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PROGRAMME

Accessing consumer willingness-to-pay for environmental action on farm.

Kellogg Rural Leadership Programme

Cohort 48 2022

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I wish to thank the Kellogg Programme Investing Partners
for their continued support.

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Executive summary

As farmers must bear the increasing costs of environmental regulation, social expectation, and consumer demands, it is important that they maximise the value they receive for their food and fibre products. While some farmers can seek added value for their products by trading directly with the consumer, many are operating a business model where they supply processors and rely on them to access and pass on added value from marketing particular credence attributes to consumers.

This research considered the question: Are consumers willing to pay for environmental action on- farm such as fencing and planting of riparian areas, and if so, how can farmers access these premiums?

In preparing this report, a literature review was followed up using semi structured interviews with processors and industry experts. Insights were condensed into themes for analysis and helped inform the discussion and findings.

There were three key findings, or themes that impacted on farmers access to premiums for environmental action on farm. These are:

1. A 'ticket to the game' or farmers putting themselves in the best position to capitalise on premium opportunities,
2. A 'right to play' which was making sure that products met minimum consumer expectations-whether there was a financial incentive to do this or not, and lastly,
3. Disincentives can be used to discourage management actions if they are not desirable for customers or consumers.

Key concepts that underpin accessing premiums include product assurance, communication between suppliers and consumers, relationships with processors and demonstrating continuous improvement of farming practices to encourage trust in brands and credence attribute claims.

For farmers to maximise their returns and capitalise on environmental and sustainability premiums, it is recommended that farmers:

- Engage with their processors to understand consumer trends, find opportunities for added value and to access advice on sustainability requirements,
- Participate in farm assurance schemes and work towards extended or premium programmes with your processor,
- Future proof their business by being initiative-taking in adopting environmental management practices and aim for continuous improvement in systems,
- Share their stories from behind the farm gate,
- Embrace technology for data sharing to reduce reporting and verification burdens,
- Investigate a collective approach to productising attributes of local produce to generate a premium.

And that processors will be able to facilitate increased premiums for farmers by:

- Communicating with their suppliers to understand the attributes that are marketable so farmers can plan accordingly and amend practices,
- Being transparent about added value, including where those premiums are coming from and how they are being shared with suppliers,
- Rewarding or incentivising environmental or sustainability action on-farm,
- Connecting animal welfare and food safety attributes to environmental sustainability which may generate a premium from those attributes,
- Articulating New Zealand's environmental credence attributes to promote added value, and
- Investigating how to ease reporting burden for farmers.

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1.0 Introduction

Scrutiny of on-farm environmental sustainability from market, social and regulatory perspectives has been growing and is adding to the challenges faced by farmers in New Zealand. As a result, farmers have seen an increase in expectations for how they operate their farming systems and demonstrate compliance with new legislation, manage social perceptions of farming practices and respond to what processors require from their suppliers to meet consumer demand (Whitehead, *et al,* 2019).

Farmers responding to these expectations require a range of actions from adapting their management practices through to environmental projects that require, in some cases, substantial capital input. Unlike other decisions, such as production improvements on-farm, many of these additional expectations do not come with an associated economic return. As a result, farmers are increasingly asking how they can turn these costs and actions into added value for their products (Our land and Water, (b) n.d.).

This report summarises research undertaken to investigate how farmers can look to maximise the value of their food and fibre products through environmental action on farm to help offset these costs.

While there may be evidence that marketing primary products directly from farm-to-plate may result in increased margins (Gerrard, 2017), this pathway is not investigated in this research which instead focuses on opportunities for producers or farmers supplying a third-party processor for example, Silver Fern Farms or Synlait.

There is a general trend of consumers becoming more aware of the consequences of their consumption choices on the environment, which in turn is impacting on their purchasing behaviour (Tait *et al,*2020). Seeking out a premium for intangible attributes such as reduced carbon footprint and water use efficiency which is increasingly demonstrated as being valued by consumers is one way of adding value to our food and fibre products. It is also possible to add value by amalgamating these credence attributes and marketing New Zealand products under a country-of-origin brand and campaign (Our Land and Water (b), n.d.).

Farmers who are demonstrating continuous improvement and adoption of best environmental management practices will not just meet consumers expectations but will be protecting our natural habitats and landscapes and support a social licence to farm. Using these drivers for adaption of farming practices to a contemporary context will encourage proactive actions that will achieve outcomes over and above any minimum compliance with environmental regulation.

2.0 Purpose and Aim

The purpose of this research is to investigate consumer attitudes to environmental stewardship as credence attributes of New Zealand products and assess if consumers are willing to pay a premium for these. If consumers are willing to pay, how can New Zealand farmers access these premiums to add value to their products.

The aim is to identify opportunities for action behind the farm gate that farmers can undertake to access added value for environmental credence attributes and maximise the value of their food and fibre products.

Research Questions

i. Are Environmental Standards a priority for consumers of New Zealand food and fibre products?
ii. Are consumers willing to pay more for these?
iii. How can farmers access any added value for their food and fibre products from environmental action on-farm?

3.0 Method

A literature review and informal interviews have been used to explore the research question. The literature review focusses primarily on determining consumers' willingness to pay for environmental credence attributes and what these consumers would expect to see happening on-farm to pay a premium.

The Agribusiness and Economics Research Unit (AERU) at Lincoln University has undertaken recent research in this subject (Our Land and Water (b), 2022), including with support from Our Land and Water Science Challenge. This information is relevant to the New Zealand context and is used in this report.

Eleven semi-structured interviews were completed via tele-conference with experts from milk, red meat and fibre processors, industry bodies and boutique marketers. The interviewees are currently associated with the following organisations:

- Synlait Nutrition Company
- Fonterra Co-operative Group
- The New Zealand Merino Company
- ANZCO Foods
- Silver Fern Farms
- Greenlea Premier Meats
- Rabobank
- AsureQuality
- Beef + Lamb New Zealand
- Webtools Agritech

Semi structured interviews were used for these interviews to offer greater flexibility to explore participants thoughts and investigate different aspects of the research questions. The participants who were interviewed are on-farm or sustainability experts to keep the context of any information and insights as relevant to farmers as possible. These participants were recommended through professional networks which influenced which organisations are

represented. Due to their locations around New Zealand, tele-conference was used. Most interviews took between 60-90 minutes. See Appendix 1 for questions used to guide each interview.

