KELLOGG
RURAL LEADERSHIP PROGRAMME

Breeder Finisher Collaboration

Kellogg Rural Leadership Programme

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1. Executive summary

Increasingly consumers want to know where their food has come from and how it has been produced. Confidence in food safety, animal welfare, and environmental practices is paramount. High value market opportunities requiring a clear and traceable provenance story linked back to the birth of an animal, are developing quickly.

Livestock in New Zealand are commonly traded from a hill country breeding farm as store stock, onto a flatland specialised finisher to be grown out to prime slaughter weights. Presently there is a lot of insular and opportunistic behaviour of trading livestock through sale yards with no clear business relationship between the breeder and finisher and a breakdown in the transparency of the provenance story.

Consumers in the market are driving the requirement for increased transparency and traceability through quality assurance programmes providing verification of the provenance of the food they're eating. This can be seen in higher value markets where retailers require lamb and beef to be certified from birth to slaughter through validated accreditation standards.

This report investigates the current opportunities for livestock breeders and finishers to collaborate, bringing their farming systems closer together so that the provenance story is not impacted by the sale of store stock to a finisher. Where collaboration is currently occurring, this report looks at what sales models are being utilised to determine the trade price from breeder to finisher.

It is understood that farmer producers differ in how they wish to conduct their business relationships and whether they have a desire to be more collaborative or prefer to operate in a spot market. For our customers who are demanding strength of our provenance story, to enhance livestock breeder finisher collaboration I recommend:

- Livestock processors and marketers promote the awareness of producer group type structures and engage more breeders and finishers into these supply programmes.
- Livestock processors and third-party agencies embrace collaboration, developing and enhancing the skillset of livestock and procurement agents in identifying and connecting suitable breeders and finishers and facilitating these relationships.
- Further in-depth analysis be carried out by a data analyst into the development of a pricing model for the trading of store category livestock between breeders and finishers.

2. Foreword

With involvement in my family's sheep and beef finishing property, I was interested to investigate the opportunity for breeders and finishers to work together in a collaborative model regarding the trading of livestock between both parties.

I see a need for better collaboration across the industry to strengthen our marketing opportunities overseas. Our customers wish to know where the product they are buying comes from and that it is safe to eat. Through collaboration and a streamlined value chain linked to a processor we are better enabled to protect the provenance of livestock and the power of the story through to the customer.

Increasingly I hear of hill country breeding farms purchasing land so they can retain and finish more or all, of their lambs and cattle. While there are positives in this, I feel there is an opportunity for owners of hill country breeding farms and flat land finishing farmers to connect and match their farming systems to their available land resources. They can then utilise their specialist skills to optimise the productivity of their farming operations.

Working from an office near the Feilding livestock sale yards, I see first-hand the volumes of stock that are traded through the auction system. A tried and true method of transferring stock from the breeder to the finisher. A method that brings some inefficiencies and additional costs. With this report I am interested to investigate more collaborative methods that some producers and processors are practicing and the key fundamentals to making them work.

3. Acknowledgements

A huge thank you to my wife Sarah and children, Harriet and Angus. Sarah, you've been extremely supportive and understanding and I really appreciate your efforts at home keeping everyday life on track while I was away. Harriet and Angus, whenever the work got challenging you were always there to keep me grounded.

I would like to thank my employer, Beef + Lamb New Zealand for enabling this opportunity to complete the Kellogg Rural Leadership programme. You have supported me throughout, recognising the value this course presents in growing my skills as a future leader. A number of staff have also assisted me with their expertise, network connections and insights. It's fantastic to work with such a great bunch of people.

Thank you to all the individuals I interviewed for your expert knowledge and insights. I appreciate you taking time for phone calls or to meet. I was blown away by how willing you all were and your genuine interest in discussing my topic.

I can't speak highly enough of the Kellogg Rural Leadership programme and the quality of learning it's provided me. Thank you to Dr Scott Champion, Dr Patrick Aldwell, Anne Hindson and Lisa Rogers. Your tireless efforts in making this course so great and maintaining its legacy is greatly appreciated. It's been a privilege getting to know you and learn from each of you.

Finally, thank you to all my friends in Cohort 40. You guys are the best! I'm amazed at how we all connected so quickly. Thanks for the encouragement, the great times and sharing this awesome experience together. I look forward to keeping in contact, following everyone's progress and our future cohort reunions.

4. Introduction

The alternative protein space is currently small at ten to twenty percent of the conventional protein market but it's growing rapidly at an estimated four to ten times faster. (Alternative Proteins Summary Report pg.10). This presents a major threat to the New Zealand Red Meat sector, but in every threat, there can be an opportunity.

New Zealand's natural pasture raised farming systems offer the sector an opportunity to market our red meat as a more specialised and niche product in the premium food stream to customers willing to pay a premium for naturally raised, grass-fed, hormone-free and antibiotic free red meat.

In the United States of America, retail sales of fresh grass-fed beef have been doubling every year reaching US$272 million in 2016, up from US$17 million in 2012. (Alternative Proteins Summary Report pg.7)

Taste Pure Nature is the New Zealand red meat origin brand. It's a platform that underpins exporters marketing programmes to enhance the positing of New Zealand red meat. Beef + Lamb New Zealand has identified a segment of consumers they reference as 'Concise Foodies'. These consumers want quality and experiences from their food. They are interested in the provenance of their food, where it comes from, and how the animals they are eating were raised from an animal welfare and environmental perspective. (Taste Pure Nature 2018).

High value market opportunities requiring a clear and traceable provenance story intrinsically linked back to the birth of an animal are evolving. It is common for livestock in New Zealand to be traded from a hill country breeding farm to a flatland specialised finisher to reach prime slaughter weights. Presently, there is a lot of insular and opportunistic behaviour of trading livestock through sale yards with no clear business relationship between the breeder and finisher and a breakdown in transparent traceability.

