SHAPING THE FUTURE OF NEW ZEALAND'S RED MEAT SECTOR

Inspiring action today to position us as global leaders of tomorrow

KANTAR

beef+lamb new zealand

The future of New Zealand's red meat sector

Hugh Good

Global Market Intelligence & Research Manager

Global prices for beef and lamb are at record highs, and the short-term prospects for farmers, processors and the wider industry are strong. However, nothing in the sector stands still. Within New Zealand, there is increasing focus on the environment, increased regulation, and challenges to the industry's social license to operate.

Outside New Zealand, the global population is growing, the climate continues to change, trade relationships are evolving, and technological disruption is accelerating. To succeed, the sector must stay ahead of emerging threats and opportunities.

Beef + Lamb New Zealand Ltd (B+LNZ) has partnered with Kantar to understand the future trends likely to impact the sector over short, medium, and long-term horizons. Underpinning this work is the need to ensure the sector appreciates approaching challenges and opportunities, and makes decisions from a shared future lens.

As part of the process, early-stage trend territories and potential influencers were reviewed and expanded upon by industry bodies including farmers, meat meat exporters and marketers, New Zealand Trade and Enterprise, and the Ministry for Primary Industries. The outputs of this process fed into the industry playbook you now have in front of you.

The seven identified trend territories are diverse, encompassing an overarching need to accept and better prepare the sector for VUCA (volatility, uncertainty, complexity and ambiguity), global shifts in definitions of premiumness, the emergence of divergent health tribes, and more.

Fundamentally, this document is about what do next. It provides an evidence-based guide to emerging trends, with a blueprint for industry action.

With action in mind, the document leads with 'action', with the underlying thinking and supporting evidence following behind. We encourage you to use this playbook to take action. Take advantage of these emerging opportunities, while making the changes necessary to ensure the sector's continued growth, relevance, and success.

Foreword by Hugh Good,
Global Market Intelligence & Research Manager
Beef + Lamb New Zealand Ltd

What this playbook is designed to do

Identify key opportunities and challenges for those involved in New Zealand's red meat industry, and provide exposure to shifting global conditions

Inspire discussions around immediate and longer-term initiatives necessary to ensure the industry's future success

Provide a shared lens and language for the red meat industry to tackle large, systemic challenges collaboratively

Icons used in this book and their meanings

3 MAIN SECTIONS


Action


Provocation


Validation

PLAYERS


Farmers


Processors


Government

B+LNZ

DRIVERS OF CHANGE


Drivers of Change


Social


Environment

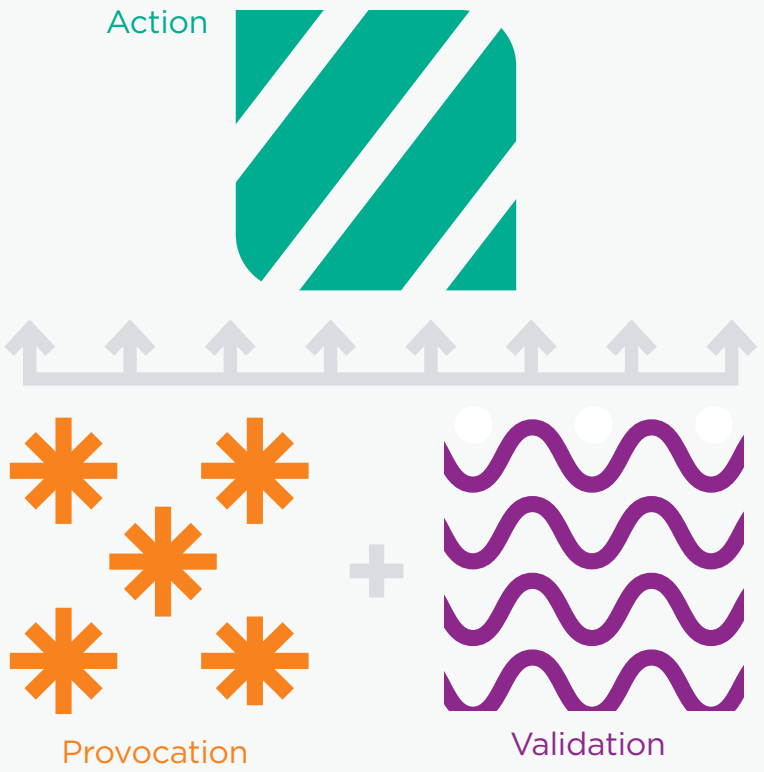

Technological


Political


Economic


Wellbeing

A forward-looking framework for action



Validation and Provocation propel Action

Action

How might we future-proof New Zealand's red meat sector?

Immerse in the future opportunities for NZ's beef and lamb exports; the energy and urgency behind them; and how they might be unlocked by different stakeholders along the value chain in the short, mid, and long-term future.

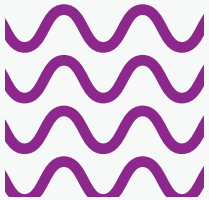
Continued on Page 10

Provocation

What is the future of beef and lamb globally?

Understand what the world of beef and lamb will look like in five years' time, taking into account changes in the macro environment, and extrapolating from early signals of how brands, people and authorities have begun to respond.

Continued on Page 82



Validation

What are the factors shaping the future of beef and lamb?

Deep dive into the full universe of macro changes that will shape how people may consume meat in the future, and that will create a new operating environment for brands, authorities and other organisations.

Continued on Page 112

How we will build our future

01

Export a food culture

How might we...
deliberately and strategically articulate and then export a culture and story around food that's uniquely New Zealand's?

So that we...
create a stronger position for New Zealand food that elevates the value of our ingredients and allows us to capture more value from branded red meat products

02

Maximise co-products

How might we...
uncover new uses for each part of the animal, and redirect our supply globally to where demand commands the highest margins?

So that we...
increase the profitability of our sector, enabling us to stay competitive with other potential uses of our land

03

Re-frame Sustainability

How might we...
shift the global conversation around sustainability so that it captures value from practices that are seen as being good for the planet?

So that we...
can secure the social licence we need to operate, and increase the profits we derive from our sustainably farmed and processed products?

04

Drive transparency beyond traceability

How might we...
utilise technologies for all-around transparency and traceability, not just food safety?

So that we...
realise the full value of all the brilliant work that our farmers and processors do, but that we as an industry are not currently paid for

06

Own new premium narratives

How might we...
find and connect with people around the world who are willing to pay more for the unique intrinsic qualities of New Zealand beef and lamb?

So that we...
extract the most value from every animal we grow and process, as well as the NZ beef and lamb "brand"

07

Set up systems for collaboration and innovation

How might we...
unite and mobilise the right teams across functions, stakeholders and companies to work towards industry-advancing innovations?

So that we...
pre-emptively pursue and effectively unlock any future opportunities we identify?

05

Lead the health debate

How might we...
position New Zealand beef and lamb as a positive contributor to the wellbeing of select 'health tribes'?

So that we...
Ensure that New Zealand beef and lamb benefits from growing consumer interest in health and wellness generally, and activities like health data tracking specifically

ACTION

Immerse in the future opportunities for NZ's beef and lamb exports; the energy and urgency behind them; and how they might be unlocked by different stakeholders along the value chain in the short, mid, and long-term future.

- EXPORT A FOOD CULTURE
- MAXIMISE CO-PRODUCTS
- RE-FRAME SUSTAINABILITY
- DRIVE TRANSPARENCY BEYOND TRACEABILITY
- LEAD THE HEALTH DEBATE
- OWN NEW PREMIUM NARRATIVES
- SET UP SYSTEMS FOR COLLABORATION AND INNOVATION

Export a food culture

How might we...

Deliberately and strategically articulate and then export a culture and story around food that's uniquely New Zealand's

So that we...

Create a stronger position for New Zealand food that elevates the value of our ingredients and allows us to capture more value from branded red meat products

Cultural diplomacy creates value

The explosive growth in popularity of South Korean pop music and film over the past decade and a half is no accident. In 2001, South Korean President Kim Dae-Jung called out[1] the export of the country's popular culture as "an engine of economic development that creates high added value with relatively little investment of resources compared to industrial development". Thanks in part to the success of this soft culture strategy, South Korean brands like Samsung and Hyundai have grown in prominence globally, commanding price premiums that were unimaginable in the 1980s and 1990s.

A number of countries have focused their soft culture initiatives on food, on the premise that "the easiest way to win hearts and minds is through the stomach". Global Thai, launched in 2002, was a Thai government-led culinary diplomacy initiative designed to boost Thailand's overall brand equity, as well as its food exports. As a result

What if New Zealand's most important food-related export isn't a meat or fruit, but rather its unique food culture?

of this initiative, Thai food is now one of the most influential cuisines in the world, creating opportunities for Thai businesses everywhere in the world, as well as markets for the country's agricultural exports.

New Zealand has excellent produce, reflective of the quality of our land and our farming techniques. We have stayed true to our values, growing food the way nature intended. However, there is a need to further develop and differentiate Brand New Zealand in the face of rising competition from other meat-producing countries, as well as new market entrants like cell-based meat companies. Our food is valuable because it reflects our unique culture and point-of-view around food.

There is an opportunity to inject new growth into our food sector, by transforming New Zealand from an exporter of ingredients to an exporter of a unique food culture and incomparable food experiences.

"At the time of the launch of the Global Thai program, there were about 5,500 Thai restaurants beyond Thailand's borders. Today, there are more than 15,000."

Source: VICE[2]

What if?

Showcasing a way of life to the world

Founded in 2007, Eataly is an mega-market that has showcased Italian food culture and the Italian way of life for the rest of the world. Eataly's main goal is not just "to make high-quality Italian food available to everyone, at fair prices and in an environment where people can shop, taste and learn", but also to communicate the faces and stories of the people and companies who make the best Italian food and wine.

Since 2007, Eataly has brought lesser-known regional specialties from Italy to nearly 30 locations worldwide, in cities like Istanbul, New York, Munich, and Tokyo.

Source: Eataly[3]

Coordinating across public and private sectors

In the last decade, the Korean government has spent tens of millions of dollars to promote Korean food, branded as 'hansik', as a way of improving Korea's brand image abroad and bolstering outbound shipments of the country's agriproducts. Initiatives include offering cooking classes at overseas cultural centres, appointing kimchi ambassadors, and a pan-government task-force to coordinate activities.

These efforts are bearing fruit: 64% of New Yorkers were aware of Korean food in 2016, up from 24% in 2011. In addition, Korean food companies like CJ Foodville have successfully expanded overseas, riding on this Korean wave.

Source: Korea Times[4]

Elevating a national cuisine as an achievement of humanity

In 2010, UNESCO declared Mexican cuisine an Intangible Cultural Heritage of Humanity, enshrining it as one among an impressive list of traditions to be protected and celebrated for all time.

The campaign to elevate Mexican cuisine to this status was primarily driven by the desire to protect it from threats like globalisation, changes to the environment and changes to the way food is produced, as well as to celebrate it as an integral part of Mexican identity. However, it has had more commercial impacts as well, driving growth in both inbound and domestic tourism, and raising interest in Mexican food products and brands globally.

Source: The Mazatlán Post[5]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Coordinate across NZ food sectors to develop a unified food story**	**Use the NZ food story to move red meat products up the value chain**	**Build a broader national soft power (i.e. cultural influence) initiative rooted in NZ's food culture**
Farmers	Create agritourism that showcases the unique characteristics and practice of NZ's beef and sheep farmers Exchange knowledge on agritourism best practices with other key NZ food sectors (kiwifruit, wine) Integrate tourism ventures within EatNZ food itinerary generator	Work with key NZ food sectors and the government to align on unique flavor profiles (e.g. regional appellations) that NZ can own and promote Package and export farmer culture/stories through popular media and entertainment channels	Expand agritourism itineraries to include more aspects of NZ's broader soft power story
Meat exporters and marketers	Elevate marketing of NZ beef and lamb to highlight heirloom breeds and other unique attributes Form partnerships in distribution and exports with other key NZ food sectors, especially wine and kiwifruit, to form one strategic export food basket Link in with work underway to develop regional appellations for NZ beef and lamb	Support farmers' effort in creating a uniquely NZ flavour in red meat through product development and marketing	Make NZ red meat brands iconic standard bearers of the country's soft power—for instance, the way Vegemite represents Australia

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Coordinate across NZ food sectors to develop a unified food story**	**Use the food story to elevate NZ from an exporter of ingredients to a source of value-added products and experiences**	**Build a broader national soft power initiative rooted in NZ's food culture**
Government	Invest in beef and lamb agritourism Coordinate agritourism and marketing efforts among lamb, kiwifruit and wine farmers Appoint a Minister of Food that can advocate for the overall food industry	Collaborate with EATNZ to craft an all-encompassing narrative around NZ's food culture Work with key NZ food sectors to align on unique flavor profiles that NZ can own and promote Create a platform, forum or marketplace to showcase the NZ food story and culture (e.g. digital farmers' markets featuring the best of NZ produce)	Put NZ's soft power on the national agenda and invest behind it, making sure that it is rooted in the food story previously built by the food sectors
B+LNZ	Identify prominent chefs and other spokespersons to represent NZ culinary culture internationally Set up food experiences to showcase NZ red meat alongside other key food exports, both domestically and in important export markets Coordinate with EatNZ to integrate existing farmer stories with their food itineraries and coordinate with open farms initiatives Scale up Taste Pure Nature in targeted markets to set the context for NZ grass-fed meat	Collaborate with global media and entertainment companies to showcase the NZ farm and/or food story Collaborate with a wider range of food sectors—manuka honey, mussels, fish, crayfish—to expand NZ's food story Develop a food tourism app in partnership with other interested bodies	Develop content around red meat that takes advantage of the new touchpoints created by NZ's broader soft power initiatives

What else?

RE-DISCOVERING CONNECTIONS

Looking back and understanding our historical and cultural associations with food is a critical first step to building a unique food culture that allows people around the world to re-connect with nature and each other

PREMIUM DIVERSIFIED

As ideas of 'premium' diversify in both food and travel, there will emerge different tribes of people for whom NZ's food culture is attractive and engaging. Finding and connecting with these tribes as they emerge is imperative

Footnotes

1 www.thediplomat.com/2019/03/bts-and-the-global-spread-of-korean-soft-power/

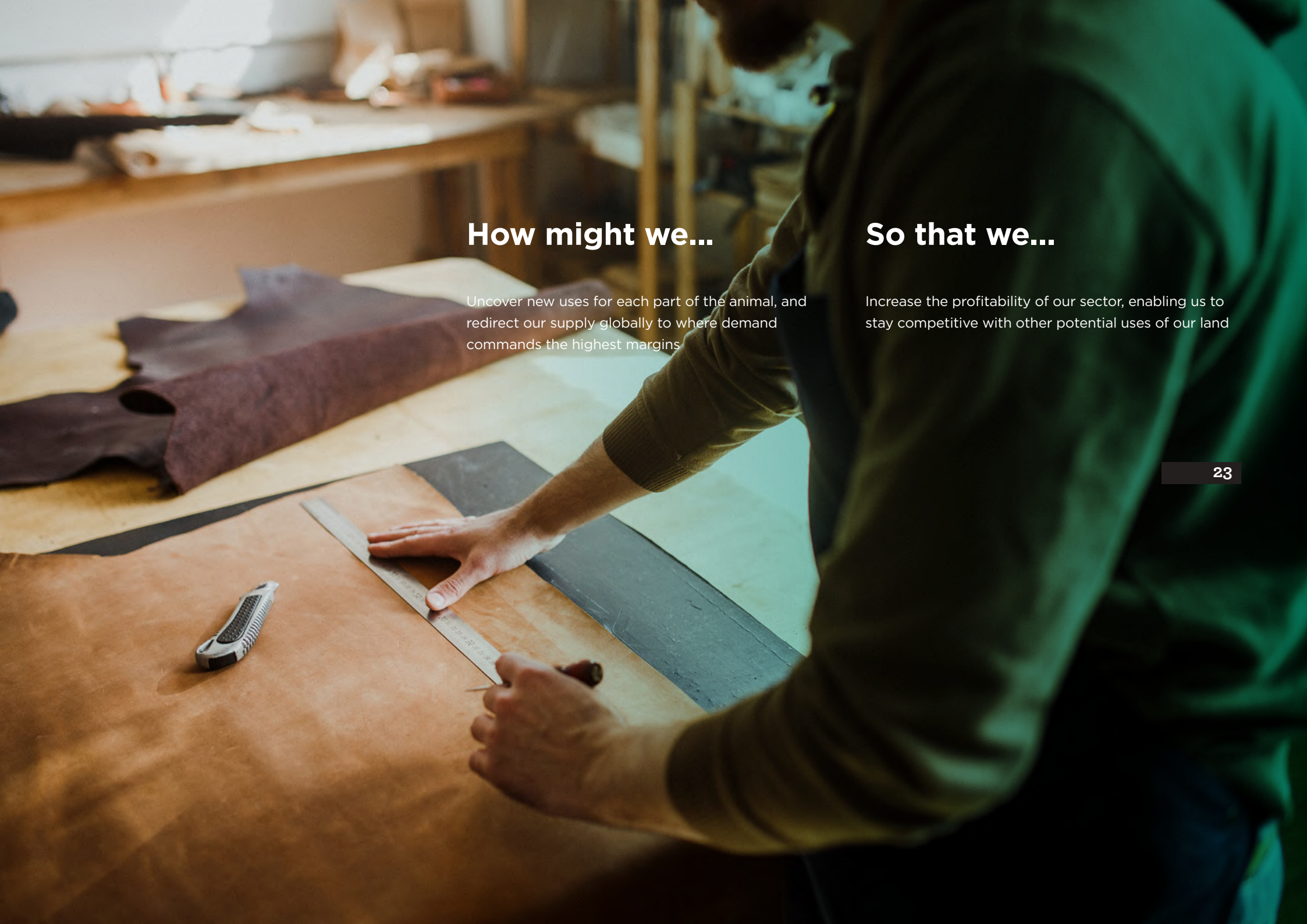
2 www.vice.com/en_us/article/paxadz/the-surprising-reason-that-there-are-so-many-thai-restaurants-in-america

3 www.eataly.com/us_en/magazine/eataly-stories/eataly-opens-in-munich/

4 www.koreatimes.co.kr/www/biz/2017/04/367_227629.html

5 www.themazatlanpost.com/2018/08/29/how-mexican-cuisine-became-an-intangible-cultural-heritage-of-humanity/

Maximise co-products



How might we...