The purpose of the interviews was to get views on consumers' willingness to pay for environmental action on farm and obtain examples of how farmers could access any added value for their products. Information collected from the interviews relied largely on how the interview questions were asked and how interviewees chose to respond to them. The interviews were not formally recorded, however hand written notes were taken. This data was then organised into groups of key words and concepts and forms the themes explored in the findings and discussion section of this report.

Case studies have been used to demonstrate examples which reflect themes and findings of this research.

4.0 Literature Review

There have been many research papers written in the past decade outlining consumer preferences and increasing the value of food and fibre products through environmental and sustainability claims and attributes. However, the recent work (Dalziel *et al,* 2019; McIntyre *et al* 2019; Saunders *et al,* 2011*; Saunders* et *al* 2011*;* Tait *et al,* 2020*)* of Agribusiness and Economics Research Unit (AERU) from Lincoln University is particularly relevant from a New Zealand context and findings are used extensively in this report.

Saunders *et al.,* (2011) noted that there are three ways that New Zealand farmers can increase the value of their products:

1. Better positioning of existing exports in overseas markets
2. Value-added processing
3. Niche production and marketing.

This report will focus on value-added processing to maximise the value of food and fibre products though environmental action on farm.

Consumer vs customer:

Throughout this report, the following terms have been used to mean:

Customer: Purchases the product or service but might not be the end user. For example, large food manufacturers or distributers purchase product from New Zealand's dairy and red meat processors to market and sell, or to manufacture into their own products.

Consumer: Is the end user of the product but might not have purchased it from the processor. For example, the person that consumes New Zealand red meat or milk products or uses New Zealand fibre products.

4.1 Environmental credence attributes

Credence attributes are qualities of a product that cannot be seen or experienced when they are purchased. Examples include food safety, environmental stewardship, animal welfare, social responsibility, cultural authenticity, fair trade, and biodiversity (Saunders *et al.,* 2016). These attributes are used in marketing campaigns and on product labelling alongside any other product assurances and can be used to encourage a willingness to pay more and be considered 'high value' by consumers.

Environmental credence attributes are described as factors that consumers regard as important when considering '*environmental condition in food and beverage production and supply'* (Tait *et al.,* 2020). Specific examples include *water quality, protecting coastal and sea life, protecting endangered plants and animals, air quality, waste management and recycling, protecting biodiversity, protecting wetlands, greenhouse gas (GHG) emissions, wilderness, and organic production* (Tait *et al* 2020). An example of an environmental credence attribute being marketed is Silver Fern Farms *Net Carbon Zero* Angus Beef range- See Case Study 1.

CASE STUDY 1: Silver Fern Farms Net Carbon Zero Angus Beef Range (Silver Fern Farms, n.d.).

'Net Carbon Zero by Nature' is certified as Grass-Fed, end-to-end Net Carbon Zero red meat where the total amount of emissions associated with the product have been offset by vegetation within the farms where the animals were raised. The vegetation sequestering carbon is incorporated into the farming system as shelter belts and riparian planting and is used to offset the greenhouse gas emissions of the whole product.

The carbon zero beef is priced at a premium and farmers receive a premium payment for produce supplied to this programme. However, they need to meet the required criteria including:

The Net Carbon Zero certification is independently verified by Toitu Envirocare, and the product label claims are approved by United States Department of Agriculture.

Country of origin labelling can also be used alongside credence attributes to help create a competitive advantage when marketing products and developing a brand. The association of a country of origin with a particular set of attributes can also infer the quality of the product for consumers (Dalziel *et al., 2019)*. As New Zealand has a clean and green image, products from here are seen as having sustainability credentials which are linked to an expectation of quality and wellbeing (Whitehead *et al.,* 2019). An example of how this is being applied is Beef + Lamb NZ's Taste Pure Nature marketing brand and campaign, see Case Study 2.

CASE STUDY 2: B+LNZ Taste Pure Nature country of origin brand and marketing campaign (Beef+Lamb New Zealand, n.d.).

Taste Pure Nature is a marketing tool to support New Zealand exporters with an aim to enhance the positioning of New Zealand beef and lamb. It focuses on the positive perception of New Zealand and our landscape from overseas consumers and seeks to link this to our grass-fed beef and lamb products from hormone and antibiotic free farming methods.

Research from Our Land and Water Integrating Value Chains programme has found that consumers are willing to pay for environmental stewardship attributes and in particular, New Zealand beef could earn up to 20 percent premium in the US market (Our Land and Water, 2022).

In order to qualify for the Taste Pure Nature campaign, farmers are audited and must meet the New Zealand Farm Assurance programme. This ensures that the quality of the product is high and meets expectations from both social and environmental perspectives.

4.2 Willingness-to-pay

Research such as that of Tait *et al, (*2020*)* has shown that a willingness to pay a premium for environmental attributes varies widely depending on the market and, more specifically the market segment and the product. However, there are many documented examples where consumers have demonstrated a willingness to pay a premium for attributes such as glass packaging of milk, especially when the glass bottle is perceived to be more environmentally friendly than plastic packaging (Neil &Williams 2016). Tomatoes grown in south-eastern USA can attract a premium when they are grown using less water, have less pesticide residue, and haven't been grown with petroleum-based fertilisers in comparison to other suppliers in the region (Maples *et al.,* 2018).

A study comparing the willingness of developing countries to pay for environmental attributes of New Zealand lamb found that out of a selection of environmental attributes, GHG minimalisation was valued the most for all case studies. However, GHG minimalisation was still ranked below food safety and animal welfare attributes (Tait *et al.*, 2016). The willingness to pay for reduced carbon emissions was also found to be the highest in research investigating valuing environmental sustainability preferences in fruit production (Tait *et al.,* 2015*)*.