This report investigates the opportunities for livestock breeders and finishers to collaborate, bringing their farming systems closer together so that the provenance story is not impacted by the sale of store stock to a finisher. This report investigates this from the perspective of both livestock breeders and finishers, processors and product marketers, and investigates supply chain and value chain opportunities. The report concentrates on opportunities that can be implemented in New Zealand.

5. Aims and objectives

- To investigate the opportunity for livestock breeders and finishers to better connect and match their farming systems in the trade of store livestock from the breeder to the finisher.
- To better understand producers selling behaviours and business relationships with agents and processors in the supply chain.
- To compare the views on breeder finisher collaboration from the perspective of farmers, both breeders and finishers, and red meat processors and marketers.
- Investigate if any sales models are being utilised by farmers and processors to determine a livestock trade price.
- To determine if a trend relationship exists between the livestock store sales price and prime sales price.

6. Methodology

This report was compiled by a literature review and the use of semi-structured interviews.

The literature review focused on previous reports analysing the red meat supply chain in New Zealand. Literature was also reviewed on the selling behaviours of farmer producers and their business relationships with livestock agents and processors.

Semi-structured interviews were undertaken either over the phone or in person for a duration of approximately one hour each. Interviewee names were sourced from my existing contacts, websites, or a recommendation from an earlier interviewee.

I focused on interviewing individuals from across the value chain. That included livestock breeders, finishers, livestock processor representatives and product marketers. This included five breeders, five finishers, and five processor/marketing companies. Interviews were also conducted with Landcorp Farming Limited and farm management software company FarmIQ.

Comments and insights shared by the interviewees about the livestock industry, establishing price and particularly the topic of breeder and finisher collaboration were compared with each other and with the findings of the literature review.

Some interviewees requested not to be named or if they could view their comments referenced in this report prior to publication. Due to this I have not named anyone to maintain their integrity and allowed them to speak honestly about their systems and thoughts.

Livestock sales data was requested from Beef + Lamb New Zealand's Economic Service Sheep and Beef Farm Survey and critically analysed with the assistance of their expertise.

7. Literature review

7.1 Methods of trading livestock

The livestock auction market, commonly referred to as the sale yards, exists to provide a venue to bring sellers and buyers together. It's a tried and true method of determining a trading price on any given day in a competitive and transparent way. There are costs incurred by both parties in yard fees and transport costs. Commission is incurred by the vendor and if the purchaser uses an intermediary to buy on their behalf, they also incur commission for this service.

Examples of Fees for Store Stock Transactions			
		Feilding $ per hd	**Canterbury $ per hd**
Yard Fees	**Vendor**		
	Sheep/lambs	0.15	0.55
	Prime cattle	2.50	6.00
	Store Cattle	2.50	5.00
	Purchaser		
	Sheep/lambs	0.15	0.25
	Prime cattle	3.00	2.00
	Store Cattle	3.00	2.00
NAIT transfer Fee			
	Vendor	0.78	0.78
	Purchaser	0.78	0.78
Commission		6%	6%

Source: Lincoln University Financial Budget Manual 2016

Figure 1. Examples of fees for store stock transactions

(Beef + Lamb NZ MW6947 2016)

With the auction method, livestock incur the added impact of being transported, unloaded and standing in the yards for the duration of the auction, then loaded again and sent to the purchasing farm.

Paddock sales are an alternative selling method where finishers purchase directly from a breeding farm and transport the livestock to their property. Some meat processors provide this service to farmers by facilitating the introduction and sale with no commission charged, but commissions typically range from zero through to three percent. (Beef + Lamb NZ 2016). A livestock agent can be used as an intermediary in the price discussion between the two parties, but sales can occur without agents.

Recent sale yard auction results complied by companies like AgriHQ can form a basis for price negotiation, or current processor schedules can also be used. For the paddock sale method, the transport costs are incurred by the purchaser only.

Online sales platforms such as StockX are a relatively new method of trading livestock. StockX was founded in 2014 and in their words -

"Born out of a desire to see technology applied to the industry's entrenched and antiquated method of transacting livestock which no longer met the needs of the farmer, the modern livestock agent, or processor" (StockX website).

Advantages to an online method is you gain access to a national market, and commissions are set lower at 2.5%. These platforms provide necessary provisions for security of payment, acceptance of stock are as they were represented, and an intermediator for any disputes. Like paddock sales, transport costs are paid by the purchaser only.

7.2 Prime schedule volatility

Exchange rates have a significant impact on meat export receipts because most New Zealand meat exports are denominated in foreign currencies.

Figure 2 displays farm-gate prices under five different exchange rate scenarios of ±5 and ±10 percent in the exchange rates for the USD, GBP, and EUR.

This analysis provides an indication of the impact of exchange rate volatility on the prices paid to farmers. All other things being equal, a ten percent decrease in the NZD against the USD – from 0.66 to 0.59 – increases the average lamb price received by farmers by fourteen percent. (Beef + Lamb NZ New Season Outlook 2019-20)

Climatic events such as a drought, can have a negative impact on the schedule price.