Uncover new uses for each part of the animal, and redirect our supply globally to where demand commands the highest margins

So that we...

Increase the profitability of our sector, enabling us to stay competitive with other potential uses of our land

Co-products are an untapped source of greater profits

Today, some 60% of the cow[1] goes towards uses other than meat consumption, creating more than 350 co-products[2]. However, these co-products only account for 11% of the total value of the animal.

What if in the future, these co-products generate more revenue for processors and farmers than meat?

Studies[3] have shown bovine co-products to be excellent sources of nutritive proteins, minerals and vitamins, creating growing demand within the fields of medicine, pharmaceuticals and cosmetics. Bovine fetal blood[4], for instance, can be made into a serum that sells for as much as $900 a litre, generating $900 million for the US pharmaceutical industry.

In high-stakes sectors like medicine, co-products from New Zealand livestock have a distinct competitive advantage, given the country's pristine environment and geographic isolation from diseases that plague cattle in the rest of the world. As a result of this advantage, for instance, New Zealand dominates the $4 billion market for replacement heart valves, exporting $168 million worth[5] of disease-free

pericardia from its cows in 2018. This advantage will continue to work in New Zealand's favour should it decide to go into cell-based cultured co-products, as it can claim better-quality 'starter cells' as a point of difference.

There is an opportunity to hedge against any potential decline in global red meat consumption by pro-actively diversifying and even re-centering the industry around co-products that might command higher margins. The challenge for processors is to go beyond responding to existing demand, to understanding the drivers of demand, so that New Zealand becomes the first to identify new, financially lucrative uses for co-products.

"New Zealand is projected to export $680 million worth of animal co-products in 2019, up from $587 million in 2018."

Source: Stuff[6]

What if?

Using culture to elevate low-value products

In India, cow dung and urine are emerging as a modern form of medicine, 100 times more expensive than milk. Cowpathy sells over 45,000 soap bars made from dung each month, while one of the country's biggest cow shelters produces 10,000 litres of medicine made from cow urine daily. India has built a new and profitable industry around cow co-products, by tapping into a deep-seated cultural belief that cows are sacred—a belief rejuvenated by President Narendra Modi after his election in 2014.

Source: Quartz[7], Economic Times[8], NBC News[9]

Creating an ultra-efficient marketplace to match demand to supply

Inaugurated in 2008, Fonterra's Global Daily Trade marketplace connects the co-op's member farmers to every kind of potential buyer for their milk and milk co-products around the world. Independently operated and governed, the digital marketplace allows prices to be set dynamically, ensuring both farmers and buyers get the best price possible at the time of their deal. The marketplace also ensures that Fonterra's milk farmers have access to the full range of potential buyers for their products, maximising the value they can extract from these products.

Source: Global Dairy Trade[11]

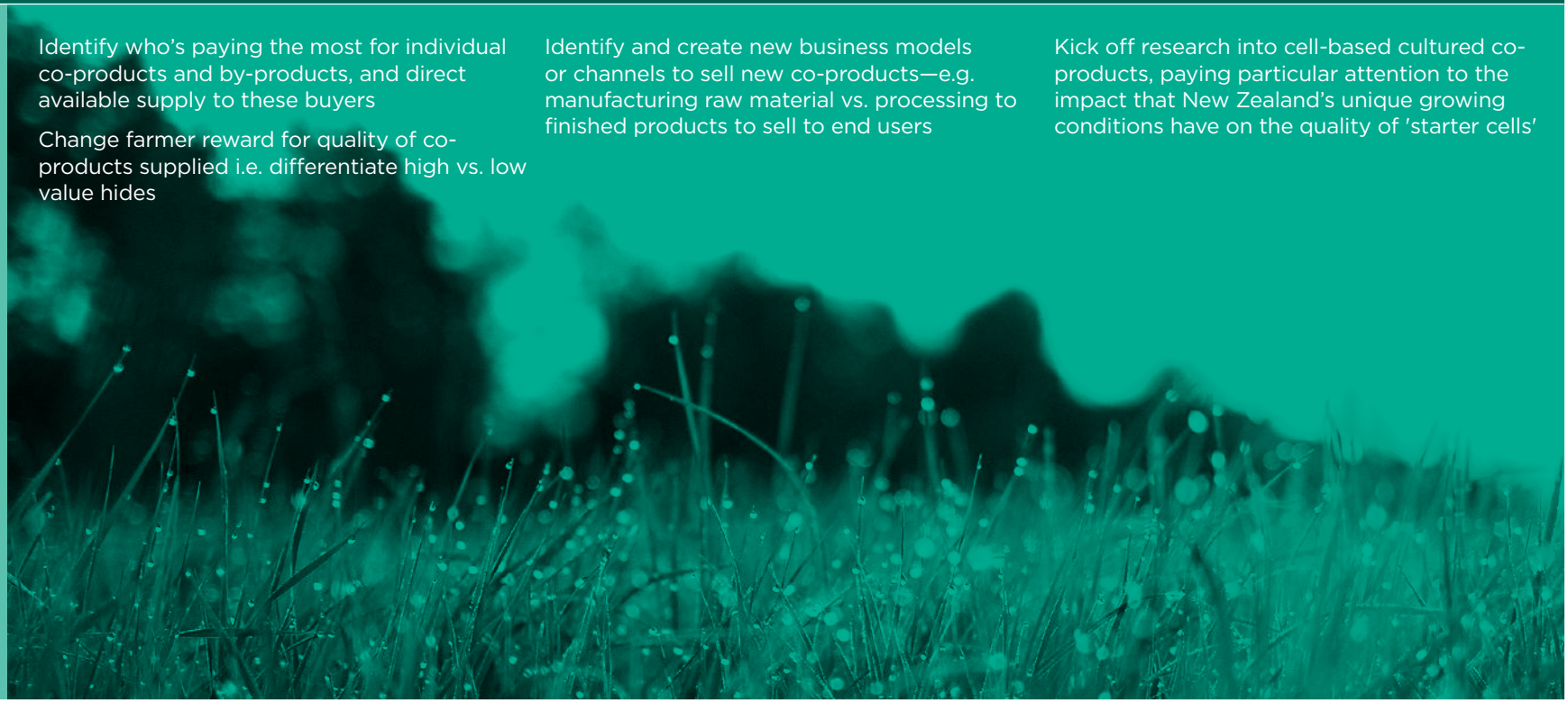
Extracting value from accidents of nature and nurture

Bovine gallstones develop as a rare medical condition in cows with specific issues between the heart and liver. Where they do occur, they are worth their weight in gold, fetching up to EUR 35,000 per kilo in places like China and Japan. In these markets, they are used in traditional treatments for hepatitis and liver- and heart-related diseases. Processors in Ireland have taken note, implementing special protocols to keep harvested gallstones in the best condition for export to the markets where they're valued.

Source: The Independent[10]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Assess the evolving market landscape for co-products**	**Pioneer new business models to maximise returns from co-products**	**Create new markets for co-products through investment in basic and applied sciences**
Meat exporters and marketers	Identify who's paying the most for individual co-products and by-products, and direct available supply to these buyers Change farmer reward for quality of co-products supplied i.e. differentiate high vs. low value hides	Identify and create new business models or channels to sell new co-products—e.g. manufacturing raw material vs. processing to finished products to sell to end users	Kick off research into cell-based cultured co-products, paying particular attention to the impact that New Zealand's unique growing conditions have on the quality of 'starter cells'



What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Assess the evolving landscape for co-products**	**Pioneer new business models to maximise returns from co-products**	**Create new markets for co-products through investment in basic and applied sciences**
Government	Support partnerships within high value industries for co-products (e.g. medicine, bio-tech, pharma) where NZ has a distinct competitive advantage Identify where New Zealand has competitive advantage around specific co- products	Work with the sector to update regulations on animal-derived co-products, as well as their impact on sustainability, nutrition and biosecurity Ensure effective governance of co-product marketplaces and transactions	Update regulations on co-products to encompass cell-based cultured varieties
B+LNZ	Identify bio-tech startups and link them with processors, setting up a process to continuously gather information about the emerging uses of co-products and by-products Establish partnerships within high value industries for co-products (e.g. medicine, bio-tech, pharma) where NZ has a distinct competitive advantage Identify geographic hotspots to export NZ-branded co-products Identify 'size of prize' for co-products i.e. where is the most value available	Work with key industry stakeholders to create a co-product marketplace to efficiently match supply to demand at optimal prices	Establish B+LNZ and MIA as the authority on co- products by publishing thought leadership with case studies on new co-products and successful business models Work closely with scientists to develop animals and farming techniques that create new generations of co-products

What else?

EMBRACING VUCA

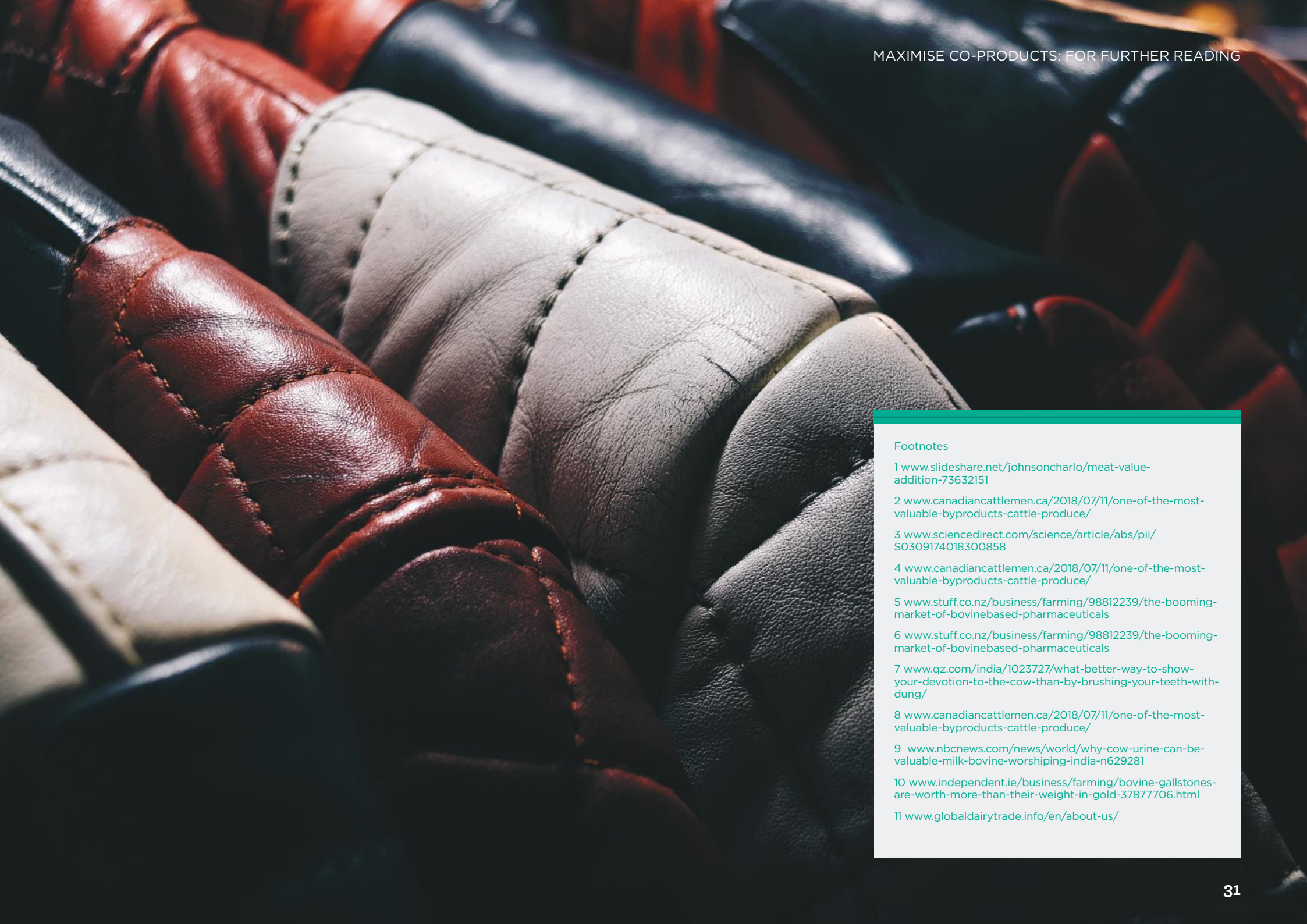
A volatile macro environment, including increasingly unpredictable weather patterns and geopolitical relationships, threatens the stability of the market for beef and lamb. Effectively diversifying into co-products would help mitigate the risks this poses to New Zealand's beef and lamb sector

PREMIUM DIVERSIFIED

Against the backdrop of increasing commoditisation in the red meat industry, higher value co-products could very well be the element that marks New Zealand's beef and lamb industry as premium on the global stage

RECHANNELING RESOURCES

The democratisation of supply chains creates the opportunity for more direct links between supply and demand, for any and all commodities. By properly leveraging the potential of these new supply chains and business models, processors can consistently find the highest-margin buyers of different co-products in real time



Footnotes

1 www.slideshare.net/johnsoncharlo/meat-value-addition-73632151

2 www.canadiancattlemen.ca/2018/07/11/one-of-the-most-valuable-byproducts-cattle-produce/

3 www.sciencedirect.com/science/article/abs/pii/S0309174018300858

4 www.canadiancattlemen.ca/2018/07/11/one-of-the-most-valuable-byproducts-cattle-produce/

5 www.stuff.co.nz/business/farming/98812239/the-booming-market-of-bovinebased-pharmaceuticals

6 www.stuff.co.nz/business/farming/98812239/the-booming-market-of-bovinebased-pharmaceuticals

7 www.qz.com/india/1023727/what-better-way-to-show-your-devotion-to-the-cow-than-by-brushing-your-teeth-with-dung/

8 www.canadiancattlemen.ca/2018/07/11/one-of-the-most-valuable-byproducts-cattle-produce/

9 www.nbcnews.com/news/world/why-cow-urine-can-be-valuable-milk-bovine-worshiping-india-n629281

10 www.independent.ie/business/farming/bovine-gallstones-are-worth-more-than-their-weight-in-gold-37877706.html

11 www.globaldairytrade.info/en/about-us/

Re-frame sustainability

How might we...

Shift the global conversation around sustainability so that it allows us to capture value from practices that are seen as being good for the planet

So that we...

Can secure the social licence we need to operate, and increase the profits we derive from our sustainably farmed and processed products

Farming can and should be part of building a sustainable future

More than ever, agriculture and food production systems are coming under greater scrutiny with growing consumer understanding and new technological innovations. Ensuring sustainable methods of food production and processing is imperative, but so is ensuring that the industry's positive contributions to the environment and communities is recognised by the public.

Plant-based protein players like Beyond Meat and Impossible Foods have positioned themselves aggressively as more sustainable alternatives to real meat. At the same time, New Zealand's beef and lamb farmers face increasing pressure to shift to forestry, backed up by a widely accepted belief that forestry contributes more positively to the environment than beef and lamb farming. Navigating these pressures effectively requires farmers

What if people can be convinced that beef and lamb farming makes a significant positive contribution to the sustainability of global resources?

and producers alike to take on a more active approach to safeguarding our social licence to operate.

The beef and lamb sector needs to continue and even enhance its efforts to be heard within the sustainability narrative. Traditional livestock production, if done right, can be sustainable for all parties—the environment, the animals, and consumers. We know it, but consumers have no idea.

There is a need to communicate this to other industries and to the rest of the world—beef and lamb farming can be done effectively, efficiently, responsibly, and even regeneratively. In fact, regenerative agriculture can be one of the most powerful means of ensuring a sustainable ecosystem in the long term.

"Producing food in this way is mutually beneficial for the environment, and is known as regenerative agriculture, which helps to reverse the climate change impacts of agricultural practices.

An increasing number of studies show that regeneratively grazed cattle can even create a net emissions sink, by drawing more carbon into the soil than the methane produced by the cows."

Source: Forbes[1]

What if?

Climate-beneficial wool from carbon-positive sheep

The North Face's new line of beanies are made from wool that is produced in a way that allows ranchers to sequester large amounts of carbon as they raise sheep. Within a year, Bare Ranch's methods will sequester about 4,000 metric tons of CO_2, offsetting emissions from roughly 850 cars.

While manufacturing with wool still has some environmental impact, there is potential in combining ranching with more sustainable manufacturing – e.g. processing facilities that run on solar, wind and geothermal energy – to produce clothing with a net positive impact on the planet.

Source: Fast Company[2]

Coming together to make dairy sustainable

A coalition of agrifood companies, animal health and wellness groups, crop nutrition & science companies, and farm data analytics players have come together to make the global dairy industry more sustainable by helping dairy farmers transition to regenerative farming practices.

The coalition, led by global dairy giant Danone, seeks to (1) reduce greenhouse gas emissions, and protect soil and biodiversity, while providing the best quality feed for dairy cows; (2) support animal health and wellbeing, ensuring cows have a healthy, stress-free life; and (3) empower farmers with workable solutions to economic, social and environmental challenges.

Source: AgFunder New[3]

Championing regenerative agriculture for image and profit

Like all consumer goods companies, General Mills has come under scrutiny for its impact on the environment, as well as on the farming communities it relies on for its raw ingredients.

In a move that simultaneously creates a more stable supply of raw ingredients in the long term, and burnishes its credentials in the sustainability space, the company has committed to bringing the practice of regenerative agriculture to 1 million acres of farmland by 2030.