A more recent *Tait et al (*2020*),* study found that there may be a premium of up to 20 percent for environmental credence attributes, although this also includes qualities that are associated with environmental attributes (Tait *et al.,* 2020*)*. This report also noted that water quality was ranked the highest in all markets for importance in relation to environmental condition, and while there is a wide variety in willingness to pay in environmental attributes, value may be found in water management and efficiency.

As discussed above, linking other attributes associated with environmental condition can lead to premiums, so if a connection between other attributes such as food safety or health benefits and environmental sustainability is made, consumer willingness-to -pay can be increased even more (Whitehead *et al.,* 2019*)*. Beef+Lamb New Zealand (B+LNZ, n.d.). have linked grass-fed beef and lamb with better omega-6 to omega-3 ratios and higher concentrations of Conjugated Linoleic Acid and antioxidants. In the Taste Pure Nature campaign this used to infer that grass fed and pasture raised is healthier for you, for the environment and the animals, and ultimately to encourage a higher value for those products. See Case Study 2 for further information on the Taste Pure Nature campaign.

4.3 Value Chains

There is a call for New Zealand to move from a focus on volume of products exported to concentrate on adding value and achieving higher returns from our primary sector products (Te Hono, n.d.). This involves moving from a supply chain to a value chain model (see Figure 1).

FIGURE 1: Supply chain vs Value chain: (AERU, 2022)

How New Zealand agribusinesses create value for consumers and capture increased value for local farmers is a question that Our Land and Water National Science Challenge has funded the Agribusiness and Economics Unit (AERU) at Lincoln University to research.

AREU have synthesised findings form their research into a compass diagram which shows the interactions of the pieces of a value chain (AERU, n.d.).

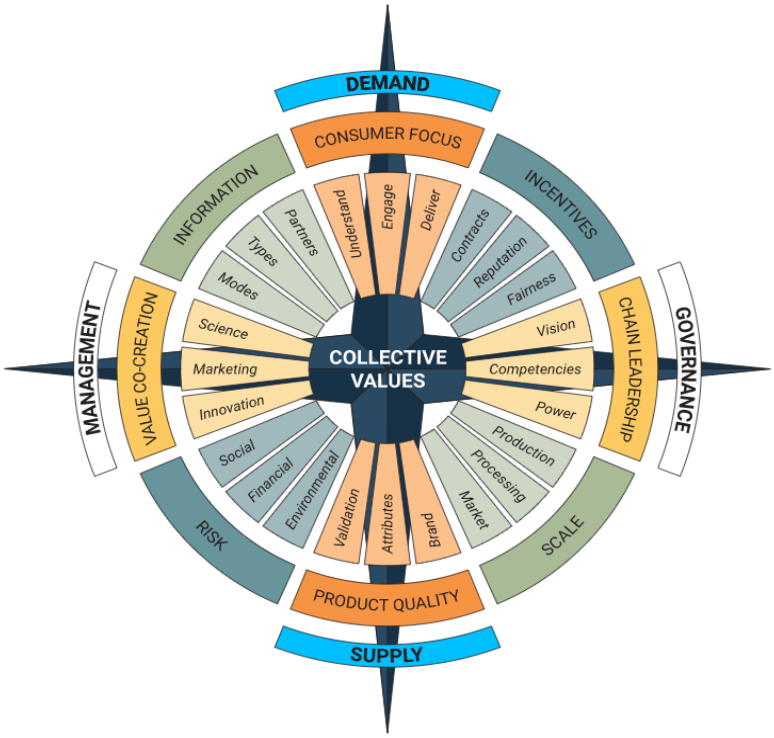

Figure 2: Value Chain Compass: Taken from https://www.aeru.co.nz/valuecompass on 28th October 2022

Integral to the demand and supply interaction is the communication between suppliers and consumers where producers or farmers share the value proposition of their products and the other way around, consumers inform producers of what they are looking for (see Figure 3). This

is echoed in Country-of-origin marketing campaigns such as Taste Pure Nature (see Case Study 2).

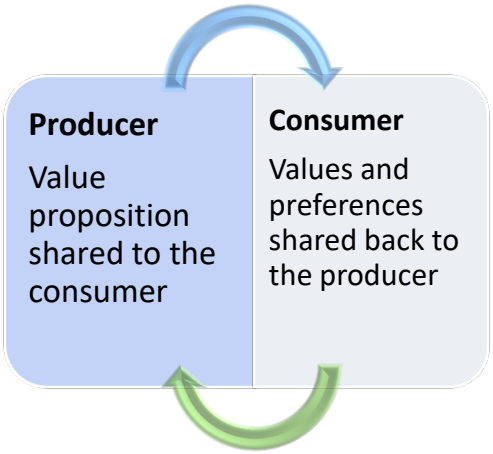

FIGURE 3: Producer and Consumer communication: taken from McIntyre *et al.,* (2019)

A key component of the Value Chain Compass that farmers can influence when looking to maximise the value of their food and fibre products is the supply section which incorporates product quality delivered by the value chain producers. As discussed above, environmental and sustainability attributes and brand development have been noted to lead to a willingness to pay more for primary sector products. McIntyre *et al.,* (2019) noted in their report the importance of product quality in the value chains that they examined and its role in ensuring the assurances made in the brand campaigns were met. Certification schemes and quality control programmes underpin many of the claims made on products for example Silver Fern Farms Marketing of their Carbon Net Zero Product (see Case Study 1).

4.4 Conclusion

The literature reviewed clearly indicate that consumers can be willing-to-pay for attributes they highly regard such as environmental condition and associated attributes. The main mechanisms identified for achieving higher returns for farmers were found in achieving a value chain and capitalising on points of difference in marketing campaigns and brand development. How do these findings translate into reality in today's context for New Zealand farmers and processors?