	NZD Exchange Rates					Exchange Rate Change from USD 0.66	
	-10%	-5%	Forecast	+5%	+10%	to USD 0.59	to USD 0.72
USD	0.59	0.62	0.66	0.69	0.72	-10%	+10%
GBP	0.46	0.49	0.51	0.54	0.57	-10%	+10%
EUR	0.52	0.55	0.58	0.60	0.63	-10%	+10%
			Farm-Gate Prices Received $ / head				
Lamb	166	155	145	136	128	+14.2%	-11.6%
Mutton	145	134	124	114	106	+17.5%	-14.3%
Steer/Heifer	1,772	1,655	1,549	1,454	1,367	+14.4%	-11.8%
Cow	953	890	833	782	735	+14.4%	-11.8%
Bull	1,913	1,787	1,673	1,570	1,476	+14.4%	-11.8%
All Beef	1,482	1,384	1,296	1,216	1,143	+14.4%	-11.8%
			c / kg				
Lamb[1]	883	825	773	726	683	+14.2%	-11.6%
Mutton[1]	556	512	473	437	405	+17.5%	-14.3%
Steer/Heifer	643	601	562	528	496	+14.4%	-11.8%
Cow	482	450	422	396	372	+14.4%	-11.8%
Bull	634	592	554	520	489	+14.4%	-11.8%
All Beef	591	552	517	485	456	+14.4%	-11.8%
Fine[2]	1,939	1,799	1,673	1,559	1,456	+15.9%	-13.0%
Medium[2]	852	790	735	685	639	+15.9%	-13.0%
Crossbred[2]	307	285	265	247	231	+15.9%	-13.0%
All Wool[2]	469	435	405	377	352	+15.9%	-13.0%

1 includes wool and skin 2 wool ¢/kg greasy | Source: Beef + Lamb New Zealand Economic Service

Figure 2. Exchange Rate Sensitivity

(Beef + Lamb New Zealand New Season Outlook 2019-20)

7.3 Supply chain relationships

In conducting the literature review, it became apparent that there is an array of differing supply chain relationships. Who farmers decide to interact with, and the nature of these relationships can determine their preferred method of buying and selling their livestock. Relationships can be with either a third-party livestock agent, a meat company livestock agent or directly with the meat processor. The decision of which representative they chose to deal with can govern the extent of their involvement in further supply chain operations.

Figure 3. displays the distribution of these three in relation to the sale of lambs to a processor. This indicates that twenty five percent of producers hold their main lamb sales relationship with a third-party stock agent. The quality of relationship between producers and processors plays an important role in reducing transaction costs and increases the level of coordination between participants in the supply chain. (Bensemann 2012 pg.50).

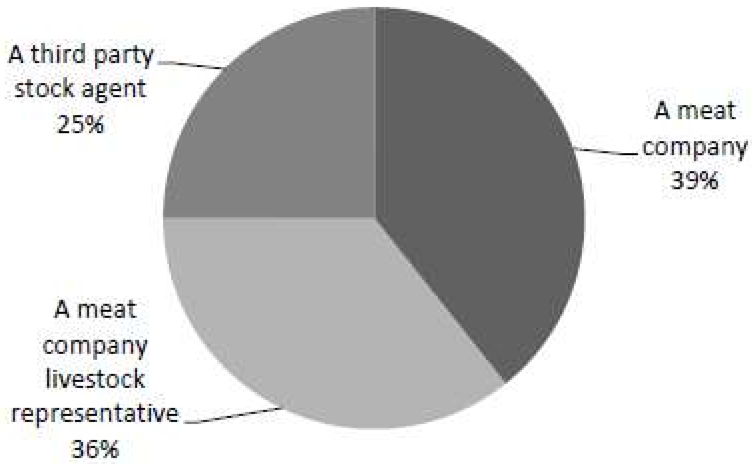

Figure 3. Main relationship for lamb sales of respondents

(Bensemann 2012 p.g.88)

7.4 Complex commodity supply chain

In Parsons (2015) report which investigated supply chain and value chain design, he compares the differences between the traditional complex commodity supply chain with a more collaborative value chain.

Figure 4 shows Parsons example of a typical commodity supply chain for New Zealand beef and lamb. Within each circle is a key chain partner with a linear flow as the product moves from one partner to the next. The overlapping of the circles demonstrates that information and relationships are only held with the partner either side. Parsons describes the weakness of this model being the agents keeping the buyer and seller at arm's length. They deter the ability for a livestock breeder and finisher to create a relationship, collaborate, and align their operations. The agents within this structure also lengthen the chain, and the longer the chain the more commoditised the product becomes.

Limitations with a complex commodity supply chain are:

1. There is no incentive to collaborate – entrenching a commodity mindset rather than a value-add approach.
2. It is long and distances the producer from the customer.
3. Promotes internal competition – each partner attempting to profit off the one alongside.
4. Not consumer focused – producers are distanced from the consumer and can be slow to adapt to the product qualities consumers are demanding. The length creates extra cost and stops information flow.

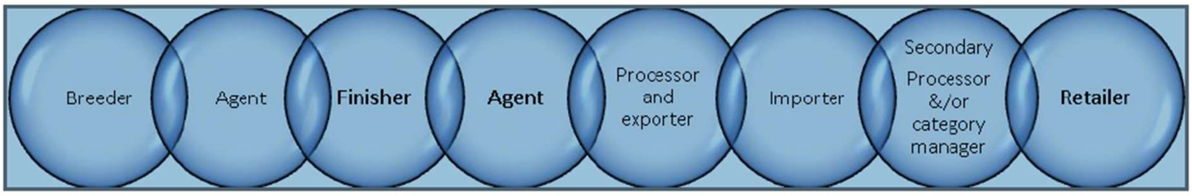

Figure 4. Complex commodity supply chain

(Parsons 2015 p.g.20)

7.5 Collaborative value chain

This is a substantially shorter and less complex supply chain. Ideally a value chain should have no more than three partners or points of ownership (Parsons 2015 p.g.26). Parties outside of the three are classified as service providers who don't take ownership of the product or control information. They may however be paid a service fee for a service they provide.