Source: Fast Company[4]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Define and build a national sustainability standard**	**Promote NZ's sustainability standard for sustainability in agriculture**	**Further evolve this standard in light of evolving consumer demands**
Farmers	Phase out irresponsible waste disposal and other farming practices that are inconsistent with the basics of sustainability Socialise knowledge of commercially viable sustainability practices Be able to convincingly talk about the sustainability benefits of chosen farming methods	Apply industry-agreed monitoring and measuring systems to individual company practices for full environmental impact transparency Collaborate with processors to develop carbon-neutral beef and lamb products	Provide proof points to show that NZ's beef and lamb industry has achieved full sustainable status as per national standards, so as to support the push to make these standards a global standard
Meat exporters and marketers	Review packaging usage and other processing practices to align better with sustainability best practice Elevate a sustainable supply chain into an attribute that consumers will want to pay more for	Apply industry-agreed monitoring and measuring systems to individual company practices for full environmental impact transparency Collaborate with farmers to develop carbon-neutral beef and sheep-meat products	Provide proof points to show that NZ's beef and lamb industry has achieved full sustainable status as per national standards, so as to support the push to make these standards a global standard

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Define and build a national sustainability standard**	**Promote NZ's sustainability standard for sustainability in agriculture**	**Further evolve this standard in light of evolving consumer demands**
Government	Support development and delivery of environmental auditing systems which are effective, achievable, customer focused, and cost effective	Build in partnership a long-term vision and roadmap for sustainable food production practices Support evolution of environmental auditing systems to meet new standards Facilitate collaboration among primary industries to enable circularity	Incorporating learnings from its implementation in New Zealand, work with other countries to establish the NZ standard as the global standard for sustainable food production
B+LNZ	Coordinate sharing sessions among red meat farmers and processors to understand the current challenges to sustainability In partnership with processors provide more visible verifiable assurances to consumers, for instance, by making information from the New Zealand Farm Assurance Programme (NZFAP) more easily accessible and available Explore consumer perceptions of sustainability and the attributes of sustainability that consumers would be willing to pay a premium for Investigate what the industry needs to do to be able to claim leadership in regenerative agriculture, and the potential benefits of making this claim	Use feedback from monitoring and measuring systems to establish ideal practices and benchmarks for the industry Create, test, and deploy a new sustainability narrative wherein beef and sheep farming has an active positive role	Leverage key opinion leaders to champion NZ's sustainable food production story on a global stage Partner with other sectors to promote a all-round NZ sustainability narrative on a global stage

What else?

EMBRACING VUCA

Building a sustainable food production eco-system that is resilient to climate change and shock events will be crucial to the industry's survival. Against growing awareness of environmental issues, showing how this eco-system contributes positively to the broader environment will be key to having a sustained social license to operate

STEWARDS OF TRUST

The emerging systems of trust require full transparency and accountability, reassuring consumers not only of food safety but also of positive environmental impact

Footnotes

1 www.slideshare.net/johnsoncharlo/meat-value-addition-73632151

2 www.canadiancattlemen.ca/2018/07/11/one-of-the-most-valuable-byproducts-cattle-produce/

3 www.sciencedirect.com/science/article/abs/pii/S0309174018300858

4 www.canadiancattlemen.ca/2018/07/11/one-of-the-most-valuable-byproducts-cattle-produce/

Drive transparency beyond traceability

How might we...

Utilise technologies for all-around transparency and traceability, not just food safety

So that we...

Realise the full value of all the brilliant work that our farmers and processors do, but that we as an industry are not currently paid for

Traceability is an untapped source of value

Concerns around food safety and the demand for transparency will persist, especially in high-growth markets like China, Africa and Southeast Asia. This is driven not just by the continuing recurrence of food safety issues in the markets, but also by the general awareness among consumers that the systems designed to prevent these issues are broken and easily corruptible.

New technologies like blockchain have emerged to offer an effective way to re-establish trust and ensure accountability. As competition intensifies in the realm of blockchain technology, it's no longer necessary for New Zealand to be a first-mover in the field: By adopting a fast-follower approach, the industry can realise the potential of these new traceability technologies at a much lower cost. With the money saved moving from an innovator approach to a fast follower approach, New Zealand can fund both foundational work in getting the sector digital-ready, and development work exploring what else might be possible given the traceability technologies that are falling into place globally.

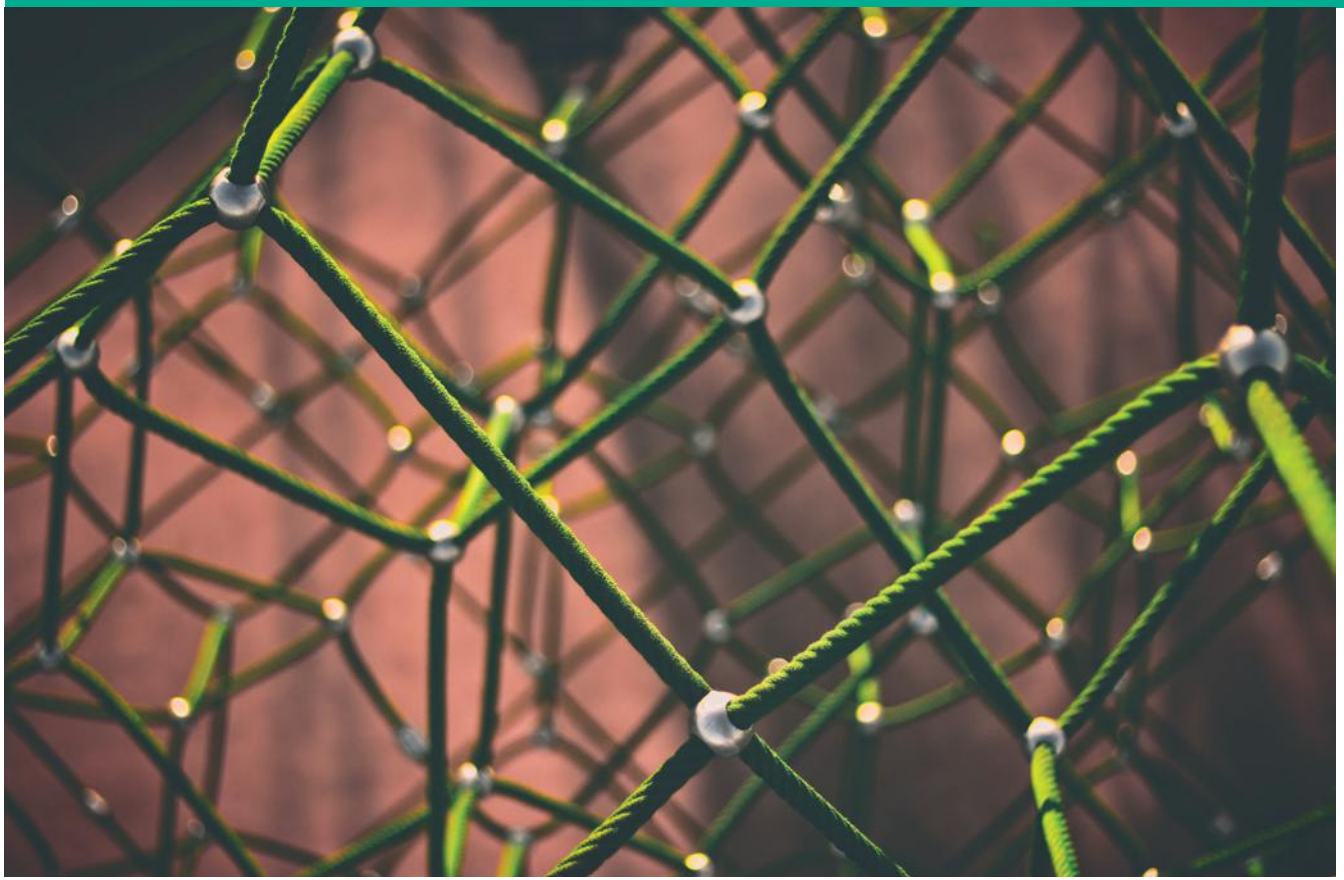
What if tech-powered traceability can do more than meet the consumer demand for transparency? What if it can actually generate greater profits for New Zealand's farmers and processors?

It is important to recognise that traceability has potential benefits beyond providing the transparency that assures consumers of food safety. Improvements to supply-chain transparency might also give farmers and processors the evidence they need to access new capital or lower their borrowing costs. The technologies that enable full traceability might also give farmers and processors direct access to real-time consumer purchase and usage data, allowing them to tweak existing products and innovate new products much more quickly and efficiently.

"Producers look to harness potential efficiencies brought about through traceability-enabled transparency, such as associated cost savings and new value sources. Traceability could improve producer revenue, market access and opportunities for affordable access to capital."

Source: World Economic Forum[1]

What if?

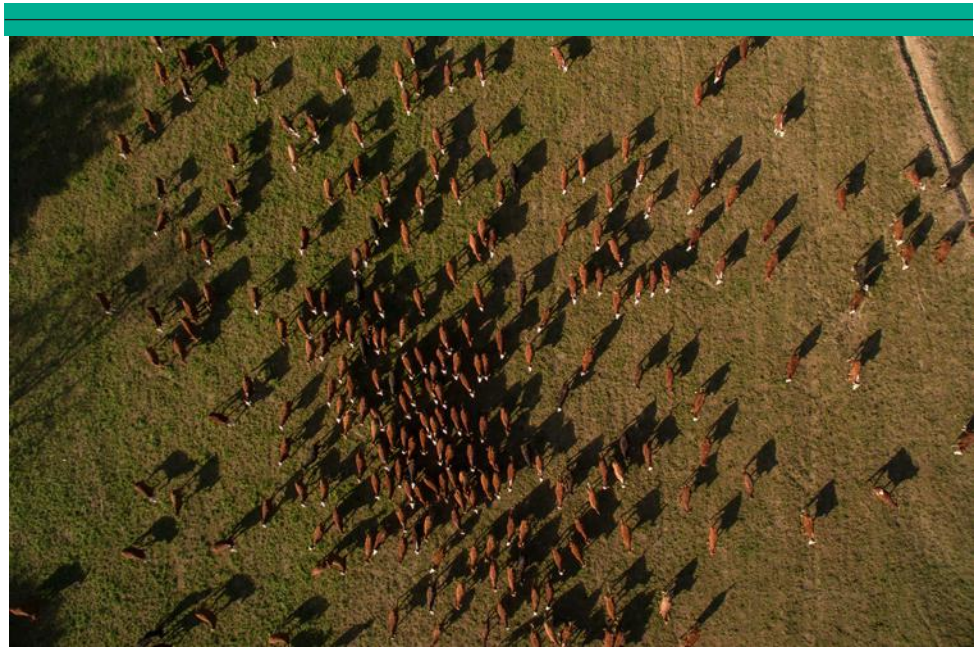


Ultra-efficient food trust networks

The IBM Food Trust platform is a blockchain-based food traceability platform, which has reduced the time needed to fully trace the source of a food product from 7 days to just 2.2 seconds. This substantially reduces the likelihood that infected food will ever reach consumers.

Carrefour, Walmart, Nestle, and Tyson Foods are already using the platform.

Source: Tech Crunch[2]

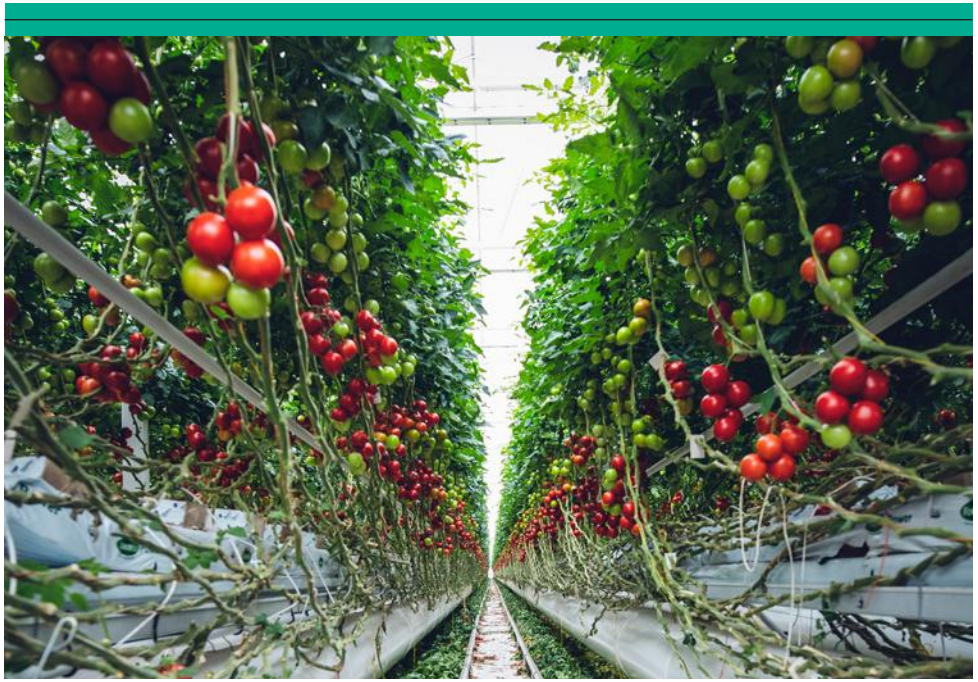


Charging for beef that is verifiably free-range

BeefChain utilises blockchain to unlock the premium for verifiably free-range cows. The program is led by Wyoming Senator Ogden Driskill, owner of Campstool Ranch. Unlike factory-style farms, many of the ranches in Wyoming graze livestock in open pastures and feed them with food grown right on the ranch premises.

Driskill recognised that raising cattle this way can and should command a price premium for the resulting beef. Using blockchain, Wyoming's beef farmers are now able to extract the value intrinsic to their farming practices by giving consumers incontrovertible proof that the animals were raised on a particular ranch, in a particular way.

Source: Forbes[3]



Doing more with less via traceability

Thanks in part to technologies that have allowed Dutch farmers to trace in real time the precise amounts of water and food needed by, and delivered to, individual plants and animals, the Netherlands has realised its national commitment to producing "twice as much food using half the resources".

Today, for instance, the total water footprint of tomato production in the Netherlands is 1.1 gallons per pound – far ahead of the 15.2 gallons in the US and the global average of 25.6 gallons.

Source: National Geographic[4]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Lay the ground work to allow the sector to adopt a universal traceability platform**	**Implement a unified traceability system leveraging the technologies that are gaining the most traction globally**	**Embed "trust" generated via unified traceability systems within NZ beef and lamb's "brand"**
Farmers	Adopt and implement farm management systems that allow farmers to capture the data needed for full traceability easily, cost effectively, and with minimum effort	Use feedback gathered from consumers through implemented traceability systems to define and engineer new meat attributes that might capture greater value for the sector Pilot how collaboration around traceability would work between processors	Use traceability as an opportunity to develop farming into a consumer-facing brand, by communicating a unique selling proposition stemming from type of product or farming process
Meat exporters and marketers	Identify minimally viable level of data sharing on processing practices that will assure consumers of traceability and safety	Use feedback gathered from consumers through implemented traceability systems to understand the meat attributes that matter the most, and which supply chain processes can deliver on them	Use traceability to develop and communicate new proof points around the impact of processing on freshness, nutrient content, and other desirable meat attributes

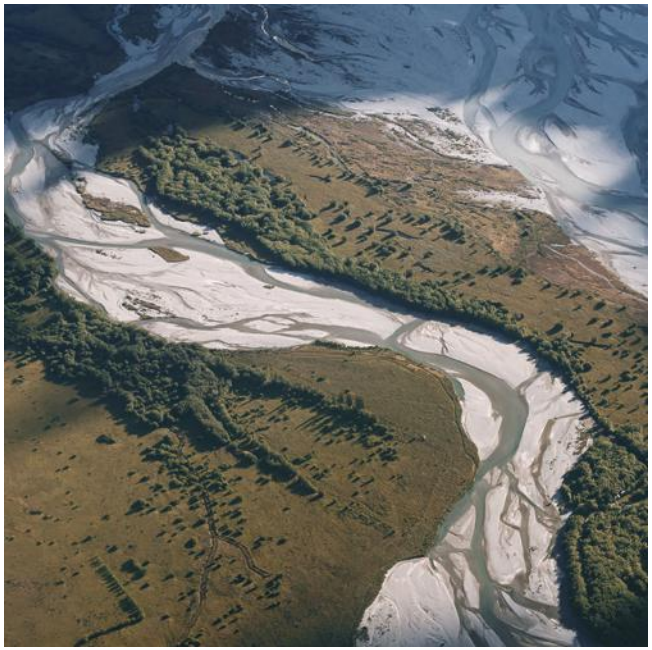
What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Remove data blockages that prevent the implementation of a standardised traceability system**	**Implement a standardised traceability system leveraging the technologies that are gaining the most traction globally**	**Embed "trust" generated via unified traceability systems within NZ beef and lamb's "brand"**
Government	Identify opportunities to enable data sharing between farms and other industry bodies Identify pain points around existing digitalisation efforts (e.g. data entry, cost of investment, compliance) Identify existing blockchain/traceability technologies that are most likely to become global industry standards	Endorse and promote established traceability standard	
B+LNZ	With partners, create a platform that farmers, processors and other interested parties can use to access agreed upon open-source data on farming and processing practices Demonstrate the financial value of tech transparency across the value chain (e.g. through reduction of friction and blockages) Identify what consumers want to know in terms of traceability (e.g. land use, animal production systems, supply chain)	Ensure NZ is a fast follower in the adoption of the world's best traceability technologies Explore and facilitate new partnership opportunities with retailers, tech companies, etc. Cross-reference sales with traceability data to understand the attributes that highly correlate with sales and profitability, across farmers and processors	Identify spillover benefits from traceability that can be communicated to consumers as a reason to purchase or pay a premium for NZ beef and lamb—for instance, can we show that blockchain-certified Halal meat is also cleaner and more ethically processed? Ensure there is a common story being told about beef and lamb from NZ that still allows for individuality across processors and farmers

What else?