5.0 Findings and Discussion

5.1 Environmental attributes

In this section, consumers' willingness-to-pay for environmental attributes is discussed in conjunction with findings and insights from interviews with primary sector processors and industry body representatives. Figure 4 shows the range of key words and phrases identified from the interviews when talking about environmental stewardship premiums from consumers. This information was further refined, and subsequent figures show these key words and phrases grouped and collated into concepts that make up themes discussed.

FIGURE 4: Key words and phrases on premiums for environmental attributes from interviews, the larger the writing, the more often it was noted, 2022.

The findings of Tait *et al.,* (2020) that any willingness to pay a premium for environmental attributes varies from market to market was confirmed through interviews with dairy and red meat processors. However, many interviewees furthermore acknowledged that while there is demand for environmental credence attributes, it is difficult to translate this into increased value to the processors and farmers. One interviewee noted that it could be less than half of

consumers that are willing to pay for it, even though the consumer believes in the value of the attribute.

As seen in Figure 5, Greenhouse gas emissions were identified by most interviewees as being of great concern for consumers, both currently and the mega trend is expected to continue for the next few years. However, it is not clear from the interviews what consumer willingness is to pay for these.

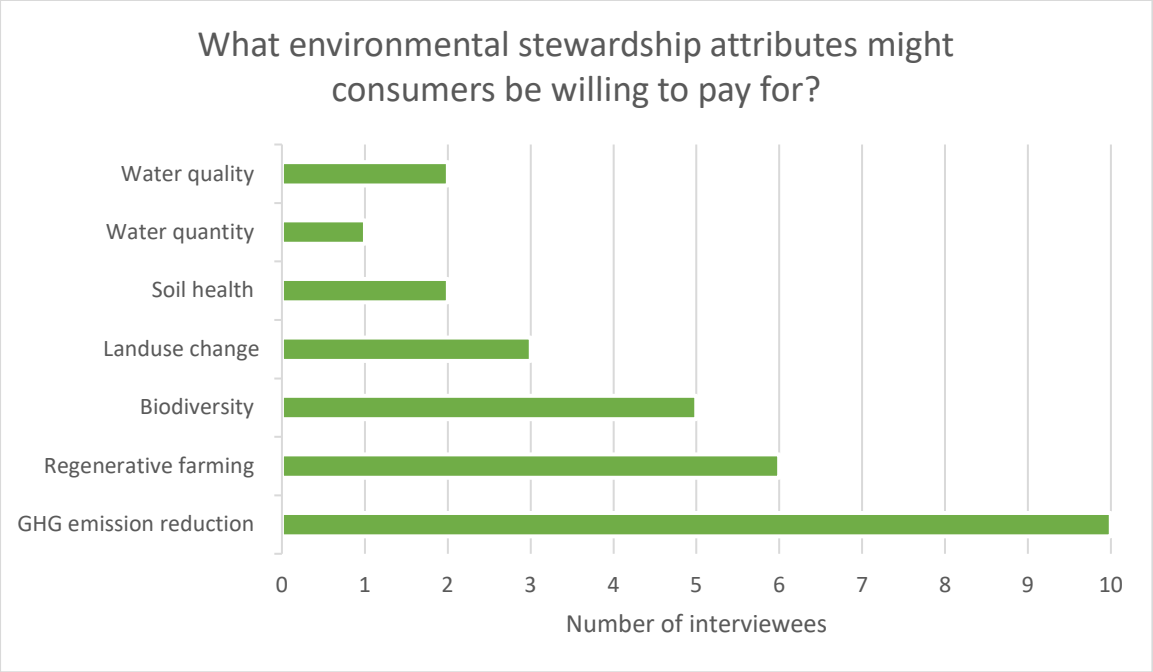

FIGURE 5: Environmental Stewardship attributes identified that consumers may be willing to pay for, 2022.

This compares with Tait *et al., (*2016) findings that while GHG minimalisation is significant and was of the highest importance from an environmental attribute, it was generally ranked lower than animal welfare and food safety. Interviewees also recognised that animal welfare and food safety was of significant value in many markets, in some it was the highest and as such some brands are focussed on these attributes and extract value from them. It could be that GHG minimisation is changing in the priority order of attributes consumers are willing-to-pay for due to awareness of the impacts of climate change and a growing conversation in this area. An example provided by an interviewee is the development of carbon footprint tracking apps that consumers can use to guide sustainable consumption in the future.

Of the other environmental attributes that interviewees identified as being on the horizon for consumers (see Figure 4), regenerative farming practices was most frequently mentioned. This was usually prefaced with discussion around what it is in the New Zealand context and, how the regenerative story is told. There is already evidence that Ecological Outcome Verification™ which the Savory Institutes outcomes-based protocol for verifying land regenerations is a tool for entry into desirable market opportunities (Land to Market, EOV, n.d.) and some processors are investigating how to include this in their premium programme offering to farmers. For example, New Zealand Merino have already announced a partnership with Land to Market to accelerate regenerative agriculture practices in their suppliers (Land to Market, n.d.).

In addition, land use, soil health and biodiversity were referred to by several interviewees as 'up and coming' from a customer and consumer perspective. It is worth noting that these are all intertwined with climate change and regenerative management practices on-farm.

While water quality condition and water use are identified as being of high importance for consumers and results from AERU research (Tait *et al,* 2020) shows a willingness to pay for these

in certain markets, it was not emphasised in many discussions with interviewees. It was raised in one discussion where it was noted that while freshwater quality might not be a significant enough concern for consumers to prompt them to be willing to pay more for freshwater attributes, it is important to recognise that we need to keep local community (social licence) for farming. Newspaper articles promoted overseas that discuss poor water quality in New Zealand will affect our extensive and environmentally sustainable country-of-origin branding campaigns.