With this model, information sharing is transparent between all three partners as can be seen by the overlapping of circles in Figure 5. With this overlap and transparent information sharing, collaboration is encouraged. The formation of a producer group containing both breeders and finishers allows a foundation to form long-term partnerships with the trading of livestock from one party to the other. Closer relationships are not limited to livestock producers only but include the processor and the retailer. The overlapping of the three circles displays that each partner shares information openly and transparently. They know that working openly together will benefit them all and there is a clear motivation to produce a product that the customer wants. The commodity trading culture is removed, and everybody is working together. Producer Group members relish the opportunity to interact with the customer and hear firsthand what qualities are important to them and what they're basing their buying decisions on.

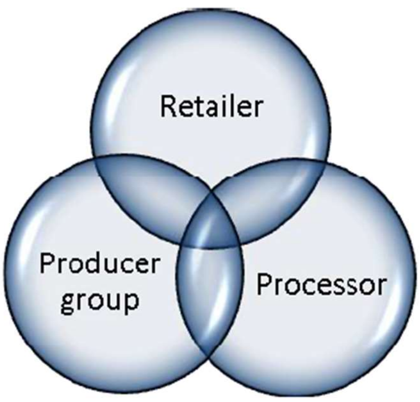

Figure 5. Collaborative value chain

(Parsons 2015 p.g.25)

7.6 Marketing strategies of producers

Bensemann (2012) researched the differences in selling behavior of New Zealand Lamb producers. She focused on factors that could increase collaboration and commitment, as well as improve the nature of relationships in the producer to processor supply chain transaction.

Transactional cost has traditionally been the common method to determine the drivers for different types of transactional exchanges. This theory makes assumptions about human behavior and how it will impact exchanges between two parties. Other methods have looked at a producer's strategic orientation and their choice of channel. This method introduces the idea that the choice of channel relates to the type of person rather than purely transactional efficiency.

"A producer's selling position is dynamic and complex with many factors of possible consideration." (Bensemann & Shadbolt 2015).

Bensemann and Shadbolt stated that there is very little research combining the factors such as strategic orientation, producer attitudes, demographics and relationship variables. In her research, Bensemann therefore attempted to include this wider range of variables within the survey she carried out of producers.

Following her survey, Bensemann segmented the marketing strategies of producers into five groups. From 734 responses, the distribution of producers across these five groups can be seen in Figure 6.

Bensemann defined the groups as:

1. **High Committers** are the most connected with their meat company, they believe in its strategy, and where they fit into this. They value more highly the services processors provide such as market information and are more likely to engage in producer groups. These producers are more passionate about the supply chain and value any potential for collaboration. These traits are irrespective of their demographics such as the type of farming operation, age, or debt levels.

2. **Low Committers** remain loyal to one company for the certainty it provides in terms of space but have a low level of buy-in to commitment contracts.

3. **Sometimes Committers** are exactly that. They are particularly concerned with schedule volatility or being impacted by adverse weather events.

4. **Switchers** are characterized by their focus on trading attempting to maximize returns by attempting to buy and sell product at certain times based on market conditions. They are motivated by self-interest, opportunism, flexibility and independence. They are the most difficult to get to join more integrated commitment supply programmes and their main business relationships is with a third-party agent.

5. **Non-Switchers** are not committed to one company yet have passive involvement in their selling decisions. Likely to use a third-party agent and have

high reliance on them. Little connections to the company they supply, and any contracted commitment is viewed as a burden on them.

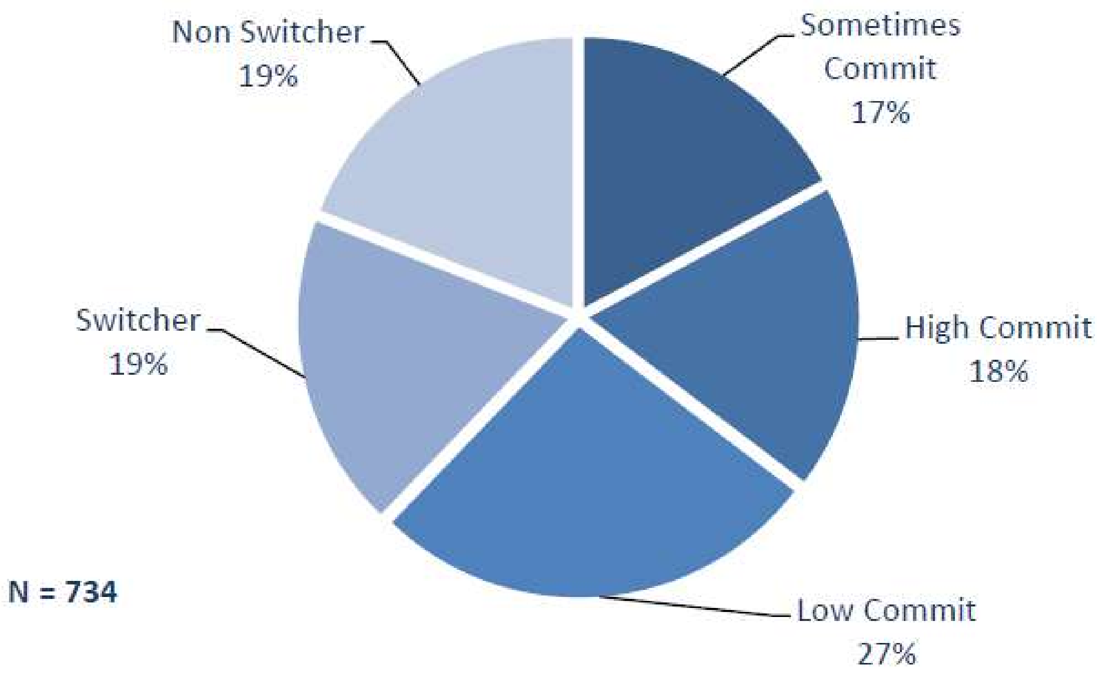

Figure 6. Marketing strategies of producers by proportion

(Bensemann 2012 p.g.138)

Bensemann's research concluded that producers carry out a range of marketing strategies defined by their commitment to one processor company coupled with their active or passive involvement in selling decisions. This segmentation and the differences in the drivers of these strategies presents opportunities to processors to target specific producers and develop more collaborative relationships and integrated supply chains.