STEWARDS OF TRUST

There is a need to keep up with consumers' evolving expectations around food safety and traceability along all parts of the supply chain



RECHANNELING RESOURCES

Traceability and careful analysis of the information now available will reduce asymmetries in demand and supply across the value chain

NEW AUTHORITIES OF CHOICE

With the rise of dominant digital platforms, it is essential to stay one step ahead by establishing new partnerships with emerging sources of authority and trust—whether human or algorithmic

Footnotes

1 www.weforum.org/docs/WEF_Traceability_in_food_value_chains_Digital.pdf

2 www.techcrunch.com/2018/09/24/walmart-is-betting-on-the-blockchain-to-improve-food-safety/

3 www.forbes.com/sites/michaeldelcastillo/2018/05/17/free-range-beef-bound-by-the-blockchain/#3248c8b0796a

4 www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/#close

Own new premium narratives

How might we...

Find and connect with people around the world who are willing to pay more for the unique intrinsic qualities of NZ beef and lamb

So that we...

Extract the most value from every animal we grow and process, as well as the NZ beef and lamb brand

Premium is in the eye of the beholder

Across every category imaginable, ‘premium’ is fragmenting, with different people willing to pay more for different qualities or attributes of the product or service in question. In chocolate, for instance, people may continue to pay more for well-known brands, but there are also those who look to pay more for craft brands, products made from single-origin beans, etc.

Meat is no exception.

Marbling and provenance might have been the only ways to command a premium in red meat in the past, but tomorrow there will no longer be one absolute ‘premium’. Rather, both the drivers and codes of premium will continue to fragment, driven by farmers, processors and retailers alike coming up with innovative ways to meet the increasingly diversified and discerning palate of the new age consumer.

For instance, France’s $3,200 Polmard steaks are the world’s most expensive. The Polmard family justifies the sky-high price with its stress-free breeding process that preserves the tenderness and flavour of the meat, as well as a proprietary treatment called “hibernation” where cold air is blown over the meat at speeds of 120

What if New Zealand beef and lamb could own the premium end of the global market for meat by differentially addressing the needs and preferences of different arbiters of premiumness in the category?

km/h in a -43°C environment to preserve meat quality for virtually any length of time.

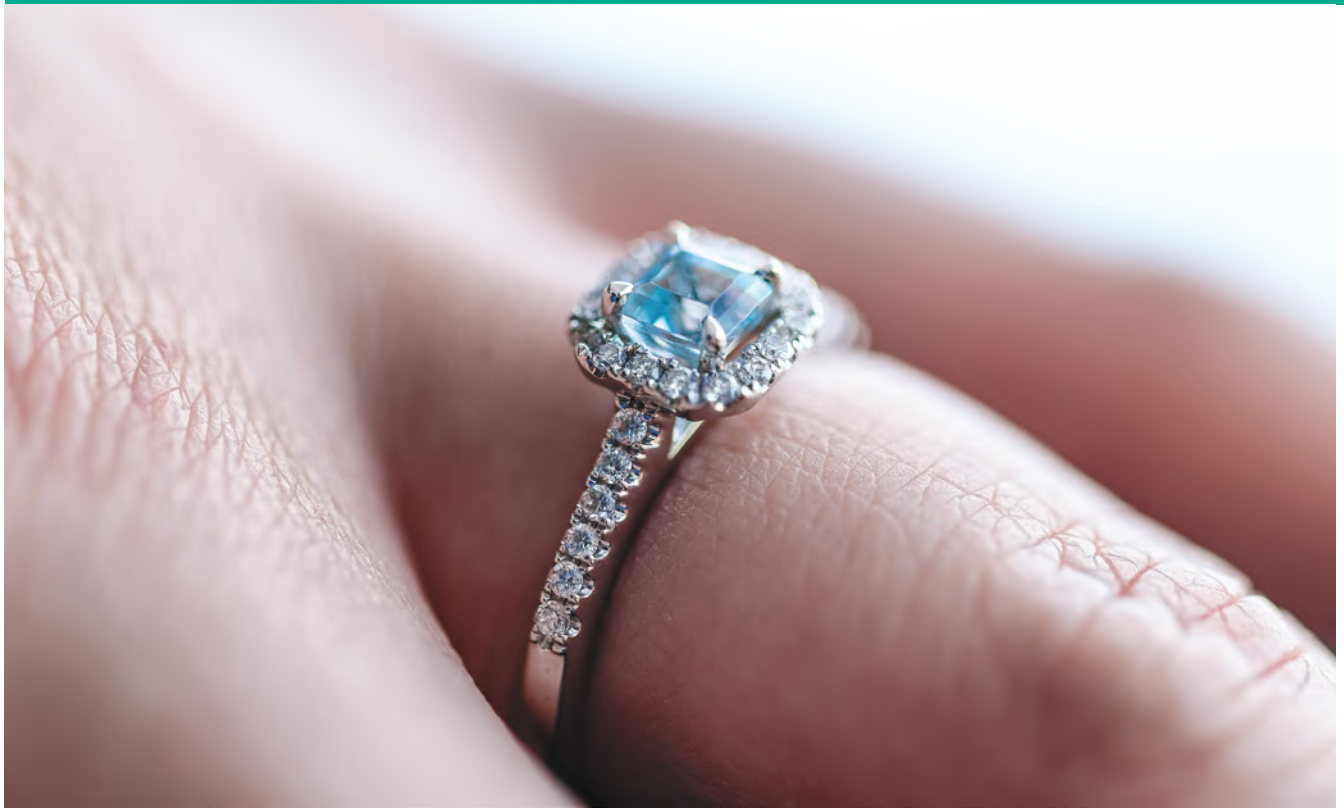
There is no better time to reinvent what premium means, especially as advancing technology enables lower prices for alternative proteins, real red meat has the opportunity to elevate itself and command a premium for the properties that make meat "real".

New Zealand needs to identify and cultivate relationships with people and tribes who value the unique and intrinsic qualities of its beef and lamb products. This involves smart, dynamic segmentation strategies, and the crafting of highly specific marketing messages or even the redesigning of products for different groups of consumers.

"Compared to a US retail price of $0.80 per 100g for conventional beef, the cost of producing cultured meat was $80 per 100g in 2018. However, this is projected to drop below $4 per 100g within the next 12 years, with industry experts confident in further reductions in the longer-term future."

Source: AT Kearny[1]

What if?



Emotion sells better than composition

Over the past couple of decades, synthetic diamonds have gradually emerged as a cheaper and arguably more ethical alternative to traditionally mined diamonds. They have exactly the same physical characteristics and molecular structure as mined diamonds.

However, the emotional appeal created around traditionally mined diamonds by companies like De Beers remains strong, convincing people to pay significant price premiums for the real thing even in the face of the wide availability of synthetic diamonds. By introducing its own synthetic diamond line, De Beers has even gone a step further to actively define synthetic diamonds' role in the market vis-à-vis mined diamonds.

Source: Business Times[2], Forbes[3]

Selling the finer details of water

In recent years, the popularity of premium bottled water has soared. People like water sommelier Martin Riese have built careers out of convincing people that not all waters are the same.

Riese, who is also the General Manager of Ray's & Stark Bar in Los Angeles, has curated a water menu that demonstrates the difference in taste among twenty different waters sourced from around the world. The extensive menu details the contents of each water, and measures the taste and texture of each based on two metrics: Sweet-Salty, and Smooth-Complex. The most expensive item, Beverly Hills 9OH2O, retails for $16 per litre. A Diamond Edition is also available for $100,000, featuring a white gold cap studded with 14 carat diamonds.

Source: Eater[4]

Paying a price for provenance

Switzerland's country image abroad has contributed immensely to the fortunes of its home-grown brands. Across various industries, the 'Made in Switzerland' label has become synonymous with premiumness.

The nation's reputation for a great quality of life, its natural landscapes and modern sophistication have been leveraged by Swiss brands to communicate 'artisanal engineering' (think Rolex). This respect for traditional craftsmanship extends to its highly reputed Swiss chocolates, which have remained sought after worldwide for over 200 years.

Source: Zhaw.ch[5]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Identify the current and emerging opportunities for premiumisation via segmentation**	**Own the codes and signals for the new premium(s)**	**Identify emerging sources of value and invest behind new methods**
Farmers	Define the KPIs for what premium means for farmers—higher selling price to processors? Higher price premium at retail?	Optimise farming processes to signal and communicate new premium attributes identified as important to different tribes	Trial new farming methods, tools and products that cater to new premium tribes and attributes that we do not currently own based on how premium definitions evolve
Meat exporters and marketers	Review and align on KPIs for achieving premium within the organisation—do we target a price premium against meats from other countries, against other types of meat, or against competititive brands? Optimise existing farming processes to deliver on premium attributes Identify how to position NZ manufacturing beef as a premium product (given its share of carcass and threats from alternative proteins)	Innovate around packaging, treatment, flavourings, enhancements and other processes to signal what premium means to different tribes—e.g. freshness conveyed through packaging, no plastic packaging Utilise insight from social watching and other dynamic monitoring systems to identify tribes who represent the best market for existing brands and products	Re-position brands so they are better-placed to appeal to emerging tribes with new definitions of premium Create an expanded red meat portfolio, where alternative proteins drive scale and accessibility, and innovation in real meat drives differentiation

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Identify the current and emerging opportunities for premiumisation via segmentation**	**Own the codes and signals for the new premium(s)**	**Identify emerging sources of value and invest behind new methods**
Government	Incorporate New Zealand's red meat sector into tourism strategies, to help make NZ provenance a compelling driver of premium pricing for the sector Support opportunities for regional appellations for beef and lamb products	Support new certification standards for the new codes of premium, like Japan did with marbling standards and the codification of Wagyu	Set standards for the marketing of cellular meat, alternative proteins vs. real meat Create an expanded red meat portfolio, where alternative proteins drive scale and accessibility, and innovation in real meat drives differentiation
B+LNZ	Establish a dynamic monitoring system—monitoring not just social conversation but innovation in adjacent categories—to identify emergent tribes who might place a premium on NZ red meat Move beyond the Conscious Foodie to find and understand the specific tribes who are prepared to pay a premium price for the unique attributes of NZ red meat Investigate how to use intangibles like the NZ food story to help add premiumness to the NZ red meat offer Explore positioning opportunities around natural, grass-fed mince Explore positioning opportunities around veal/bobby calves	Re-evaluate existing positioning for fit with new premium tribes Conduct research to understand the codes of the new premium across the different tribes Craft new angles and narratives for our offer that appeal to different tribes but that also ladder up to a unified NZ beef and lamb brand Identify the attributes and characteristics of real meat that cannot be replicated with alternative proteins	Partner with adjacent food sectors to exchange knowledge on new innovations in farming or processing that can command new premiums

What else?

"In recent years the emphasis has shifted, from the owners of premium brands to the makers of premium products, whose personal stories and journeys code premium-ness as an artisan value. These products are shared and created by the very craftsmen striving to develop greater quality products to improve the lives of their peers, not bequeathed to the public in a patronising way from a founder on high."

Source: Contagious[6]

PREMIUM DIVERSIFIED

Premiumisation in red meat will break free from industry-defined standards, providing New Zealand with new, diverse opportunities to re-define premiumness to its advantage

RE-DISCOVERING CONNNECTIONS

Building on the 'Taste Pure Nature' campaign, New Zealand can further leverage its natural environment and agricultural traditions to establish points of difference for its meat products that distinct groups of consumers around the world will want to pay a premium for

Footnotes

1 www.atkearney.com/retail/article/?/a/how-will-cultured-meat-and-meat-alternatives-disrupt-the-agricultural-and-food-industry

2 www.businesstimes.com.sg/consumer/buying-a-diamond-with-more-clarity-on-where-it%E2%80%99s-from

3 www.forbes.com/sites/pamdanziger/2019/01/16/tiffanys-new-mined-diamond-policy-ignores-all-that-luxury-customers-want-a-man-made-alternative/#5c71ef83507a

4 www.eater.com/2013/8/6/6390275/la-restaurant-has-45-page-water-menu-water-sommelier

5 www.zhaw.ch/storage/sml/ueber-uns/zhaw-broschuere-competence-international.pdf

6 www.contagious.com/news-and-views/the-new-codes-of-premium

Lead the health debate

How might we...

Position New Zealand beef and lamb as a positive contributor to the wellbeing of select 'health tribes'

So that we...

Ensure that New Zealand beef and lamb benefits from growing consumer interest in health and wellness generally, and activities like health data tracking specifically

Red meat can be good for your health

On top of the continuing global plague of heart disease and other non-communicable diseases, food scandals associated with industrial-scale factory farming has led more and more people to cut red meat out of their healthier lifestyles[1]. Public messaging to eat less meat has been aggressive, with a recent report by EAT-Lancet[2] recommending consumers to cut down their red meat consumption by 90% for both the planet and their health. In addition, the growing availability of alternative proteins is making it easier for people to live meat-free lives that they perceive as healthier, as well as better for the world.

However, what constitutes a 'healthy lifestyle' is becoming increasingly personally defined. There is no longer a unified, top-down approach to nutrition like, for instance, the universally accepted food pyramids of the past that prescribe specific amounts or proportions of nutrients. Wearable devices like the Apple Watch, and associated apps, are making people more aware that every body is different. As well, Western medical science has lost its long-held position as the final arbiter of what 'healthy' means. As the affluence and influence of developing countries

What if New Zealand beef and lamb can reframe its health credentials by taking on a stronger voice in the health debate, and by connecting with people whose health needs and approaches include red meat?

increase, their centuries-old traditions around health are gaining traction both within and outside their borders. Beyond this, the continuing debate around the relative merits of fat and carbohydrates has led many to believe that there's no such thing as 'the healthy diet'—there's just the one that's right for you.

The New Zealand beef and lamb industry can and should find and foster those global tribes of people—each organised around common health and wellness beliefs—whose health needs naturally call for well-grown beef and lamb. By doing so, the industry can be part of the ongoing health and wellness revolution.

Adopting a Mediterranean-style eating pattern improves heart health, with or without reducing red meat intake, if the red meat consumed is lean and unprocessed, according to a Purdue University nutrition study.

"This study is important because it shows that red meat can be part of a heart-healthy eating pattern like a Mediterranean-style eating pattern," said Wayne W. Campbell, professor of nutrition science.

Source: MedicalXpress[3]

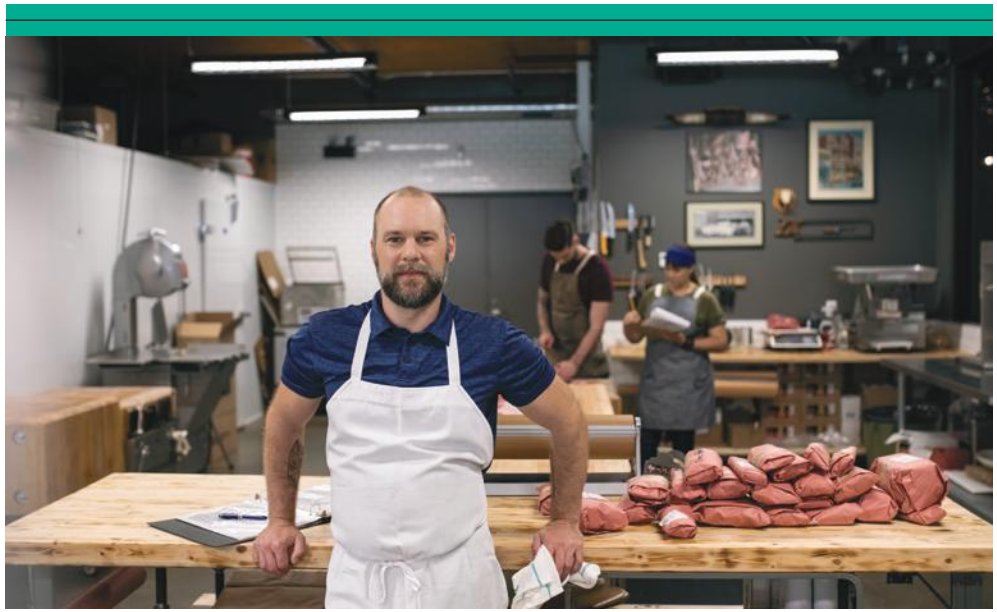
What if?

What's bad for some is good for others

Bulletproof coffee (BPC), which has become all the rage in Silicon Valley, is a breakfast-replacement beverage that controversially contains butter and coconut oil—two ingredients not normally thought of as parts of a healthy diet.

Among BPC's listed benefits are weight loss through hunger reduction, and boosting cognitive function. While some nutritionists have criticised BPC's high saturated fat content, its low-carb/hi-fat composition fits perfectly with those following a ketogenic diet and for people with type-2 diabetes.

Source: Fast Company[4], Medical News Today[5]



Sharing the experiences of ex-vegetarians

In the United States, several former vegans and vegetarians are taking an active stand against industrial-scale factory farming by becoming butchers. Kate Kavanaugh, owner of Western Daughters Butcher Shoppe, offers only 100% grass-fed beef. Kavanaugh, who was a strict vegetarian before becoming a butcher, claims that introducing grass-fed meat into her diet has helped with her depression.

Butchers like Kavanaugh believe that red meat has unique health benefits, as long as the animals have been grown healthily. Instead of taking a passive approach by completely abstaining from meat, Kavanaugh translated the beliefs she had as a vegetarian into the way she buys, butchers and sells meat.

Source: NY Times[6]

Meeting flexitarians halfway

Tyson Foods Inc. has expanded its position as a global protein leader by introducing a half pea-protein, half-Angus-beef burger.