5.2 Ticket to win

Where does this leave farmers seeking reward for their environmental action on-farm given the context above where consumers appear to value environmental attributes, but may not be so willing to pay for it? How do they obtain a 'Ticket to win'? From the conversations informing this report, added-value can be found from environmental stewardship action on-farm in the food and fibre sector and is proven for some attributes such as such as Grass-fed, and Net Carbon Zero. Figure 6 below summarises the ideas presented by interviewees.

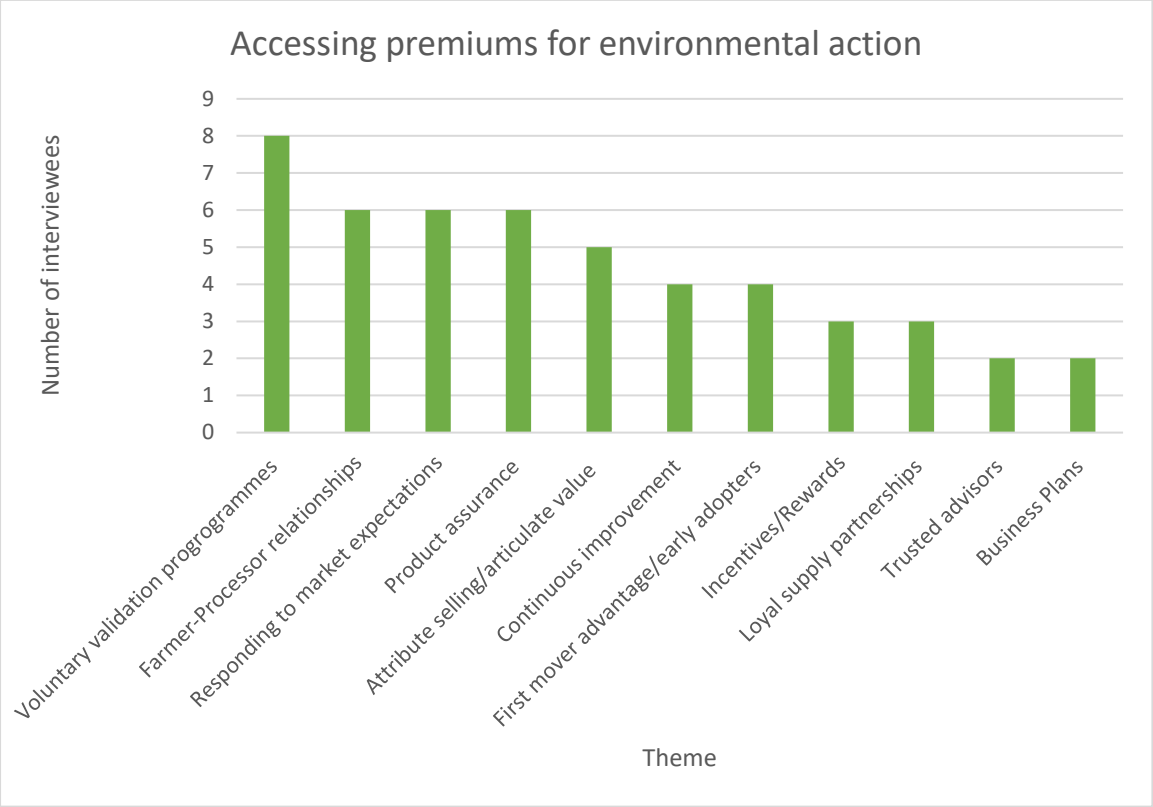

Figure 6: Interviewee responses to how farmers can best position themselves to access premiums in the future, 2022.

However, there are some challenges to providing financial incentives for sustainability actions on-farm. While not always the case, it has been observed that actions that once generated a premium have become expectations of minimum attributes from customers and consumers.

The question then becomes, are premiums only available for farmers and growers that identify opportunities early and position themselves to take advantage of these incentives before they become expectations with no added financial return? The notion of first mover advantage can also be applied on a global scale and one interviewee noted for example that some other countries will get to net carbon zero before New Zealand. However, another interviewee noted that it might be prudent to wait for a concept to be proven before committing to

chasing the premium as being a follower will reduce some risk. Once again, this is a philosophy that could apply from farm scale businesses, all the way through to much larger multinational ones.

An example of a company who has made accessing a premium price at the gate for their milk for certain qualities enduring is Fonterra with their Co-operative Difference Payment (see Case Study 4). While the parameters for the payment may change with shifting expectations, the framework will reward and incentivise farm practices and milk quality for the season. However, this payment is not a true premium that is underpinned by customers paying more for specific attributes, but one that rewards suppliers' actions and outputs.

Case study 3: Co-operative Difference Payment, (Fonterra, n.d.)

The Co-operative difference is a framework for ensuring that on-farm practices are consistent with Fonterras strategy and protects their global reputation for safe sustainable milk and to protect and improve the milk price.

It rewards and incentivises sustainable on-farm practices and achievement of milk quality. The additional price per kilogram of milk solid ($ KgMS) is staged with increasing payments for steps Te Putake and Te Puku. The top tier, Te Tihi comes with no extra premium but is a recognition of consistent performance across the steps for the year.

Through the Co-operative Difference Milk Payment Parameters, each farm can be paid slightly differently which recognises those farms that produce higher quality milk and in turn help to increase the value of all the milk.

The Co-operative Difference Payment is the reallocation of a proportion of the standard milk price, it is not generated by specific premium payments from Fonterra's customers.

Product assurance is provided through Fonterra's Trusted Goodness™ quality seal and is subject to third party audits.

As discussed above, a way to make premiums, or added-value durable can be found in the maturing of the supply chain into a value chain.

Over half of the interviewees spoken to identified that premiums are only to the extent you can articulate their value or market particular attributes. To build a brand and marketing campaign, telling the story of the product is important to setting the scene and connecting consumers with the provenance of the product which is consistent with literature discussed above including Case Study 2: B+LNZ Taste Pure Nature. Farmers have a role in sharing the story of how they farm to help build New Zealand's brand and consumer trust in it. This connection between farmers and consumers is echoed in the Demand and Supply points of the Value Chain Compass. There is opportunity for farmers to work in a collective context to capitalise on shared points of difference, see Case Study 4.