8. Findings and discussion

8.1 Livestock auction

Out of the livestock finishers interviewed, not one preferred purchasing from the sale yards above other channels, but it was one of their methods used to acquire stock by all but one. One finisher totally avoided purchasing from the sale yards as they didn't like the competitive auction process. To them the livestock were generally more expensive to purchase by this process. This farmer worked closely with their processor agent to acquire stock through paddock sales as a preferred method.

The Red Meat Profit Partnership, Primary Growth Partnership, identified reasons for farmers buying or selling at sale yards. The two main reasons for buying included the chance to get a good price, and secondly the availability and selection of sourcing stock when needed. The main reasons for selling were firstly convenience, and secondly the ability to quickly get rid of stock off the farm. The dominant reason for avoiding sale yards was the fees and charges associated with using them coupled with transport costs. (Beef + Lamb NZ MW6947 2016).

From the ten farmers interviewed, one breeder had a preference for selling through the sale yards and the auction process.

"We get a premium for our lambs as they're sort after and there's no carcase grading. One price per head."

The sale yards are a way of avoiding carcase downgrades and defects. Another reason is not having to comply with processor quality assurance requirements. When the main business relationship is with a third-party agent and the farmer trusts that the auction system best meets their needs and provides the financial return they're after, then it will be their preferred method of selling. This demonstrates how third-party agents can influence and lengthen the supply chain.

From the interviews conducted I could begin to make a comparison between their views and preferred business relationships, and the producer marketing strategies segmentation Bensemann produced in her report.

8.2 Establishing a price

The basis for beginning the price negotiation repeatably came from either recent livestock sale yard reports produced by AgriHQ or similar, or from a livestock processors current prime schedule. From the interviews completed I found recent regional store sale yard result information to be the most popular method for beginning price negotiations.

The sale yard auction process with all its inefficiencies and associated costs fulfils an important role in indicating what the market price is for livestock across all sheep and beef livestock types, weight ranges and sex. It is a transparent and trusted indicator of what the market is prepared to pay at that time. Companies like AgriHQ provide their Livestock Eye reports for individual sale yard complex's by subscription. These detailed reports give a trusted market rate of price per head and per kilogram across age, sex and weight. The range paid is also detailed along with commentary and sale statistics and trends versus the previous year and five-year average. (AgriHQ 2019).

A single breeder interviewed used the net processor schedule offered at the week of sale as their basis for setting price to sell store lambs onto their aligned finishers. This breeder has established a formula they use each time they sell trade lambs to finishers.

Price is calculated by apportioning the current net prime price (value of the lambs at slaughter) to the current average weight of the line of store lambs. This value is then multiplied by the current net schedule as a percentage then added for a small premium relevant to the value of the schedule. This breeder has been using this formula for two years to sell in excess of 10,000 lambs. In deriving the formula, they had analysed the relationship between store price and processor prime price averages in dollars per kilogram ($/kg) for the years 2013-2017, sourced from BakerAg Ag Letter publications.

Farmer model pricing formula:

*((Store Lwt/Target Lwt) * Prime price per head) + (((Store Lwt/Target Lwt) * Prime price per head) * (Net schedule price per kg Lwt/100))*

This breeder was aligned with a Producer Group and quality assured through the Global Animal Partnership programme. With their associated finishers eligible for an annual pool payment, they had an agreement that the pool payment would be split 50/50 and shared evenly between the finisher and breeder.

This breeder was annoyed with the individualistic culture of breeders and finishers trying to rip each other off. He had full faith in his formula and adamant that breeders and finishers collaborating using a sales formula to determine transfer price is the future.

An important benefit this breeder spoke about was that this allows them to concentrate on growing their lambs and not constantly wondering when the best time is to sell. They are strategic in having a geographical spread of finishers on the east and west coast of the lower North Island to mitigate against drought and the impact a climatic event might have on their ability to sell to finishers.

8.3 Views on collaboration

Like the producer segmentation information referred to earlier in this report, I encountered a variation of thought on this concept from all individuals interviewed. I concur from my discussions that collaboration currently appeals to a segment of farmers. These farmers did have a strong commitment to their processor, were mostly members of a producer group, and had good knowledge of or connection with their end customer. One of the finishing farmers had interacted first-hand with customers during product displays in the American retail market and understood the importance of having a trusted provenance story with traceability back to the birth of the animal.

Like the polarised views on the sale yards, there are farmers that are more focused within the farm gate on their own business and don't yet see any benefit from attempting to collaborate. A breeder said -

"My focus is on producing the best line of lambs I can so that there's healthy competition for them in the Friday sale."

Matching when the breeder wishes to sell, and the finisher wants to buy can also be a challenge. A finisher made the comment –

"I can't see this working for me as I can't say I'd always be in a position to take stock when the breeder wants to sell them."

8.4 Relationships critical

The common theme across all interviews was the importance placed on the quality of the relationship. A comment made by a finisher –

"It's all about trust and respect for each other. It's vital to find someone that you can work with year after year, and one party doesn't feel like they've been ripped off."