Recognising that many alternative protein buyers are looking to reduce but not entirely eliminate meat from their diets, the new hybrid burger is designed to give these 'flexitarians' the opportunity to continue enjoying beef while taking in fewer calories and less saturated fat.

Source: Bloomberg[7]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Define and communicate the role of red meat in the health narrative; establish a way of identifying and connecting with emerging health tribes**	**Develop products and communication strategies which target specific health tribes**	**Create and stay ahead of future health and nutrition needs through innovation**
Farmers	Continue alignment of farming practices with products which align with consumers health demands e.g. GMO free, GPH free, no antibiotics Grow supply of NZFAP products	Capture value from healthier growing practices by ensuring consumer awareness through complete transparency of product input	Trial new farming methods, tools and products that cater to new health tribes and attributes that we do not currently own—e.g. additional nutritional benefits of red meat for the elderly
Meat exporters and marketers	Invest in technology that monitors the integrity and other aspects of the processing journey that influences red meat's impact on people's health Review existing and new product lines to identify the most valuable health attributes to highlight in marketing Continued commercial development of health claims applicable to key markets	Build strong partnerships with data aggregators, to link industry data with relevant data from insurance companies, health apps and other health- and nutrition- related companies Prioritise health tribes to pursue, given existing product portfolio and innovation capabilities	Trial new products and processing techniques to create healthier versions of red meat – e.g. processing in a non-metal environment using high pressure air

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Define and communicate the role of red meat in the health narrative; establish a way of identifying and connecting with emerging health tribes**	**Develop products and communication strategies which target specific health tribes**	**Create and stay ahead of future health and nutrition needs through innovation**
Government	Invest in research to prove the health benefits of red meat generally, and grass-fed beef and lamb specifically Facilitate collaboration with other industries (e.g. pharmaceuticals) to explore emerging health uses/benefits for red meat	Invest in research to begin exploring health attributes beyond grass-fed Continue dialogue between sector and government around nutritional benefits of beef and lamb	Facilitate regular exchange of nutritional knowledge among primary industries in NZ, as well as with medical/scientific researchers, and other red meat sectors
B+LNZ	Segment existing consumers to identify health tribes and existing health concerns Optimise the health narrative within 'Taste Pure Nature' Enhance understanding of health positioning in China and demands which meet our product proposition e.g. demand for iron, zinc etc. Identify sources of value which could be generated by identifying health benefits of beef and lamb products	Establish a dynamic monitoring system —incorporating regular social watching/ listening—to understand emerging health tribes (e.g. rapidly ageing populations) Identify and partner with ambassadors for NZ red meat who can champion its health benefits among specific tribes	Create, test and roll out new health narratives that compellingly demonstrate how NZ beef and lamb can improve the health of selected health tribes Investigate potential for animal health and wellbeing monitoring to support ethical license to continue animal consumption

What else?

MY BODY, MY SCIENCE

The movement away from a singular definition of health will present new and more varied opportunities for the New Zealand beef and lamb industry to participate in the trends towards healthier lifestyles

REDISCOVERING CONNNECTIONS

New Zealand's pristine environment and healthy farming practices can give the consumers of its beef and lamb products a sense of being connected to a healthier landscape and way of life

Footnotes

1 www.nytimes.com/2019/04/11/well/eat/eat-less-meat-live-longer.html

2 www.beefmagazine.com/beef/eat-lancet-recommends-slashing-red-meat-consumption-90

3 www.medicalxpress.com/news/2018-06-mediterranean-style-unprocessed-red-meat-heart.html

4 www.fastcompany.com/3034539/what-its-like-to-drink-bulletproof-coffee-every-morning-for-two-weeks

5 www.medicalnewstoday.com/articles/323253.php

6 www.nytimes.com/2019/08/06/dining/butchers-meat-vegetarian-vegan.html?utm_medium=10today.ad3li.20190809.421.2&utm_source=email&utm_content=article&utm_campaign=10-for-today---4.0-styling

7 https://www.bloomberg.com/news/articles/2019-06-13/tyson-s-answer-to-fake-meat-craze-is-a-half-pea-half-beef-burger

Set up systems for collaboration and innovation

How might we...

Unite and mobilise the right teams across functions, stakeholders and companies to work towards industry-advancing innovations

So that we...

Pre-emptively pursue and effectively unlock any future opportunities we identify

Unnecessary silos in the industry impede innovation

With the right systems to support information flow and the frameworks to enhance collaboration, we can capture the potential of the other six innovation pathways.

There is consensus within the industry that addressing barriers which prevent the exchange of knowledge and technology, as well as misalignment of stakeholder interests along the value chain, would have major benefits to all parties.

As a cautionary example, consider the case of General Motors. In 2014, the company recalled 800,000 cars due to a faulty ignition switch that can lead to engine failure. That same switch disabled the airbag, leading to the deaths of 13 people over a span of 10 years. The reason it took more than a decade for GM to recall the cars: internal mistrust and information silos.

What if we could reach across silos that exist within our industry to quickly and effectively capture the potential of opportunities as they arise?

Departments did not trust one another, and since no single department 'owned' both airbags and the ignition switch, there was no decision-making body with all the information to make the urgent recall.

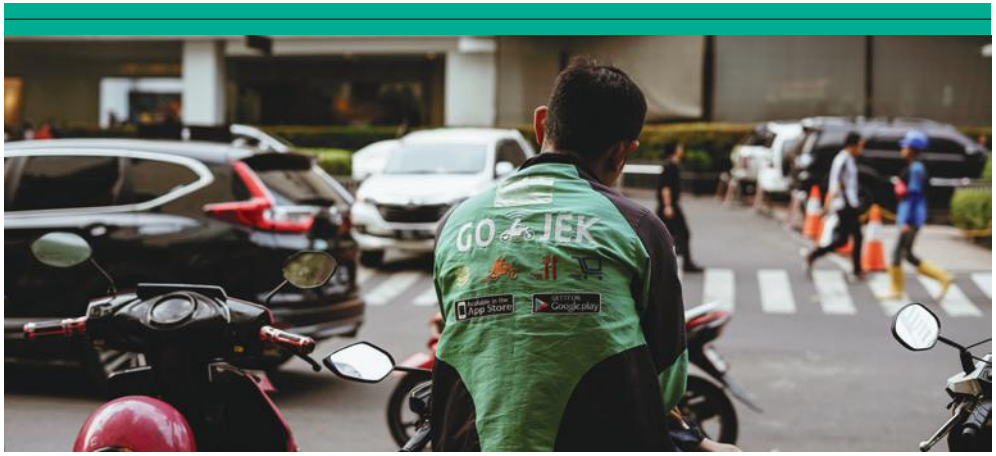
Greater collaboration would allow us to effectively address industry opportunities and threats on an ongoing basis, empowering us to monetise not just the opportunities described in this playbook, but others that the future will reveal as it unfolds.

"Over the last few years there's been a noticeable shift in mindsets and behaviours within the sector. There is much more openness and willingness to collaborate on the key issues and opportunities. There is also greater trust and transparency.

I think these are all critical ingredients for innovation that will create step-change for the sector."

Lee-Ann Marsh
Market Innovation Manager
Beef + Lamb New Zealand

What if?



Creating a two-way feedback loop

Indonesian ride-hailing firm GoJek is recruiting drivers for an innovation group, called GoBlazers. With a select group of drivers, GoJek is piloting new products and services to gather feedback and fine-tune the products tested.

Participants in the GoBlazers programme must be active drivers and 'community leaders', able to assist other drivers with the new features when they are officially launched. Feedback on the products are collected via WhatsApp channels, surveys and feedback sessions. GoJek's team of software engineers and product managers will also be involved in the process to better understand user needs and implement relevant products.

Source: Sgsme.sg[1]

Breaking organisational silos through cross-functional, cross-disciplinary teams

Chinese brand Haier has been the world's largest white goods manufacturer for nine years and counting.

In 2013, Haier restructured into self-managed teams that catapulted them into the ranks of the world's most innovative companies. Marketing, design and manufacturing worked in small teams brought together for a specific mission, with P&L responsibility. This bottom-up, cross-functional structure allowed teams to quickly act on any consumer insight, effectively eliminating any time delays between insight and innovation.

In 2014, Haier restructured again to institute digital platforms that allow cross-functional teams to crowdsource for solutions among consumers and outside innovators.

Source: strategy+business[2]

Driving pan-sector collaboration towards a unified vision of the future

In 2015, the government of Singapore moved its Centre for Strategic Futures (CSF) into the Prime Minister's office, ensuring the highest-level endorsement for its policy and investment recommendations to shape the future of the city-state to 2050.

One of the government's goals for 2050 is 100% public transport. This is driving plenty of investment and R&D into autonomous vehicles, with funding channelled to local start-ups, and engagement with global research institutes and think tanks. Singapore is the first country in the world to release national standards to promote the safe deployment of fully driverless vehicles, even before the technology has been commercialised.

Source: Channel News Asia[3], EDB[4]

What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Pilot cross-functional, cross-disciplinary teams across the red meat sector**	**Scale up collaboration through cross-functional teams**	**Leverage the industry's ability to collaborate effectively to create contingencies against future uncertainties**
Farmers	Elect farmer representatives to participate in pilot cross-sector teams to represent farmers' interests and to shape how farmers participate in future industry efforts	Explore ways of improving the speed and efficiency of communications, both among farmers, and between the national community of farmers and the rest of the industry	Support industry-wide initiatives to prepare for future uncertainties that would impact NZ's red meat sector
Meat exporters and marketers	Elect representatives to participate in pilot cross-sector teams set up to represent processors' interests and to shape how processors participate in future industry efforts Ensure clear lines of communication between the pilot cross-sector team and all processors via elected processor representatives	Share research and innovation pipelines with other stakeholders where there is clear mutual benefit Form partnerships with tech companies to gain access to additional data sets that can help drive effective innovation Connect R&D departments to other sectors or markets to capture best practices that can and should be adopted	Hedge against future risk by establishing contingencies in supply chain that ensure more consistent supply to match demand year round where the impact of increased VUCA has potential to disrupt this

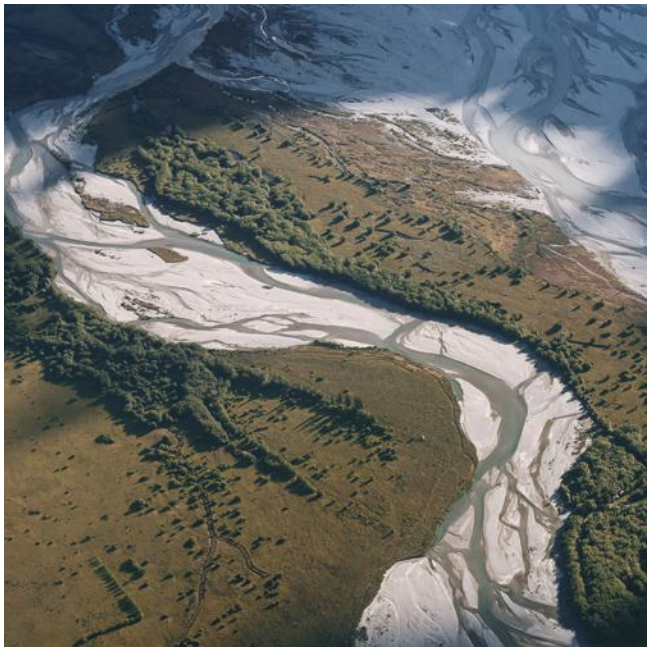
What now?

	Short-term: 1 year	Mid-term: 2–3 years	Long-term: 3–5 years
Goal	**Pilot cross-functional, cross-disciplinary teams across the red meat sector**	**Scale up collaboration through cross-functional teams**	**Leverage the industry's ability to collaborate effectively to create contingencies against future uncertainties**
Government	Elect government representatives to participate in pilot cross-sector teams to assist with any legal or regulatory questions	Facilitate knowledge transfer, and learning of best-in-class global innovations and new technologies, through the organisation of international learning forums or trade fairs	Share any case studies on scenario planning from other high-risk sectors e.g. forestry and fishery
B+LNZ	Facilitate the formation of cross-sector task forces, establishing rules of engagement and clearly defining roles and responsibilities for all players Utilise 'Taste Pure Nature' as a framework for innovation and collaboration (where it is relevant and adds value) Work toward enabling at scale opportunities identified in other six action areas	Explore formation of multiple cross-sector teams, each focused on one key opportunity area to pursue in the mid-term Facilitate partnerships between industry players and relevant start-ups to get closer to sources of innovation and change	Re-think industry structure to more efficiently unlock long-term opportunities, for example, in food culture and premiumisation Define mechanism for compliance to best practices across all players in the sector Set up framework to identify future uncertainties across environmental, political, economic, social and technological factors, and monitoring systems to determine when to act/react Define roles and responsibilities across stakeholders in all contingency plans

What else?

EMBRACING VUCA

Given the context of intensifying social, political, economic and environmental uncertainty, it is imperative to build contengencies into existing and new industry systems



RECHANNELING RESOURCES

The goal to better match demand to supply can be more efficiently addressed when tackling on an industry-wide level, rather than on the basis of individual companies

STEWARDS OF TRUST

Making a concerted industry effort to tackle future challenges and explore best practices can go far in ensuring compliance along the value chain, and ultimately building trust with end users and consumers

Footnotes

1 www.sgsme.sg/news/startups/gojek-track-launch-integrated-suite-benefits-its-drivers

2 www.strategy-business.com/article/00323?gko=c8c2a

3 www.channelnewsasia.com/news/technology/singapore-driverless-vehicle-autonomous-national-standards-11190498

4 www.edb.gov.sg/en/news-and-events/insights/innovation/world-s-first-driverless-taxi-system-comes-to-singapore.html

PROVOCATIO

Understand what the world of beef and lamb will look like in five years' time, taking into account changes in the macro environment, and extrapolating from early signals of how brands, people and authorities have begun to respond.

- PREMIUM DIVERSIFIED
- MY BODY, MY SCIENCE
- NEW AUTHORITIES OF CHOICE
- RE-CHANNELING RESOURCES
- RE-DISCOVERING CONNECTIONS
- STEWARDS OF TRUST
- EMBRACING VUCA

PREMIUM DIVERSIFIED

WHAT'S THE STORY?

TODAY

Marbling and exotic provenance drive premiumness in beef and lamb, with universally agreed grading systems determining how much people are willing to pay for each type of meat.

TOMORROW

The values and beliefs that determine premiumness in beef and lamb will diversify and become more individualised. While some will still swear by grading systems, there will be different groups of people who are willing to pay a premium for different attributes of the animal—for instance, its diet or the net impact of its production on the environment.

THEREFORE

New Zealand needs to find and foster relationships with the groups of people who are likely to attach a higher value to the unique attributes of New Zealand-grown beef and lamb. Looking further, New Zealand can influence the global conversation around food to position the unique attributes of its products as the drivers of premiumness across more and more groups of people.

PROVOCATION

What's driving this story?

01

Increasing visibility of the sustainability agenda

02

Declining natural resources

03

Innovation in agriculture and aquaculture

04

Growing exposure to pollution

05

Increasing information surrounding nutrition

Headlines from this future

CRICKET SCONES:
THE HOTTEST ITEM ON HARROD'S HIGH TEA MENU

NEW CHIP MONITORS
SHEEP'S HAPPINESS

BEEF PRICES SOAR ADMIST GLUT OF
PLANT-BASED MEAT

Early signals of this future

> “For a start, it will probably not be about the type of meat. A lot of the consumer's decision will come down to emotion appeal. The truth is, if you do a blind test of meat from different places, most people can't actually tell the difference.”

CEO, Mosa Meats

South Korea

Business-friendly Korean Hanwoo Beef

South Korea’s Hanwoo Board has recently announced plans to launch a major marketing campaign for Hanwoo beef in Hong Kong, leveraging on recent findings that sharing Hanwoo beef grilled over a communal charcoal plate has a measurable positive impact on business negotiations.

Source: AsiaOne[1]

New Zealand

First Light award-winning beef

Gold winner at the 2018 World Steak Challenge, First Light prides itself on not only inventing 100% antibiotic-free, non-GMO grass-fed wagyu beef, but also in maintaining farming practices—like its lean supply chain—that brings farmers closer to consumers.

Source: First Light Farm[2]

Footnotes

1 www.asiaone.com/business/hanwoo-board-brings-korean-dining-culture-negotiating-table

2 www.firstlight.farm/

MY BODY, MY SCIENCE

WHAT'S THE STORY?

TODAY

Despite the continuing existence of many traditional health beliefs around the world, western medicine holds a special position as the one true science of the body.

TOMORROW

Western medicine's authority will dissipate as "post-truth" becomes the norm. Increasingly, belief systems such as traditional Chinese medicine (TCM) and ayurveda will become seen as equal in credibility to Western medicine, creating mutually exclusive global tribes built around different approaches to health. Combined with the ready availability of personalised health data, the rise of these tribes will lead to highly individual health management regimes.

THEREFORE

New Zealand needs to seek out and connect with individuals and tribes whose health regimes embrace and even require beef and lamb products with attributes that New Zealand is well-positioned to deliver.

PROVOCATION

What's driving this story?