CASE STUDY 4: Webtools Agritech-Melissa Baer, CEO (personal communication, 2 September 2022)

In a catchment or collective context:

The opposite approach to tailoring products for consumers would be to 'productise' the traits that already exist from a particular property or group of properties. In this example, farmers could come together and identify unique points of difference that are common to their farms and the product they generate.

What are you already doing?

What ways of working or management practices are in common?

Is there a catchment wide characteristic that is unique?

Then, collectively 'productise it' by articulating value for these products and translate the practices into something that customers value and will pay more for- even if they don't know that they want it yet. With the right story and translation from the farmer lens to consumers, these traits could deliver added value for farmers from consumers.

As discussed more fully below in section 5.3, it is necessary that any claims or labels made on the product need to be verifiable for product assurance purposes. For many of the environmental or sustainability programmes in New Zealand's food and fibre sector the value-add programmes are voluntary such as *Farm Assurance Programme Plus (FAP Plus)*, NZ Merino's *ZQRX*, Synlait's *Lead with Pride* and Fonterra's *Co-operative Difference* programmes. These accreditation programmes are the key to unlocking additional value, however they typically also come with additional measures over and above the minimum compliance or supply agreement programmes such as Farm Assurance Programme or New Zealand Merinos ZQ programme.

This is perhaps an indication that to capitalise on added value and access premium returns, farmers need to implement strategies beyond standard expectations. Several interviewees stated that demonstrating continuous improvement in systems and practices that goes beyond certification requirements will position farmers at the 'front of the queue' when processors can obtain and offer a premium for attributes from proactive best management practices. This concept was described by one interviewee as being a 'hero property,' or one that was an early adopter of new practices and therefore the first to access any premium. Another interviewee confirmed that these early suppliers could also be rewarded by being able to access the premium if later adopters meant supply outstripped demand.

For farmers to stay up to date with opportunities from their processors, it was recommended by several respondents that farmers develop good relationships with their processors so they are aware of opportunities on the horizon and may be the first ones to be able to supply to new contracts if they are nimble enough or already along the pathway to providing the attributes required.

It is recognised that New Zealand farmers have options for who to supply, and so processors need to support their suppliers. In the red meat sector, if the trend of declining stock supply continues then competition will remain high to keep plants full and operating efficiently.

One respondent observed that the selling stock through a third party is potentially reducing profit as the 'ticket is clipped' on the way, and a direct relationship with a processor would mean no commission to pay. If processors require certain attributes from their suppliers, rewarding changes on-farm to support those claims would be advantageous to both parties. This may help farmers deciding between ad hoc pricing or staying loyal. For example, the long-term contracts made available through NZ Merino (NZ Merino Company, n.d.).

Loyal partnership supply was noted by 3 interviewees as a pathway to accessing any premiums. Quality relationships with processors' staff will enable farmers to access support from them for implementing new ideas, for example on-farm sustainability advisors. These teams can provide advice on where to focus and are a good place to ask for help. A key to the success of these teams as trusted advisors is having quality people with suitable skills.

In summary, a key component in obtaining a 'Ticket to win' in accessing environmental premiums as a farmer is to be able to make the most of opportunities as they become available from the processors. Two interview respondents noted that this would be consistent with assessing any other opportunity in the farming business and should be supported by a farm business plan.

5.3 Ticket to the game

While farmers would like to see a financial return on sustainable farming practices, Figure 7 shows that over half of the professionals interviewed noted that this action on-farm is not a 'ticket to win' i.e., earn a premium, but the minimum expectation from consumers and customers, is actually a right to play- or a 'ticket to the game', and does not necessarily result in added value. It was acknowledged that the cost of this 'ticket to the game' is going up for farmers in the current climate of increasing operational costs, but it is necessary to ensure there is a marketable product on the global stage.

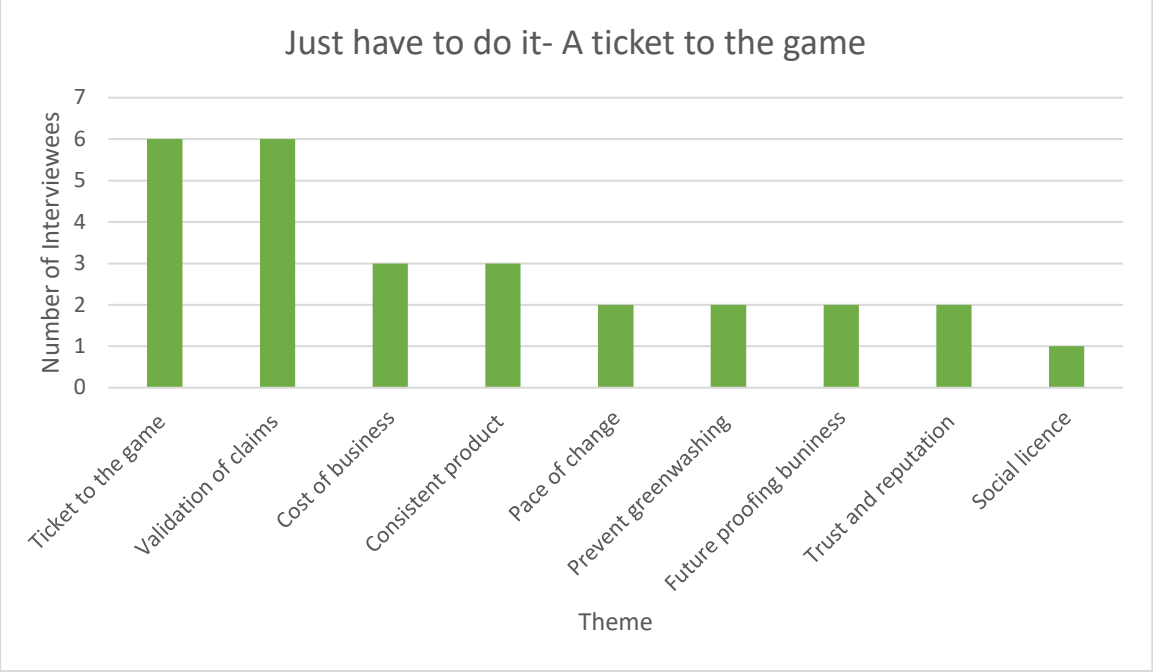

Figure 7: Interviewees responses to consumer expectations for environmental action on farm, 2022)

Everyone who was interviewed during this research identified in some way that environmental action on farm and the environmental credence attributes that may be able to be marketed as either a value-add or brand position needs to be verified with credible evidence to support these claims. This is consistent with findings from McIntyre *et al.,* (2019) and is also consistent with a finding during interviews for this report, that there has been a proliferation in environmental attribute labels and claims being made in the food and fibre sector.