The quality and consistency of the livestock was another common theme and one that strongly influences the quality of the overall business relationship. Finishers were very strong on their requirement for an even and well-presented line of stock. A single purchase needed to average a specified weight and all animals be within a tight range of this. The stock needed to perform, that's growing quickly to prime and grading well at slaughter. If stock didn't meet these criteria, finishers would not continue the business relationship. Breeders spoken to were very aware of this and put a lot of effort into their selection of sale lines, weighing all lambs and withdrawing anything that didn't look right.

Processors understood the importance of the relationship and some companies interviewed put effort into aligning people they felt would get on together, and that the stock would meet the criteria of the finisher. Atkins Ranch focused heavily on this and saw their role as one of facilitating an introduction, then allowing the individuals to negotiate the trade price between them.

Alliance operate a livestock facilitation service with a dedicated Store Stock Manager. They reiterated the importance of retaining livestock from their cooperative shareholders that met their farm assurance standards. They commented-

"Having traceability of farm assurance to farm of origin will only get stronger as we target the higher end of the overseas market".

Alliance were involved in the trade price negotiation between the breeder and finisher but charged no commission for this service.

8.5 Achieving longevity

When asking how a collaborative pricing model might work a response was -

"It's hard to get right for everyone over time, and when you've got two farmers and a meat company in the mix, its challenging to keep everyone happy and feeling like they've had a fair go."

When operating to a ratio of store price to prime price you need to take a long-term view as variation in climate can impact the store price. When it comes to weaning and the region is experiencing better than normal grass growth, the store price will be higher than normal. The breeder can then feel they're missing out. The opposite would occur with dryer than normal conditions. Retaining the longevity has been a real challenge in the past. A comment made by a farmer in reference to developing a long-term sales formula -

"If it was easy then someone would have cracked it by now."

One processor described a bull beef programme they had established with two hundred breeders and finishers. The programme had agreed transfer dates, weights, and financial margins for each participant. This programme failed to have longevity due to factors relating to farmer discipline, greed and loss of mutual trust. The processor continues to operate this programme with just four proven farmers that are aligned with what the company is trying to achieve.

Obtaining a fixed price from a processor was suggested by a farm consultant spoken to. He saw this as an important component to achieving longevity.

"There are advantages to them in ensuring supply of finished stock to a specified weight. With this you can then work back and apportion this end price over the animal."

8.6 Quality assurance programmes

Quality Assurance (QA) programmes are encouraging livestock breeders and finishers to collaborate. While QA programmes are nothing new, there is an emergence of producer group type supply programmes that require animals to be QA certified from birth. The Atkins Ranch supply programme of chilled lamb into the Whole Foods retail market in the United States of America is an example. The Whole Foods Producer Group requires all lamb to be certified under the Global Animal Partnership (GAP) Pasture Raised level 4 certification. (Atkins Ranch 2018-2019)

GAP is a non-profit charitable organisation founded in the United States of America in 2008. GAP uses independent, third-party certifiers to audit farms and verify compliance to their comprehensive standards and to assign the appropriate animal welfare certification level. (Global Animal Partnership website)

The Atkins Ranch Procurement Managers actively facilitate relationships between breeders and finishers. There is a commercial interest to retain GAP certified lambs within their procurement so they can maximise their contracts with Whole Foods. Atkins Ranch have identified finishing farmers wishing to source certified lambs and take through to slaughter weights. Their role is solely to facilitate them building a relationship. They don't set a sale price for the transfer.

AngusPure Source and Trace is an example of a beef programme. This programme was set up to enable the trace of all animals from slaughter back to their origin breeder. The animals are tagged with a black 'A' tag which is traceable through the New Zealand 'National Animal Identification and Tracing' (NAIT) database. The advantages are that it offers integrity to the brand, and full traceability for the customer. The programme also permits the flow kill data back to the breeder if this agreed by both parties. (Angus Pure New Zealand website).

This programme is in its infancy and still developing. Since inception two years ago they have sold in excess of 100,000 tags. AngusPure intend to establish producer groups and work on building information that will assist in linking the right breeders and finishers together.

Alliance's 'Pure South Hand Picked Beef' is yet another developing beef progamme. Beef cattle are required to be Alliance Farm Assured and meet their special raising claims programme. (Alliance website).

Farm management software FarmIQ is a platform which provides full traceability and enhances opportunities for breeder finisher collaboration. The goal of FarmIQ was to create a demand driven, integrated value chain for New Zealand red meat. The software effectively develops a passport against individual or groups of animals, storing all data relevant to them. This information can be passed forward from breeder to finisher and when animals are slaughtered, grading information can be transferred back to the breeder to better inform future genetic decisions. This is only done when both parties agree.

8.7 Store versus prime

The Beef + Lamb Economic Service conduct an annual sample survey of approximately 530 farms across the country. The sample is randomly selected and stratified by geographical regions and by sheep and beef cattle stock units.

Farms are classed into three North Island and five South Island classes. The three North Island classes are defined as:

Class 3. NI Hard Hill Country – while some stock are finished a significant proportion are sold in store condition. Mainly breeding properties.

Class4. NI Hill Country – a high proportion of sale stock sold is in forward store or prime condition.

Class 5. NI Intensive Finishing – a high proportion of stock is sent to slaughter and replacements are often brought in.

(Beef + Lamb NZ Economic Service 2018-19).

Figure 7 displays the store lamb sale price per head compared with prime lamb sale price per head as a percentage over a five-year period for Class 3 Hard Hill Country. Each vertical bar represents a quarter starting from the month specified.

This data is indicative of a trend relationship between the store lamb price to the price lamb price each year. Store lamb price in the December quarter is approximately 70% of the prime price, rising to approximately 77% in March and rising again to approximately 85% in June.