01

Rise of single-person households

02

Increasing gender blur

03

Rise in personalised health and genomics

04

Rise in urbanisation

05

Spread of false information online

06

Rapidly ageing population

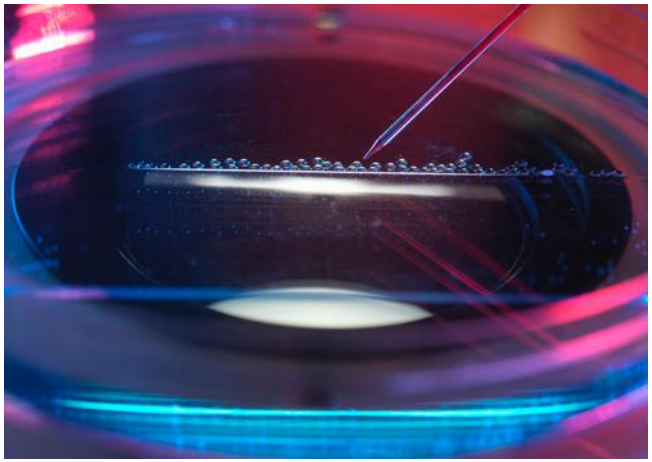
Headlines from this future

UK OPENS FIRST HOSPITAL PROVIDING 100% AYURVEDA-BASED CARE

LAMB BRAIN SMOOTHIES:
THE NEW TRENDY MORNING DRINK AMONG CHINESE URBANITES

TIRED OF DATING VEGANS?
TRY 'MEATUP'—A MATCHMAKING APP JUST FOR COMMITTED CARNIVORES

Early signals of this future



Digital Wellness DNA Diet Plan

Subscribers to the plan can upload their genetic profile from AncestryDNA or 23andMe, and receive customised meal plans, grocery lists, recipes, and even exercise routines, based on more than 100 aspects of each individual's DNA.

Source: Health[1]

Japan

Okinawa's Longevity Diet

Credited as the secret of the world's longest lived people, the low-calorie, low-protein, and high-carb Okinawan diet is part of a larger lifestyle that advocates daily physical activity and mindfulness. Health benefits associated with the diet have inspired a new wave of diets, which fly in the face of the high-protein diets that have been popular over the past decade.

Source: LA Times[2]

United States

Anti-Vaccination Protests in America

The debate on whether vaccination should be mandated by health authorities has emerged in recent years, with numerous protests from opposing sides. In Sacramento, protestors rallied against a measure that required vaccination for all public school students.

Source: Healthline[3]

Footnotes

1 www.health.com/nutrition/dna-diet-plan

2 www.latimes.com/science/sciencenow/la-sci-measles-outbreak-political-polarization-trump-20190509-story.html

3 www.healthline.com/nutrition/okinawa-diet

NEW AUTHORITIES OF CHOICE

WHAT'S THE STORY?

TODAY

Founded on the notion that people are responsible for choosing the things that they eventually buy and consume, marketing focuses nearly exclusively on influencing consumer and shopper choice.

TOMORROW

The increasing presence of big data analytics and technology in both online and offline retail will mean that what people see, choose, buy and eventually consume will be determined more by algorithms than personal choice.

THEREFORE

New Zealand's beef and lamb industry needs to learn how to effectively partner with tech players and market to algorithms, in order to land its products in the shopping baskets of the future.

PROVOCATION

What's driving this story?

01

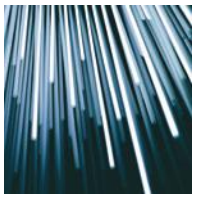
Impact of dominant digital platforms

02

Accelerated lifestyles

03

Anticipatory tech and algorithm-directed lives



04

Growth of open data

05

Rise of ambient intelligence and internet of things

Headlines from this future

GOOGLE BUYS FOODSTUFFS FOR NZ$10BN, RE-LAUNCHES IT AS GOOGLEGROCER

WALMART CLOSES ITS LAST STORE, SHIFTING ITS ENTIRE BUSINESS ONLINE

FONTERRA WINS BIDDING WAR TO BECOME AMAZON'S 'PRIMARY SUPPLIER'; RE-LOCATES WORKERS TO AMAZON OFFICES WORLDWIDE

Early signals of this future

> “Many traditional grocers need help with automatically replenishing products in stores, shopper subscription, AI etc. This is bringing together previously unlikely bedfellows. Google has positioned itself as an ally in the tech arms-race and so partnership seems a pragmatic, capital-light solution to build skill and scale.”

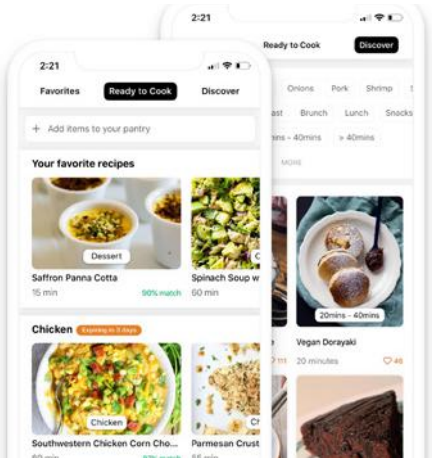
Daniel Ekstein, UBS[1]

China

Livestreaming agriculture to boost farm revenues

Since April 2019, Taobao Live, Alibaba’s livestreaming channel, has reserved two hours daily to feature stories about fresh produce and the farms that grow them. Taobao aims to empower local farmers and livestreamers to boost business in poorer rural areas. Last year, Taobao Live hosted more than 150,000 agriculture-related livestreams that drew more than 400 million viewers. Many farmers who have tried this enjoyed an increase in sales.

Source: Chefling[2]



United States

AI-powered Kitchen Assistant

Chefling is an AI-powered kitchen assistant that monitors, organises and selects food, fully managing users’ grocery needs. It helps users decide what to cook at any given moment, based on ingredients available in the pantry and users’ dietary preferences, automatically adding missing ingredients to online shopping lists for a seamless, hassle-free cooking experience.

Source: Alizila[3]

Footnotes

1 www.reuters.com/article/us-retail-tech-explainer/why-are-grocery-retailers-teaming-up-with-tech-giants-idUSKBN1J9237

2 www.chefling.net/

3 www.alizila.com/taobao-helping-farmers-reap-gains-in-livestream-boom/

RE-CHANNELING RESOURCES

WHAT'S THE STORY?

TODAY

The path that meat products take from producers to end-consumers has always flowed through a succession of middlemen. In addition to capturing a large chunk of the value, these middlemen also mediate the flow of information from end-consumers to producers, impeding the ability of producers and processors to innovate at pace.

TOMORROW

The emergence of new business models (e.g. direct-to-consumer, crowd-farming) is making it possible for producers and processors to have more direct links with retailers and end-consumers. Harnessed properly, these new business models can allow producers and processors to innovate more quickly, and direct products to where they can capture the most value.

THEREFORE

New Zealand's beef and sheep industry needs to get ahead of the business model innovations occurring in the industry globally, taking the lead in developing new value chains that allow it to capture more of the value inherent in its products.

PROVOCATION

What's driving this story?

01

Growing populations

02

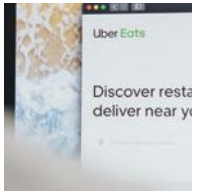
Rise in cross-border agricultural investment

03

Democratisation of supply chains

04

Emergence of new growth markets



05

Emergence of new business models

Headlines from this future

EU POLYESTER BAN SENDS COTTON AND WOOL PRICES SKY-ROCKETING

GOOP FEATURE ON ADRENAL SUPPLEMENTS LEADS TO GLOBAL SHORTAGE OF COW ADRENALS

THE SCRAMBLE TO SERVE THE USA'S EMERGING GROWTH HUBS IN THE DAKOTAS AND THE CAROLINAS

Early signals of this future

India

Extracting value from farming inputs, not just farming products

Oxen Farm Solutions democratises access to innovative and advanced technologies with a 'farming-as-a-service' model. Farmers can rent physical assets for short periods, significantly reducing overhead costs while allowing Oxen Farm Solutions to extract latent value from its idle assets.

Source: Oxen India[1]

United Kingdom

Direct-to-consumer model enables full traceability and maximum profit

Buy a Cow brings Britain's happiest, best-treated cows directly to end-consumers. The company not only offers full traceability down to the individual farm, breed and cow, but also ensures zero wastage as each cow is only processed when there are committed buyers for every part from nose to tail.

Source: Buy A Cow[2]

Japan Australia

Cross-border cooperation makes high-end fruit available all year round

Taking advantage of the two countries' seasonal differences, Japan and Australia have partnered on growing and harvesting select high-end fruits all year round. Farmers in one country can monitor farms in the other in real time, providing instructions to staff to ensure high quality standards.

Source: Nikkei Asian Review[3]

Footnotes

1 www.oxenindia.com

2 www.buyacow.uk/

3 www.asia.nikkei.com/Economy/Japan-and-Australia-to-try-out-year-round-fruit-production

RE-DISCOVERING CONNECTIONS

WHAT'S THE STORY?

TODAY

The planet's growing population has required the rapid industrialisation of food production, resulting in food products that are by default commodified, impersonal, and highly processed.

TOMORROW

With growing awareness of health, environmental and ethical issues, consumers are increasingly scrutinising every aspect of how the food they eat is produced. More and more people recognise that current production methods are not sustainable, and are seeking out alternatives that are grounded in more natural and more traditional processes that give them the feeling of a better connection to the planet and to other people.

THEREFORE

Drawing on both its remote location and its expertise in regenerative agriculture, New Zealand's agricultural sector is in prime position to benefit from the global backlash against industrialised food production. Further building in the idea of kaitaikitanga can give the sector a unique position and an unassailable point of differentiation in the global food market.

PROVOCATION

What's driving this story?

01

Declining natural resources

02

Persistent threats of non-communicable diseases

03

Increasing information surrounding nutrition

04

Increasing visibility of the sustainability agenda

05

Innovation in agriculture and aquaculture

06

Advances in nanotechnology

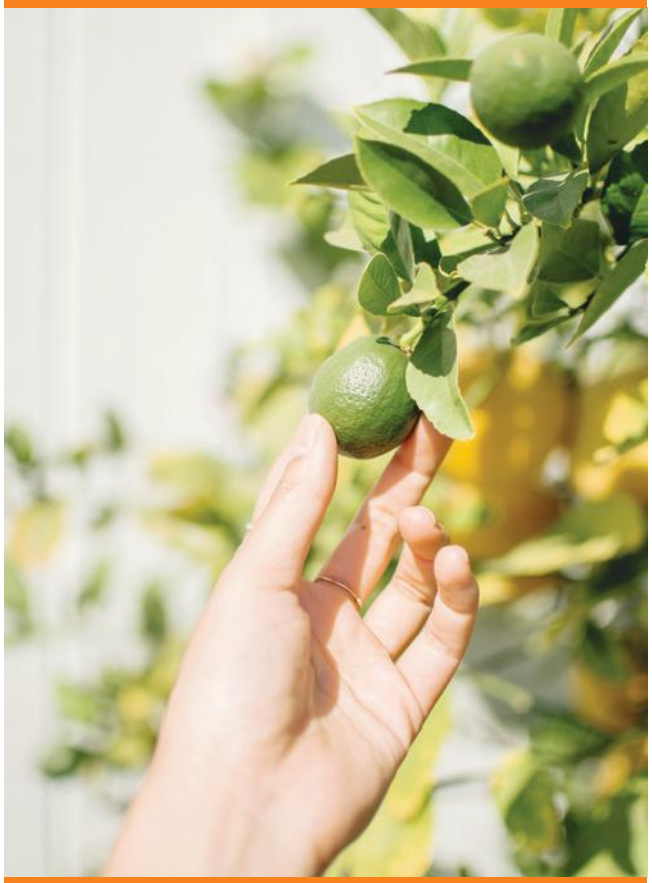
07

Growing consumer backlash against technology

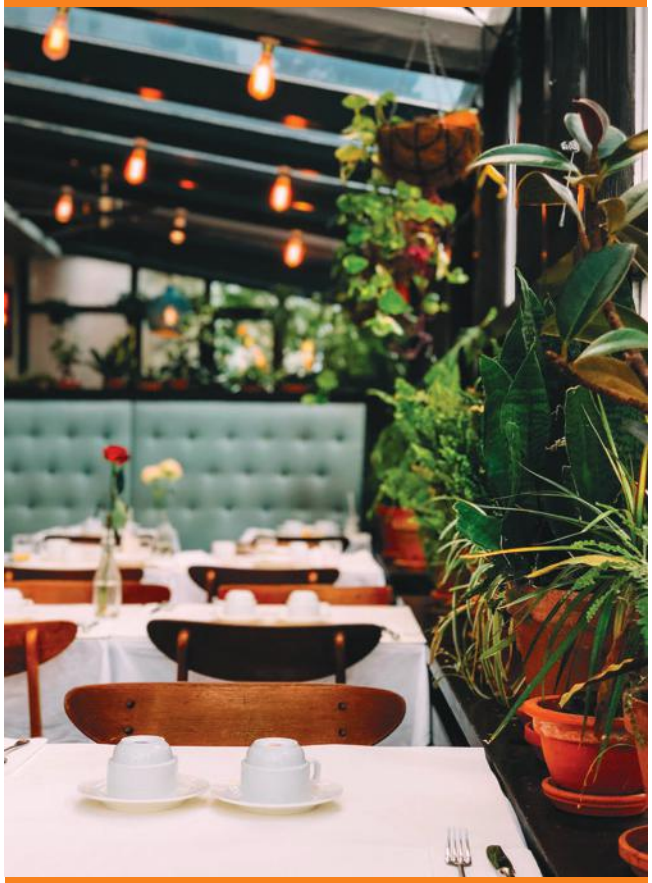
08

Desire for cultural authenticity

Headlines from this future



THE QUEST FOR ZERO ON THE PROCESSING INDEX: THE NEW MEASURE OF GOOD FOOD



NZ'S NEWEST MICHELIN-STARRED RESTAURANT FOCUSES ON FOOD CULTURE, NOT JUST COOKING

NZ LAMB: BRINGING A COUNTRY'S UNIQUE APPROACH TO FOOD PRODUCTION TO THE WORLD

Early signals of this future

"I don't think plant-based or cultured meat will take off in China in the next 1-2 years. In the past, when we buy pork, it is immediately slaughtered and sold fresh. This is still happening in some places here. Freshness is extremely important for consumers, and we like as minimal processing as possible. Plant-based and cultured meat require even more processing than the traditional meat industry. At the very least, I think it will take 10 years in China just for mindsets to change."

Category Manager—Fresh Food, Tmall (Alibaba)

Spain

Reviving ancient techniques to secure the future of farming

Led by a group of scientists at the University of Grenada in Spain, Project MEMOLA uses cutting-edge technology to study and replicate long-forgotten irrigation systems and other farming techniques to tackle climate change and rural exodus.

Source: Project Memola[1]

Italy

Breathing new life into the art of butchering

An eighth-generation Italian butcher, Dario Cecchini is committed to protecting local butchers from the increasing dominance of powerful supermarket chains. By teaching detailed knowledge of traditional butchering techniques and preaching the importance of respect for every animal, Cecchini believes he can bring people back to "original customs of the tribe".

Source: Traveller[2]

Footnotes

1 www.memolaproject.eu/

2 www.traveller.com.au/the-fast-and-the-glorious-auos

STEWARDS OF TRUST

WHAT'S THE STORY?

TODAY

In many places around the world—especially in developing markets—people have permanently lost trust in traditional food brands and retailers. Food safety scares continue unabated, and consumers are aware of just how easy it is to corrupt the systems designed to protect them from contaminated food.

TOMORROW

New incorruptible indicators of trustworthiness — including systems that enable transparency from farm to fork—are emerging to replace the brands and systems that consumers previously put their trust in. Once the market converges on a new universal standard for trust and transparency—one that's likely to incorporate blockchain technology—this standard will become a hygiene factor in the global market for food.

THEREFORE

With many countries and companies already investing heavily in blockchain and traceability technology, it makes sense for New Zealand to adopt a fast-follower approach to these new trust systems, re-routing its investments from being a first mover in these technologies to finding ways of leveraging these technologies beyond basic trust and transparency.

PROVOCATION

What's driving this story?

01

Declining trust in institutions

02

Spread of false information online

03

Rise of blockchain with increasing privacy concerns

04

Growth of open data

05

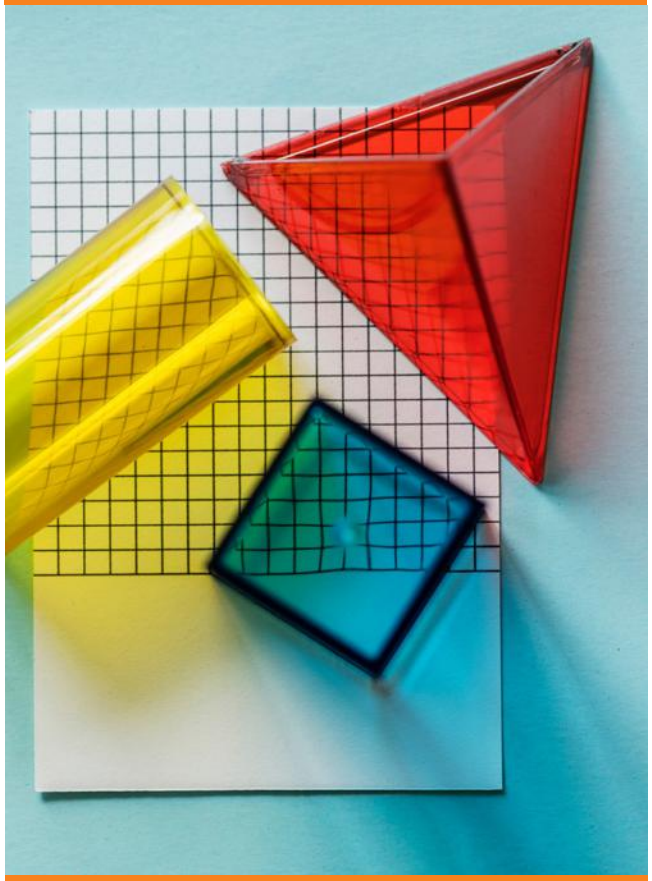
Rise of distributed manufacturing

06

Democratisation of supply chains

Headlines from this future

NEW MILK CONTAMINATION SCARE IN CHINA ON THE 20TH ANNIVERSARY OF THE MELAMINE SCANDAL



CARREFOUR ROLLS OUT UNIVERSAL PACKAGING THAT CHANGES COLOR IN RESPONSE TO FOOD CONTAMINATION

NEW ZEALAND APPOINTS MINISTER FOR CYBERSECURITY

Early signals of this future

China

China's first fully traceable chickens

Using an app that links through to data collected from ankle bracelets worn by individual chickens, consumers can find out detailed information about the animal they're buying, including its age at slaughter, its daily step count and even its exact time of death. China's poultry industry has been hit with multiple contamination scandals, and this program brings an unprecedented level of transparency to the sector.