From this research, product assurance was identified as essential to make sure the promises being made by marketers are being delivered on for several reasons:

- Key to building trust with customers and consumers by delivering on promises, for example guards against 'greenwashing' by backing up desirable qualities with proof.
- Corroborates value add or brand marketing campaigns with identification of specific criteria and provides evidence to support labelling claims.
- Documents minimum requirements for on-farm practices.
- Helps to deliver a consistent product.
- Mitigates risk by accurately describing the product and attributes, this is particularly important for customers that on-sell the product.
- Mitigates risk by ensuring that wider environmental, social and governance measures are being met.
- Enables access to other benefits such as low interest sustainability loans or insurance.

The nature of auditing and verification was also identified as being important with two interviewees noting that third party, or independent auditing was preferable to ensure impartially of claims and helped to build trust in the claims and the label.

While it was generally accepted that product assurance is essential in both supply and value chains, many interviewees stated that access to information is critical to informing the verification. Several noted that providing the information is time consuming and, in some cases, there is multiple data entry required, and that ease of capturing assurance information is important. However, it was also noted that total transparency of activity on farm will build external confidence in performance even if this is more scrutiny than most farmers would like.

During three discussions, advancements in technology and further uptake of digital data collection and management platforms was identified as a mechanism to ease a reporting and data sharing burden from farmers. Technology could also be used for example to verify actions on site without a unicorn auditor – see definition.

Unicorn auditor: An auditor who knows everything about anything

Simon Love- AsureQuality

Attention was also drawn in three interviews to the role of product assurance programmes as an end user driver of behaviour change. This is useful if there is alignment with regulatory requirements such as environmental legislation or supply contracts. As previously stated, a financial incentive would possibly be more efficient and effective in driving behaviour change, and one interviewee noted that some farmers will change their practices due to personal values such as removing the use of Palm Kernel Extract (PKE) even when the financial reward doesn't cover the additional feed costs of amending the feed used.

In addition to the above discussion, it is my view that sharing information and evidence of on-farm actions to provide confidence in management and performance will also lend social license to farmers to continue farming. This is more than just meeting consumer and customer expectations, but everyone in the wider community as well.

5.4 Disincentives

What happens if farmers do not keep up with consumers' expectations?

While it was noted by interviewees (see Figure 8) that there is an increasing expectation from both consumers and regulators that minimum environmental standards are being met. It is also possible that without credible, verified environmental action underpinning farming systems and management practices, New Zealand food and fibre products are not able to be easily sold overseas with trade access restricted.

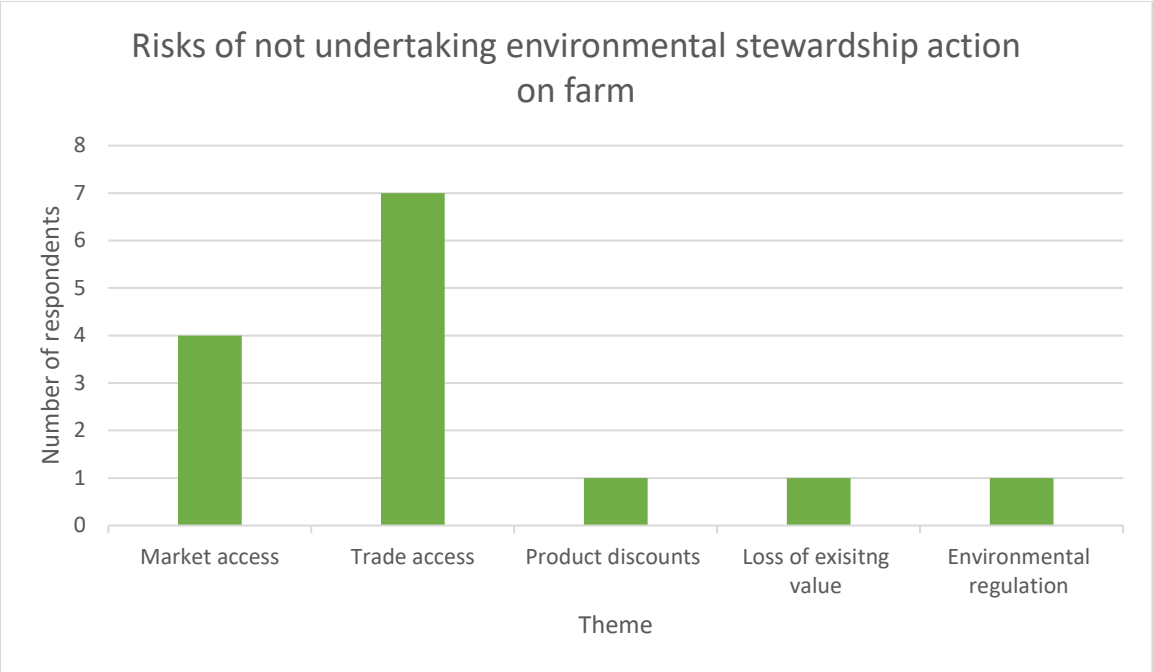

Figure 8: Risks identified by interviewees if environmental action is not undertaken on farm, 2022.

