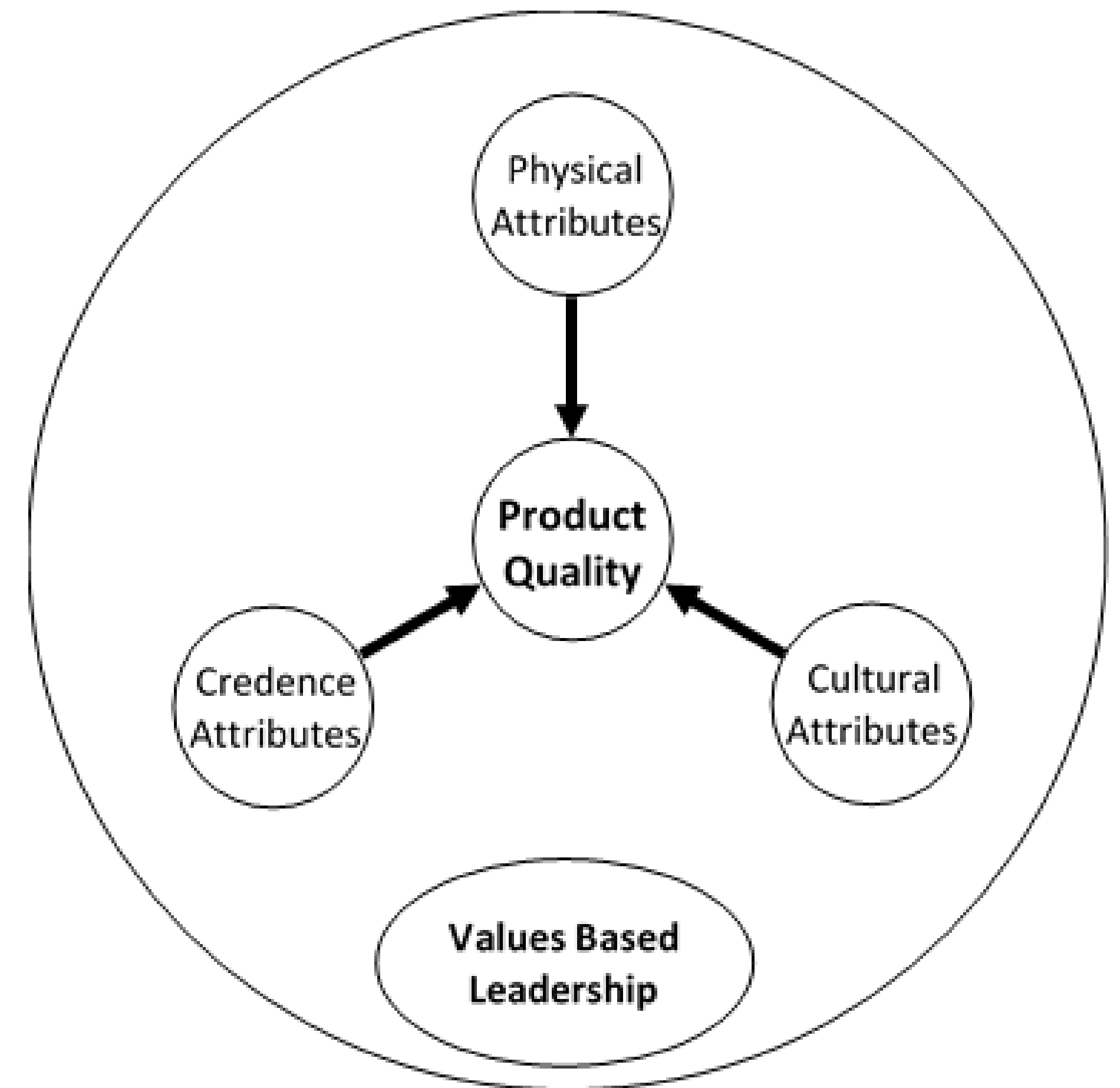
Conclusion

This research programme has delivered new knowledge on how to achieve this vision through values based leadership that produces quality products based on their:

- Physical attributes;
- Credence attributes; and
- Cultural attributes

We invite industry and policy leaders to explore the outputs from the programme, and other research led by the AERU at Lincoln University on our website:

<https://www.aeru.co.nz/>



Thank You

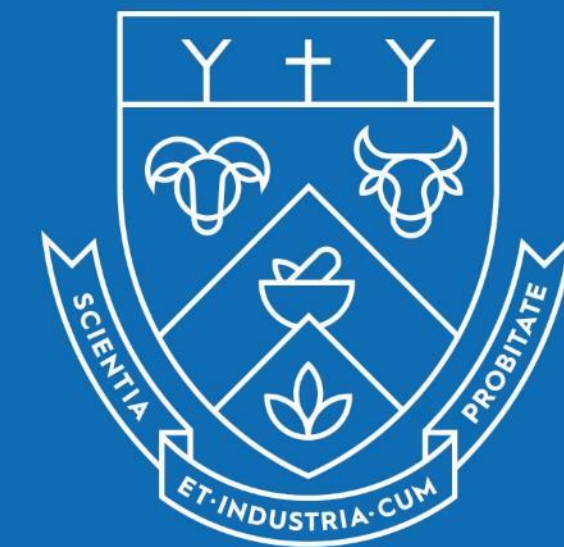
We thank our industry and policy partners who provided us with access and advice throughout the research programme. This includes the members of the Advisory Board, which met twice a year to receive reports and offer feedback.

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The AERU apologises for links that no longer operate at the time of reading.

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