Source: Quartz[1]

"Someone even offered to sell me a VietGap certification, which is the national indication for food safety and good agricultural practice. If it is that easy to buy, then what can the consumers believe in nowadays?"

Le Tu, Director of Hong Thanh Viet – a Vietnamese catering business[2]

"The next level is introducing smart contracts for payment. This will change how people transact. It is an automated system, and once all conditions are met, there will be automatic remuneration. This will ensure that everyone not only gets paid, but that they get paid fairly."

Director, BeefLedger Ltd.

Footnotes

1 www.qz.com/1158236/the-gogo-chicken-program-in-china-is-adding-poultry-to-the-blockchain-with-facial-recognition/

2 http://e.vnexpress.net/news/news/vietnamese-government-fails-to-get-a-grip-on-food-safety-3457814.html

EMBRACING VUCA

WHAT'S THE STORY?

TODAY

Farmers and processors are acutely aware of the many elements of volatility and uncertainty that plague the production and distribution of food—e.g. unpredictable weather patterns, rapidly changing commodity prices. However, as the world becomes increasingly volatile, uncertain, complex, and ambiguous (VUCA), these disruptions will occur more frequently, more severely, and across a broader range of environmental, political and technological factors.

TOMORROW

Industry players can survive by building precautionary measures into the way they operate, but these measures are just a first step. To thrive in the future, companies will have to build redundancies and contingency plans that make them anti-fragile—resilient and able to benefit from shocks—giving them an edge over less prepared players.

THEREFORE

The New Zealand beef and sheep industry must leverage predictive analytics as a precautionary measure against hard-to-predict shocks to the food system. It needs to diversify its product offerings, trading partners and routes-to-market, and have sufficient funding to combat potential bio-diseases caused by global warming[1] to quickly bounce back from any catastrophic shocks.

PROVOCATION

What's driving this story?

01

Growing exposure to pollution

02

Spread of protectionism

03

Rising geopolitical uncertainty

04

Continued volatility of oil prices

05

Increasing impact of climate change

06

Declining natural resources

Headlines from this future

2025 IN REVIEW: 3 'ONCE- IN- A-LIFETIME' CYCLONES SMASH THROUGH NEW ZEALAND, SPARKING WORLDWIDE FOOD SHORTAGE

STOCK MARKETS CRASH AS CHINA IMPOSES SWEEPING SANCTIONS ON 52 TRADING PARTNERS

US FARMS PIVOT TO INSECT MEAT IN MOVE TO DE-RISK THEIR BUSINESSES

Early signals of this future

"Currently in the Netherlands, we are busy trying to learn about the exchangeability of proteins. One interesting development is the manufacturers' ability to change out the primary protein at short notice, especially when there are sudden issues with the price of their preferred protein. Companies are making data on protein nutrition, protein taste, consumer taste preferences, etc., open-source in order to quickly and flexibly respond to market price and consumer demand."

Business Development Manager, Wageningen University & Research

Finland

Real-time environmental alerts

Known as Hello World, Reaktor Space Lab's nano-satellite fully orbits the planet every 95 minutes. It is among a new wave of technologies designed to alert cities and farms to environmental disruptions in real time.

Source: Reaktor Space Lab[2]

Netherlands

Building urban resilience

The Netherlands has moved past the idea that defensive infrastructure like sea walls can withstand the forces of nature. It is designing resilience into its cityscapes by incorporating waterways that swell without impacting surrounding areas. To maximise the utility of these new urban elements, they are also actively marketed as recreation spots.

Source: The Guardian[3], The New York Times[4]

Footnotes

1 www.euractiv.com/section/agriculture-food/news/animal-diseases-on-the-rise-due-to-climate-change-warns-industry/

2 www.reaktorspace.com/reaktor-hello-world/

3 www.theguardian.com/environment/2014/feb/16/flooding-netherlands

4 https://www.nytimes.com/interactive/2017/06/15/world/europe/climate-change-rotterdam.html

VALIDATION

Deep dive into the full universe of macro changes that will shape how people will consume meat in the future, and that will create a new operating environment for brands, authorities and other organisations.

DRIVERS OF CHANGE

- SOCIAL
- TECHNOLOGICAL
- ECONOMIC
- ENVIRONMENTAL
- POLITICAL
- WELLBEING

SOCIAL

Accelerated lifestyles

As lifestyles become increasingly fast-paced, nearly 50% of consumers are willing to spend money to save time (Kantar Global MONITOR, 2018). Time-pressed consumers will look to quick-fix solutions—food consumption will become an increasingly functional activity, driving innovation in packaging formats and nutrition to create more convenient forms of consumption.

Constant and ubiquitous social connectivity

The speed of always-on mobile connectivity is driving limitless social connections, upending the way communities communicate. Over the past decade, the rise in Google searches for “veganism” has coincided with the dietary preference gaining traction. Evidently, social connectivity has changed consumption habits. Leveraging social media to showcase New Zealand red meat as integral to a healthy and balanced diet can be an effective marketing strategy.

Rise of single-person households

Data from Euromonitor shows that single-person households are the fastest-growing household type, with couples-without-children coming in second. As food choices are dependent on the resources available to the household, this change would impact the preparation and consumption habits in the kitchen. This requires meat companies to respond by adapting meat for smaller family units in the form of smaller cuts or single-person sets.

Increasing gender blur

52% of females believe that gender lines are blurring and gender roles are becoming more fluid, while 44% of males resonate with that belief (Havas, 2017). With increasing rejection of traditional gender stereotypes, the association of red meat with masculinity is starting to dissolve. With changing consumer perceptions of beef and lamb products, companies must take on a new brand positioning and communication of red meat in a gender-fluid world.

Rapidly ageing population

Increased life expectancy, coupled with declining birth rates will result in the proportion of global population aged 60+ to nearly double to hit 22% by 2050 (World Bank, 2017). On top of introducing higher-end products or traceable technology, meat companies must innovate around nutrition to adapt to the needs of the older demographic.

Growing economic growth

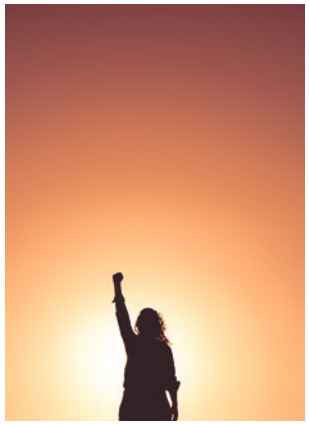
Of the top 10 fastest-growing economies (6 in Asia, 3 in Africa, 1 in Oceania), 8 are experiencing population growth as well (World Bank, 2019). While a growing population would naturally signal a rising demand for meat, it is important to consider high income inequality, which will reflect lower meat consumption per capita instead. In this case, export volume should not be a priority to capture these emerging markets.

Growing populations

UN estimates suggests the population will grow to nearly 10 billion by 2050. This growing population could spur an increase in demand for red meat at the cost of the environment. Given that livestock already contributes to 15% agricultural emission (FAO), it calls for meat producers globally to invest in environmentally sustainable methods to meet the population growth.

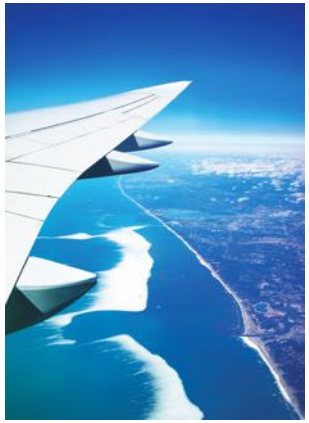
Rise in urbanisation

Over half of the world's population are now living in urban areas, with that figure expected to increase to 70% by 2030 (United Nations, 2018). This would lead to fewer agrarian lands for traditional farming, which might lead to a shortage of beef and lamb supply to meet the demands of the wealthier urban population. To adapt, supply chains must be transformed to maximise efficiency.



Declining trust in institutions

The pervasiveness of food scandals and fake news on mainstream media has led to distrust in traditional key institutions. Food safety has become increasingly top-of-mind for consumers, resulting in greater demand for food transparency beyond relying on certifications from traditional institutions. Companies need to leverage on technology (e.g. blockchain) to empower consumers with traceability in the supply chain.



Increasing global migration

By 2050, there will be a projected 405 million international immigrants in the world (The Guardian, 2018). A convergence of different cultures will introduce new delicacies which could make certain types of meat more common to consumer diets. New Zealand needs to constantly innovate around these changing dynamics to keep up with demand.

De-linearisation of time

Digital technology has offered people much greater flexibility in when and where they want to do things. In the food industry, 24/7 services have gained traction and companies must adapt to the idea that the sale of beef and lamb are no longer confined to certain hours. For example, New York-based company, Applestone Meat Co., sells steaks and sausages via vending machines, catering to those who can only shop during odd-hours.

Desire for cultural authenticity

53% of consumers worry that their values and traditions are being eroded by other cultural/global influences (Kantar Global MONITOR, 2017). This indicates that consumers are increasingly seeking authentic, cultural experiences. It is important for New Zealand to identify its cultural roots and identify its distinctive aspects to differentiate themselves from other nations.

Growing consumer backlash against technology

Many consumers are becoming increasingly skeptical of technology. For instance, 78% of consumers are concerned about their data protection and internet privacy (Kantar Global MONITOR, 2018). This presents an opportunity for New Zealand to leverage the country's natural landscape and geographic location to play up the quality of New Zealand's beef and lamb products (e.g. untainted, 'as nature intended').

TECHNOLOGICAL

Impact of dominant digital platforms

Greater influence and power are flowing to a few companies that control the platforms on which the world's online activity depends. In recent years, these companies will likely disrupt the sector in ways we can't envisage at present. The sector must expect, prepare, and where possible partner with these disrupters, to navigate this new reality better.

Rise of artificial intelligence as a service

From 2016 to 2025, the global revenue for the artificial intelligence (AI) market is expected to increase from USD3.2 billion to USD89.8 billion (Statista). Within the meat industry, AI can be used to transform every stage of the supply chain, from providing consumers with more targeted offers to managing inventory in a more efficient manner.

Anticipatory tech and algorithm-directed lives

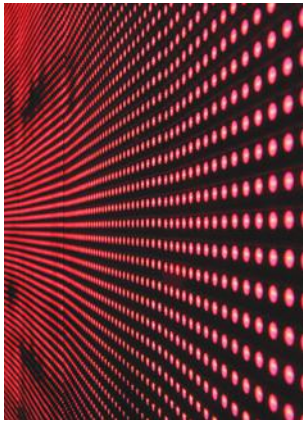
Anticipatory technologies like Amazon Alexa are rising in popularity. These devices anticipate our needs and curate personalised choices for consumers. As a result, machine-learning and algorithms are increasingly mediating our decisions, eliminating the need for a middleman, changing the purchasing and selection process of red meat.

Mainstreaming of mobile and 5G

Mobile has surpassed desktop computing as the most popular way to connect globally. Additionally, the growth of 5G (the backbone of agriculture IoT) is set to increase profitability, efficiency and safety for farmers. With reliable and high bandwidth speeds provided to areas that typically lack coverage, farm equipment will be able to achieve real-time connectivity for new precision capabilities.

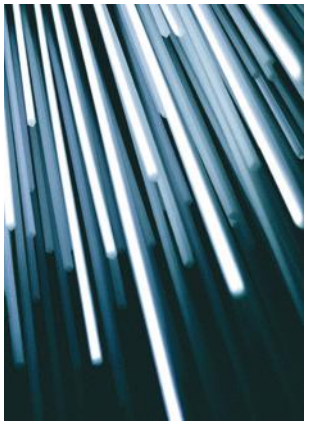
Rise of ambient intelligence and internet of things

From 2015 to 2025, the number of IoT devices installed worldwide will increase from 15 billion to 75 billion (Forbes, 2016). The democratisation of IoT could lead to great improvements in agritech—smart agricultural sensors which can collect data on weather conditions, soil quality, or cattle health. Coupled with automation, farms will be able to enhance their efficiency and productivity.



Rise of blockchain with increasing privacy concerns

From 2017 to 2021, worldwide spending on blockchain technologies is set to explode from USD945 million to USD9.2 billion (International Data Corporation, 2019), with it being mainly used for transactions between parties. This is applicable in food production and processing too, as blockchain technology can facilitate greater supply chain transparency and prevent cyber threats to confidentiality (e.g. herd health), and integrity (e.g. origins of livestock).

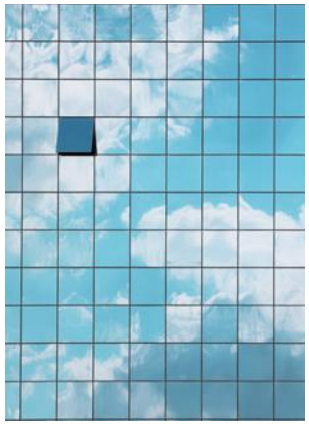


Growth of open data

Recognising that open data enables efficiency, collaboration and effective problem-solving, governments and organisations have increasingly opened up their proprietary data sets. With greater information, the efficiency of farming and overall sustainability and resilience of the beef and lamb supply chain can be improved.

Increasing use of geo-data

Global navigation satellite systems are set to increase from 5.8 billion devices in 2017 to 8 billion devices in 2020 (European Global Navigation Satellite Systems Agency, 2017). Such geo-fencing technologies allow devices in proximity to identify, connect and communicate with each other, thereby improving operational efficiency and aid in planning for farmers and businesses in the value chain.



Growing efficiency of big data and cloud services

The global big data market is forecasted to reach USD123.2 billion by 2025 (Grand View Research, Inc., 2016). Effective utilisation of this wider knowledge-based, real-time repository of information, will provide greater decision support and ability to respond to dynamic changes for the beef and lamb industry.

Democratisation of supply chain

Smaller companies and individuals are offering online platforms that connect resources in a more direct, efficient manner. In the agricultural sector, the concept of crowd-farming allows farmers to gain access to investments offering them the opportunity to invest in better infrastructure, machinery and processes, which translates to better farm outputs.

Advances in nano-technology

Nano-technology has led to the rise of meat alternatives such as 3D-printed plant-based meat and cultured meat. Instead of viewing it as a threat, there lies an opportunity for New Zealand beef and lamb players to collaborate with nanotech companies to explore innovations in food packaging, food safety, health-linked ingredients and even precision farming.

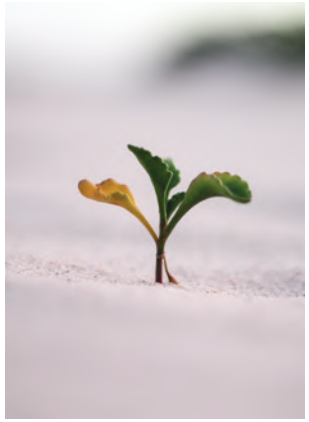
Rise of distributed manufacturing

Distributed manufacturing has become a popular business model which improves resource utilisation and reduces overheads. Agricultural supply chains adopting this model will become leaner and involve small scale farmers and even consumers earlier on in the process.

Spread of false information online

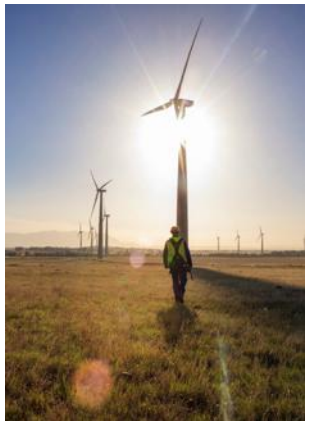
In a study conducted by Health Feedback, only 3 out of the top 10 health articles posted online were considered “highly credible” (Fast Company, 2019). In the new digital age, where exaggerated headlines or misleading information has become commonplace, players in the food industry need to be even more engaged with consumers and be transparent in order to build credibility as the arbiters of truth.

ECONOMIC



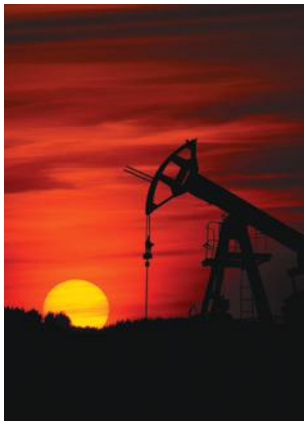
Emergence of new growth markets

According to the World Bank, advanced economies are showing signs of stagnation, while developing economies like India are leading the next wave of economic growth. As such, given the positive correlation between real GDP per capita and meat consumption, there is a need to relook into the target export markets, and potentially shift the focus towards emerging markets.



Lowering cost of renewable energy production

Between 2008 and 2015, the average cost of land-based wind power decreased by 35% and that of solar by almost 80% (AMPC, 2019). With more affordable renewable energy sources, New Zealand beef and lamb players need to relook at existing energy consumption figures and explore how greater adoption of renewable energy could lead to a more cost-effective, sustainable way forward.



Continued volatility of oil prices

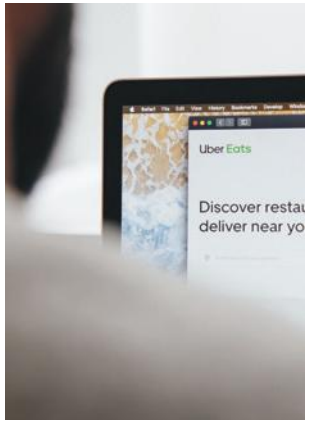
Over the last five years, oil prices have been volatile, ranging from $28.94/barrel to $114.81/barrel (BBC, 2019). A hike in crude oil prices would result in higher machinery cost and transportation costs, directly impacting agribusinesses. Primary producers have to hedge their business e.g. through entering purchase oil contracts. Alternatively, the agriculture industry could look to minimise risk with a leaner supply chain.