Seven interviewees noted that impediments to trade could be in the form of reduced trade access such as embargos or tariffs. It was mentioned in one of the interviews for example, that there is strong demand for products that have been proven to have a lighter emissions footprint and many companies are responding to this demand by sourcing products that fit this principle around the world. As demand for these attributes go up, processors may find that they are unable to meet it without prompting a change in their supply arrangements. If there is no added value on the product to pay for a premium, then it is conceivable that there may be disincentives such as a discount behind the farm gate for products that do not meet minimum parameters around emissions.

Another interviewee suggested that there has been a precedent for this in the past with financial disincentives such as penalties for use of hormone growth promotants.

In other words, those that are slow to adapt to changing consumer preferences could be at risk of being penalised for their out of favour management practices. This kind of disincentive may also be used to manage reputational risk of any overarching brand campaigns.

A further risk of not undertaking environmental action on farm was identified by four interviewees as not responding to market or consumer preferences and could result in consumers and customers buying from elsewhere.

Disincentives could be used as a way of achieving a change in attributes of products as suppliers will be encouraged to modify their practices to evade any discounts. This reactive or

'stick' method should be considered as a last resort for when proactive measures as discussed earlier in this report have not worked to achieve the required changes.

6.0 Conclusions

The purpose of the research has been to identify if consumers will pay a premium for environmental stewardship action on farms. Research shows that consumers will pay for niche attributes that they value, however this willingness to pay is challenged by findings from processors interviewed who note it can be difficult to extract value from customers and consumers to pay for them.

The aim of this research has been to identify opportunities for action behind the farm gate that farmers can undertake to access added value for environmental credence attributes and maximise the value of their food and fibre products.

Three themes emerged from this research with both opportunities and challenges to finding value from environmental stewardship action on farm.

Of these three themes, the most opportunities for farmers seeking premiums are in the first theme of 'ticket to win' where particular action will assist in achieving a higher price. These opportunities can be summarised as:

- Communication
  - Ensuring clear communication pathways between consumers, customers, processors and farmers will help in establishing trust in the products and brands as well as aligning values between farmers and consumers and will enable a value chain for sustainably produced food.
- Relationships
  - Key to supporting communication, maintaining relationships with processors will facilitate farmers access to on-farm support (for example, sustainability advisors).
  - Loyalty to processors should be rewarded with benefits such as access to premiums, or favourable contract conditions.
- Continuous improvement
  - Delivering continuous improvement in sustainable farming practices will demonstrate throughout the value chain and the wider community a commitment to ensure New Zealand food and fibre is the most sustainably produced.
  - Continuous development should also place farmers at the forefront of any trends and put them in the best position to access any emerging niche value-add opportunities.
  - Next level assurance programmes that go over and above minimum requirements of supply agreements, and that are voluntary, are effective pathways to access higher returns on produce.

The second theme of 'Right to play' encapsulates the actions that farmers need to undertake to ensure their practices are up to date with the expectations of consumers, but that do not necessarily come with an increase in price. However, there is still opportunity in this space for farmers:

- Assurance programmes
    - Assists in creating a country-of-origin brand for New Zealand with sector wide attributes that can be used in marketing and brand campaigns
    - Ensures wider environmental, social and governance measures are being met
    - Builds trust by ensuring environmental and sustainability claims are verified
    - By undertaking environmental stewardship action on farm, while there may not be a financial reward, it will support a social licence to farm with local community.
- Social licence
    - Many environmental or sustainability actions on farm are expected by the wider community (including consumers). Failure to deliver on these will erode confidence in our farming systems and social licence to farm.

The third and final theme of disincentives is a 'stick' approach to achieving change on-farm as processors look to source products that meet the demand of consumers. Any looming threat of discounts or disincentives is a challenge that farmers can meet with an eye to the horizon and implementing a system of continuous improvement to ensure they stay ahead of the game.

7.0 Recommendations and Next Steps

As a result of the findings of this research, the following actions are recommended for farmers and processors in making added value premiums achievable.

Recommendations for farmers:

- Engage with your processors to:
    - Understand consumer trends and find opportunities for added value
    - Access assistance and support from sustainability staff for identifying opportunities and implementing required changes.
- Participate in farm assurance schemes and work towards extended or premium programmes with your processor.
- Future proof your business by being initiative-taking in adopting environmental management practices and aim for continuous improvement in systems:
    - This could result in first mover advantage benefits.
    - Underpin this with a business plan that will help in assessing opportunities and prioritisation of actions.
- Share your stories from behind the farm gate:
    - This helps to build brands and creates and captures value.
    - With increasing scrutiny of farming practices, be prepared to have transparency of on-farm activity to support sector wide assertions.
- Embrace and invest in technology for data sharing to reduce reporting and verification burdens.
- Investigate a collective approach to productising attributes of local produce to generate a premium.

Recommendations for processors:

- Communicate with your suppliers to understand the attributes that are marketable so farmers can plan accordingly and amend practices if necessary.
- Be transparent about added value, including where those premiums are coming from and how they are being shared with suppliers.
- Reward or incentivise environmental or sustainability action on-farm.
- Connect animal welfare and food safety attributes to environmental sustainability which may generate a premium from those attributes.
- Articulate New Zealand's environmental credence attributes to promote added value.
- Investigate how to ease reporting burden for farmers.

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Appendix 1: Guidance questions for semi structured interviews

1. What environmental stewardship attributes for NZ food and fibre products are consumers willing to pay for?
    a. What other attributes are of higher importance than environmental stewardship? Why?

2. What on-farm practices do you think consumers are looking for to support environmental credence attributes?
    a. How does quality assurance around these practices affect purchasing decisions?

3. What trends do you expect to see emerge in environmental credence attributes in the next five years?
    a. What would the willingness to pay for these be?

4. How do you think farmers can best position themselves to access any premiums in the future?

Appendix 2: Interviewee List

I would like to thank the following people for contributing to my report though sharing their insights:

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