This data is comparing averages over time and smoothing out some of the fluctuations driven by climatic conditions and exchange rate changes. It's indicative that store lambs sell for a higher percentage of the prime price pre autumn and an increased percentage again in winter.

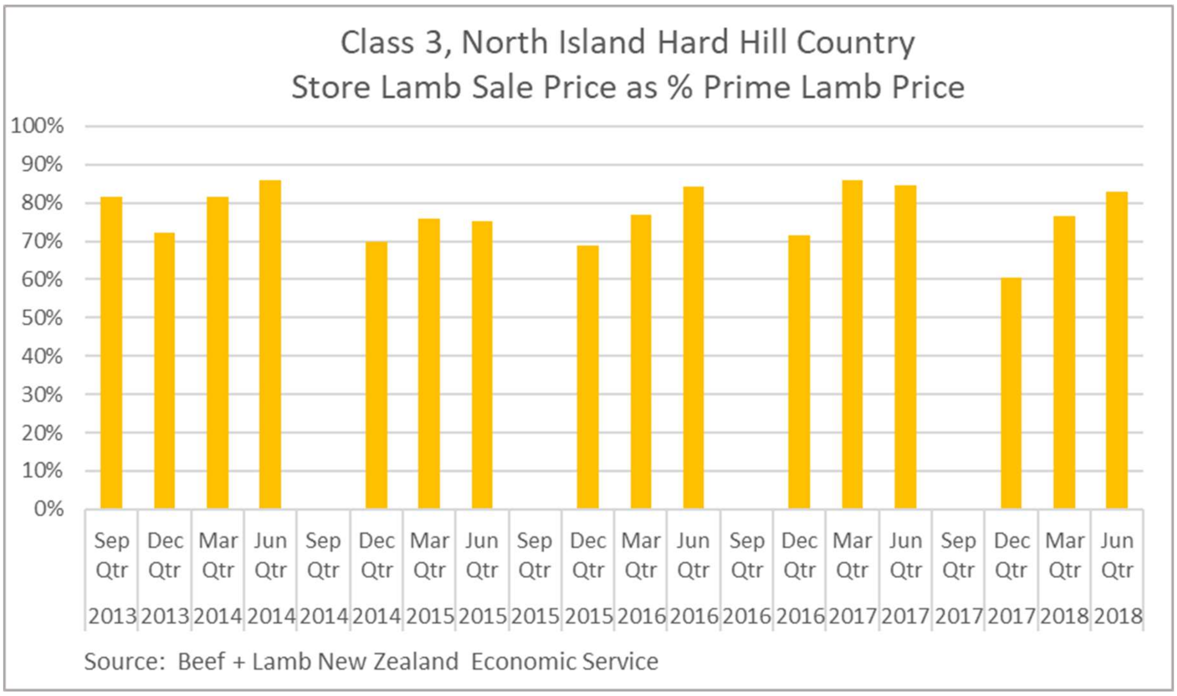

Figure 7 Store lamb price per head as a percentage of prime lamb price per head. Class 3 North Island Hard Hill Country,

(Beef + Lamb NZ Economic Service 2019)

Similar data were analysed for beef in Figure 8, specifically the store sale price for steers ages 1-1.5 years, and 2 years plus, as a percentage of the prime sale price per head for Class 3 Hard Hill Country. The data points were less consistent across the five-year period 2013-2018 and determining a quarterly trend difficult.

Growing a beef steer from store weight through to prime slaughter weight is a longer-term transition of up to twelve months or more, compared to lamb of a matter of months. Buyers appear more willing to pay an increased premium above current schedule to purchase cattle at any time of the year. Determining a quarterly ratio of store price to prime is not clear. This indicates it would be more challenging to achieve longevity with a pricing model based on a ratio of store to prime price for beef.

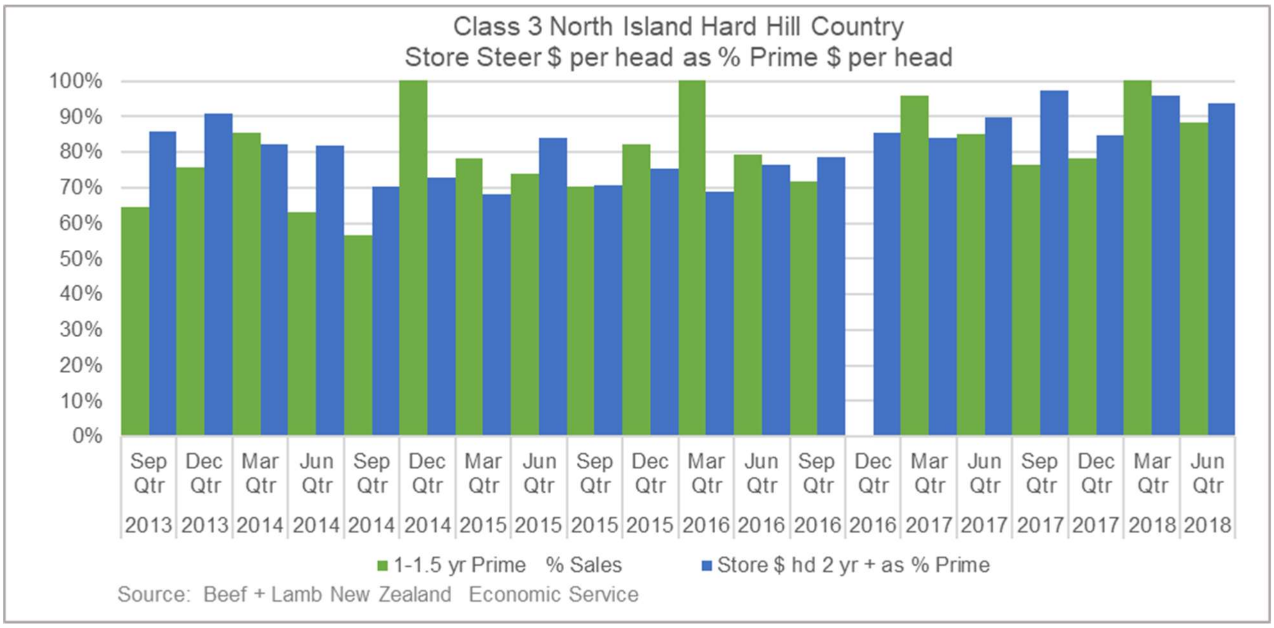

Figure 8 Store steer dollars per head as percentage of prime steer dollars per head.