Rise in precarious employment

Non-standard forms of employment account for 42% of total employment in 2017 (International Labour Organisation). Given the high income elasticity of meat, this may suggest falling demand. To counter the unpredictability arising from short-term, precarious employment, organisations need to engage in fair contracts with partners to develop a more resilient supply chain.

Rise in cross-border agricultural investment

Today, governments globally invest almost USD190 billion in agriculture (FAO, 2018), almost equal to that of the global food and agribusiness industry. New Zealand farmers must gain access to this funding so that they can leverage on agritech to constantly increase their quality and efficiency of outputs.



Emergence of new business models

The rise of business models like social commerce and peer-to-peer services have broadened channels for purchase and employment. As these models gain popularity and continue to grow, players must think beyond existing partnerships and find the right channels and businesses which will allow the industry to succeed in the future.

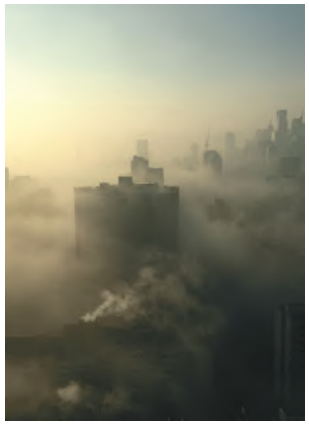
Economic cost of globalisation

Studies have shown that perception of globalisation is not always positive—advanced countries are likely to hold negative associations to it (price hikes, job losses, etc.). Agricultural exporters can look to change perceptions by ensuring the benefits of globalisation are as equitable as possible, such as creating job opportunities in countries they export to and ensure fair wages in employment.

Growing impact of corporations on urban growth

Just like Amazon turned the city of Seattle into a company town, entire cities are now being built up in the areas to surround mega-corporations. Wherever these mega-corporations go, new markets and segments will open up, introducing new pockets of growth for the beef and lamb industry to tap into.

ENVIRONMENTAL



Growing exposure to pollution

60% of the global population are keen to take steps to protect themselves from environmental pollution (Kantar Global MONITOR, 2018). This translates to various stakeholders stepping up to limit the widespread use of fertilisers in agriculture and coming up with creative means to minimise pollution in agriculture.

Rise in impact investing

Across all age groups, interest in impact investments has grown by at least 9% (US Trust, 2017). As people are taking into account Environmental, Social and Governance factors when making investment decisions, funding into alternative proteins and sustainable farming methods has increased.

Declining natural resources

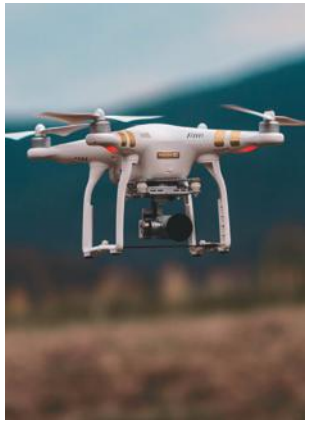
With population growth, rising living standards and economic expansion, our Earth is already struggling to keep up with the demand for natural resources. Farmers must start searching for alternative food and energy sources to grow their livestock in order to sustain their business. For instance, Sahrawi refugees have created a sustainable low-tech, locally produced hydroponic unit to produce food for their livestock.

Emergence of anti-plastic movement

Growing awareness of the dangers plastic has to our marine ecology and wildlife has prompted the movement to cut down on plastic usage. Producers need to introduce innovations to reduce the massive amounts of plastic used during the industrialisation of food. For instance, OSI Europe launched FlatSkin, an innovative vacuum skin packaging system that can reduce plastic consumption by up to 75% (AP Food Online, 2019).

Increasing visibility of the sustainability agenda

46% of consumers have made it a top priority to live a more environmentally conscious lifestyle (Kantar Global MONITOR, 2018). As consumers recognise that their food choice is the single biggest contributor to their personal carbon footprint, changes are expected to come in consumer demands and the food supply systems.



Innovation in agriculture and aquaculture

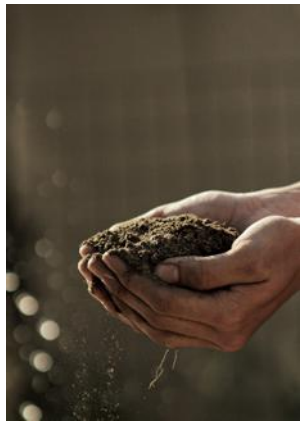
Innovation will focus on: finding new, more sustainable production methods; improving supply chain efficiencies; and incorporating lateral innovations from other industries, such as the use of drones and AI. Developed nations, especially the USA, are leading such innovations. This could potentially result in the USA setting the standard for agriculture, leaving New Zealand in a vulnerable position where farmers have to adapt and catch-up to new changes.

Increasing impact of climate change

As a reflection of poorer climate conditions, the incidence of weather-related disasters annually has increased and hit the 700 mark in 2016 (The Economist, 2017). Much of this climate change can be attributed to animal agriculture, giving rise to rallies for a change in meat consumption. Additionally, rapid weather changes can threaten the survival of livestock. Security of animal supply in the future will increasingly be on the sector's agenda in this new reality.

Rise of the circular economy

By 2050, the economy is expected to grow by $25 trillion through the adoption of circular economy principles (World Economic Forum, 2015). The meat industry can leverage on such principles to achieve sustainable growth. For meat production, a circular economy could mean anything from turning food waste into feedstock, crowd-farming to reduce wastage from production, or ensuring maximal use of all animal parts.



Increasing soil degradation

Modern industrial agriculture practices are deteriorating soil health and causing harm to our ecosystem and livelihood. To remain sustainable, businesses must reverse this trend by using technology to build healthier farm ecosystems.

POLITICAL

Spread of protectionism

President Trump's 'America First' policy and the Brexit situation are prime examples of the growing political hostility towards international trade. With trade restrictions on the rise, there will be a fall in the global trade of meat, threatening the livelihood of farmers. Stakeholders must work closely with government authorities to find ways to cushion the impact of political volatility.

Increasing regulatory focus on food and health

Because of growing awareness around health and food safety, regulatory organisations are establishing more rigorous standards and guidelines for food production and consumption. It is pertinent for New Zealand farmers to be aware of potential regulatory changes as it has a significant impact on consumer demand and way of conducting business.

Rise of public/private partnerships (PPPs)

Beyond using PPPs as a means to learn leading ways of working from private firms, PPPs can arise in the meat industry in the form of incubators and think tanks. PPPs ensure that innovations are supported with easy access to knowledge and funding, which will help New Zealand's agriculture industry remain competitive.

Rising geopolitical uncertainty

According to the World Economic Forum, 85% of respondents expect 2019 to involve a higher risk of political confrontation between major powers (World Economic Forum, 2019). Because of tensions between US and China (who are New Zealand's top 2 red meat export markets), New Zealand's red meat industry is highly susceptible to sudden trade restrictions. There is an urgent need to form new bilateral relations as a back-up measure.

WELLBEING

Persistent threats of non-communicable diseases (NCDs)

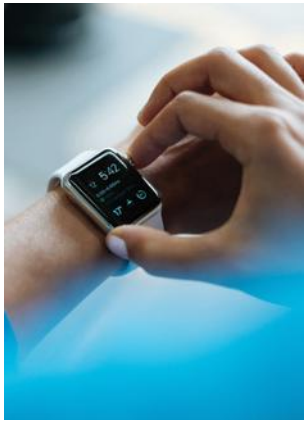
71% of global deaths are due to NCDs (WHO, 2018). As a preventive measure, consumers are actively adopting healthier diets, which places the nutritional benefits of red meat under greater attention. New Zealand's beef and sheep sector should seek to play up the qualities of grass-fed animals to differentiate itself.

Increasing understanding of the benefits of specialty diets

With advanced scientific knowledge on allergens and microbiome, scientists and medical practitioners can better understand the benefits and detriments of foods on individuals, giving rise to more specialty diets. New Zealand's red meat players can leverage the understanding of nutrition in beef and lamb to find a role for these meats to cater to each diet.

Increasing information surrounding nutrition

82% of global consumers agree that “there are too many conflicting ideas about what’s actually good for you” (Kantar Global MONITOR, 2018). Evidently, there is much ambiguity around the definition of healthy food. As different school of thoughts for healthy eating continue to manifest, farmers must be attuned to the new beliefs and seek ways to position beef and lamb as relevant amidst changing beliefs.



Big data’s growing impact on health

In 2017, there was a 50% and 20% increase in mobile health applications on Android and Apple app store respectively (R2G, 2017). As technology enables consumers to track and quantify their health, exercise and diet conveniently, Beef + Lamb New Zealand can consider possible collaborations to give personalised recommendations on ideal portion and cooking styles to consumers.

Lack of access to nutrition and healthcare

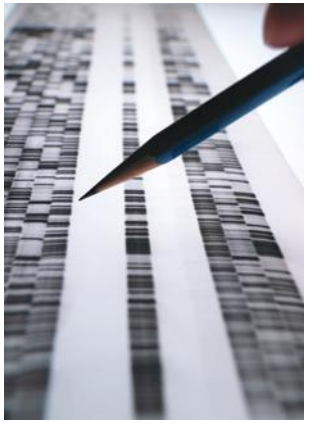
With widening disparity in healthcare services and access to nutritional needs across different markets, races and education levels, the meat industry could look into ways to reallocate supply and demand of protein to countries with growing populations at an affordable rate. This unlocks a larger target audience for the industry.

Increased risks of pandemics

Over-usage of antibiotics in the raising of livestock has led to the growth of anti-microbial bacteria, raising the risk of pandemics in the world. Given the importance of biosecurity, players in the meat industry need to explore alternatives to antibiotics in farming and conduct deeper research on methods to uphold higher hygiene standards on-farm.

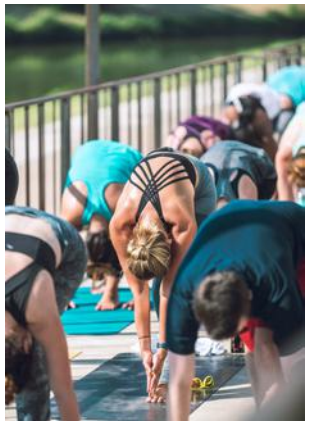
Growing understanding and importance of microbiome

New ways to equip the microbiome, such as through diets and allergens, to prevent disease and illnesses will continue to be used as a natural defence system. This understanding would create new eating patterns amongst consumers. Since there are significant potential benefits that could arise from microbiomes, more research and development would be placed in the study of microbiomes.



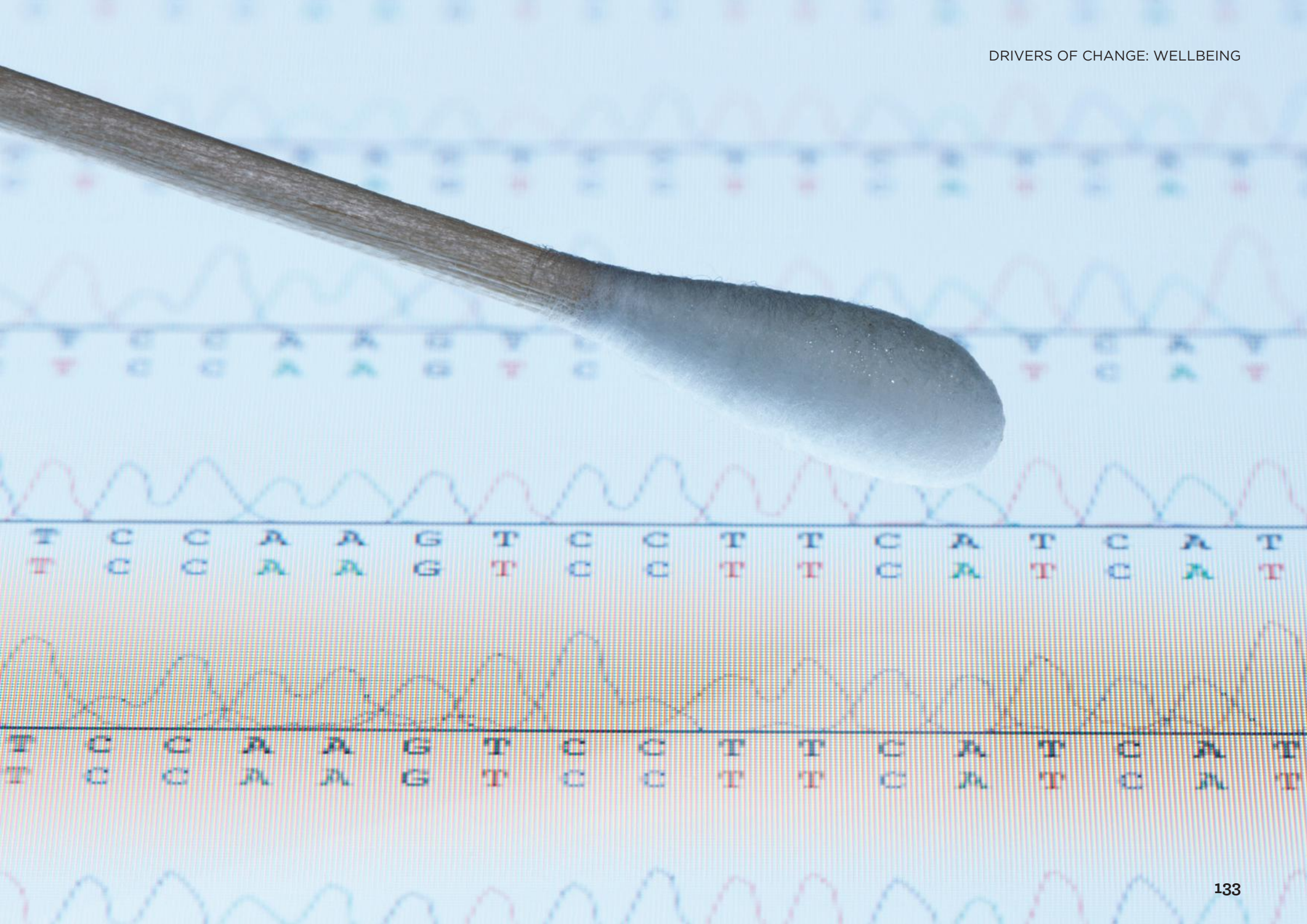
Rise in personalised health and genomics

Over the last few decades, the cost of genomic profiling has drastically fallen from $3.7 billion to less than $1000 per individual (National Human Genome Research Institute), and engagement in personal health and demand for personalised health solutions have greatly increased. As consumers expect greater customisation from beef and lamb, meat companies can explore DNA testing and provide more bespoke offerings to consumers.



Rise in proactive and preventive health strategies

As consumers are taking a more proactive approach in managing their health and their diet, meat producers need to pay greater attention to the nutritional benefits of their produce and make information more accessible. Adopting a forward-looking perspective to hedge against future health concerns would also enable them to be prepared despite shifts in consumer health trends.



Our inputs

Stakeholders

A series of working sessions with the B+LNZ Ltd team, as well as the broader industry including meat processors, farmers and government representatives were critical to forming and validating hypotheses, as well as ensuring our recommendations were completely relevant to each and every stakeholder. We would like to thank the following attendees for their support

Katy Bluet,
Callaghan Innovation

Daniel Eb,
Dirt Road Comms

Tony Egan, Greenlea

Holly Foran, Ministry of Primary Industries

Anita Grovener,
Ag Research

Louisa Hurst,
Anzco Foods

Nicola Johnston,
Silver Fern Farms

Sirma Karapeeva and Kaylene Larking,
Meat Industry Association

Lynsey McQuinn
Anzco Foods

Nick Rowe,
Silver Fern Farms

Rebecca Smith,
New Zealand Story

James Strachan, Ministry of Primary Industries

And the following farmers

Nicky Berger

Emma Crutchley

Roger Dalrymple

James Edgar

Matt Hocken

Annabelle Subtil

External Experts

We compiled a wide range of external perspectives through interviews with subject matter experts in new technologies, food and beverage innovation, academia and regulation:

Shiok Meats

Mosa Meat

BeefLedger

The Science Kitchen

Alibaba/Tmall

Wageningen University & Research

Meat Analogues, Nestle SA

Cultural Insights and Market Innovations

We engaged with our network of culturally-connected and articulate consumers to keep us abreast of the cultural nuances across key export markets, as well as on the pulse of innovation that was already happening locally:

America

United Kingdom

Italy

United Arab Emirates

China

South Korea

South Africa

KANTAR

About Kantar

This playbook has been a collaboration between B+LNZ Ltd and Kantar's Singapore-based Consulting Division. The world's leading marketing data, insight and consultancy company, Kantar works with over half of the Fortune 500 across 100 countries.

Kantar's Consulting Division are experts in gathering insight into consumers, shoppers, channels and retailers across categories and markets, and working with clients to turn these insights into actionable strategies for step-change growth. Our areas of specialisation include trends and futures, innovation, segmentation, ecommerce and retail strategy, brand development, organisational development, and commercial strategy.

To uncover growth opportunities in the future of beef and lamb, we went beyond conventional research techniques, using our Futures Thinking principles to think differently about where the sector is going. We applied a range of futures consulting techniques to insight from our proprietary knowledge databases, data from our Global MONITOR survey, and input from our global network of trendspotters.

To find out how Kantar might be able to help you unlock growth opportunities specific to your business or organisation, please contact:

Jeremy Sy
Global Practice Lead – Innovation
Jeremy.Sy@kantar.com

Wanqi Zeng
Senior Consultant
Wanqi.Zeng@kantar.com

Laura Tan
Senior Consultant
Laura.Tan@kantar.com

www.kantar.com/consulting


© New Zealand Story

Hugh Good
Global Market Intelligence & Research Manager
hugh.good@beeflambnz.com

ddi +64 4 494 9506 | mob +64 27 240 8740