Class 3 North Island Hard Hill Country

(Beef + Lamb NZ Economic Service 2019)

8.8 First Light Wagyu

First Light is a meat procurement and marketing company. They have placed their emphasis on creating a value chain model to deliver grass-fed Wagyu beef from farmer producers to consumers. To do this they created the First Light Wagyu Producer Group and have a fully integrated supply chain from producers to consumers.

The producer group is a standalone company, 50% owned by a group of First Light farmers and 50% owned by the value chain management team. This gives equitable distribution of risk and reward, and all working collaboratively. (First Light Foods website).

Farmers buy and own the Wagyu beef animals and are contracted to sell them back as stores or finished at a pre-determined price to First Lights Wagyu Producer Group. First Light operate a pricing model with which they determine a liveweight price per kilogram in April for the twelve months ahead. The payments are based on a set per-kilogram price modelled from established market returns, utilising Farmax software to portion the costs of production across the breeder and finisher sections of the value chain. In addition, they operate a pool system to distribute a portion of operating profit split 1/3 to the breeder and 2/3 to the finisher. A transparent integrated supply chain from breeder through to the customer. The advantage is it gives clarity for farmers to budget against because of the certainty of buying and selling prices. Their model removes the risk of being at the mercy of the schedule and store market price.

The First Light programme generates strong loyalty form their producer group. There is open dialogue between fellow breeders and finishers, and they work together to develop solutions to challenges and share knowledge for the overall benefit of the producer group.

Programmes like this one can provide certainty for all parties involved and create a collaborative supply chain. The guaranteed market mitigates the risk of fluctuating schedule prices and allows the farmer to focus on growing the animals the best they can. There will very likely be occurrences where store stock could be purchased cheaper from the sale yards or higher prime schedules available from other processors. This is where the behavioural qualities would be tested and those committed producers that are connected to the strategy of their meat company and passionate about a collaborative supply chain would remain loyal and switchers would look to maximise their margins elsewhere.

9. Conclusions

There are opportunities currently available for breeders and finishers to collaborate in the sale of livestock. Some of these have been mentioned in this report. Livestock processors and marketers are promoting producer groups and recruiting breeders and finishers into joining these. They're then active in facilitating the connection of finishers to suitable breeders. Producer groups type structures are a catalyst for shifting from a commodity supply chain to a collaborative supply chain.

Consumers in the market will drive the requirement for increased traceability through quality assurance programmes providing verification of the provenance of the food they are eating. We are already seeing this transition into higher value markets and retailers like Whole Foods requiring lamb to be GAP certified from birth to slaughter. Market premiums from these affluent markets will inevitably drive farmer behaviour.

Livestock breeder finisher collaboration is not for everyone. As described, producers carry out a range of marketing strategies defined by their level of commitment to one processor company, coupled with their preference for an active or passive involvement in selling decisions. The marketing strategies of producers segmentation categories such as the 'high committers', and the differences in the drivers of these strategies presents opportunities for processors to identify suitable farmers and develop more collaborative relationships and integrated supply chains.

The sale yard auction system with all its inefficiencies and associated costs currently fulfils an important role in providing a trusted and transparent market price used as the favoured basis for price negotiation. As the uptake of online sales platforms increases, this may evolve to provide the trusted basis for price negotiation.

Pricing models appear few and far between at this point of time. In completing this report, only two models were identified. I believe others will exist of varying complexity. The model referred to as the farmer model was fully trusted by both the breeder and finisher as a fair and transparent way of setting the price. I couldn't obtain full details of the model used by First Light for their Wagyu Producer Group. Both of these examples demonstrate that pricing models can be used for both lambs and beef and achieve longevity. Drivers in their success are engaging the 'high committers' who believe in the strategy of the processor, understand their customer, and are passionate about the entire supply chain. Facilitating relationships between breeders and sellers is also crucial to success.

10. Recommendations

Engage

- Livestock processors and marketers need to promote the awareness of producer group type structures and engage more breeders and finishers into these supply programmes. With growing customer demands regarding the provenance of red meat, they should embrace the concept of collaboration and create more collaborative supply chains. Investing in the identification of their 'high committer' suppliers and engaging them in producer groups is a key step. Further investigation should be completed into how to effectively transition producers from other segment categories into 'high committers' so a larger proportion of farmer producers can be engaged.

Develop

- Livestock processors and third-party agencies to develop and further enhance the skillset of livestock and procurement agents in identifying and connecting suitable breeders and finishers. Grow their skills in facilitating effective introductions and long-term relationships that will achieve longevity. This requires coordination of agents servicing different geographical locations and working with different customer bases, so they work together to identify and coordinate suitable and effective connections.

Analyse

- Data analyst to conduct further analysis into the development of a pricing model for the trading of store category livestock between breeders and finishers. There is merit in conducting a more in-depth analysis into the relationship of livestock prime slaughter price to livestock store market price relative to weight ranges as opposed to the per head analysis investigated in this report.

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