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Prepared by: Deborah Ellis
Gattorna Alignment

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Western Australia's Sheep Meat Supply Chain - Supplier profile and behavioural segmentation

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Executive Summary

The growing demand for red meat in Asia and the Middle East points to growing opportunities to build new, sustainable markets and reverse the many years of decline in sheep numbers and industry profitability in Western Australia (WA). The Department of Agriculture and Food Western Australia (DAFWA) and Meat and Livestock Australia (MLA) are collaborating on the design and implementation of a series of projects which will focus on opening the way to these markets for the Western Australia lamb and sheepmeat industry.

This project is an important first stage input for initiatives around building viable new value chains. It profiles the supply side of the industry, defining current focus, capability and potential for growth, and then uses behavioural segmentation to describe the key differences in how producers respond and make decisions. This segmentation allows more targeted strategies for building supply to be applied by both processors and those supporting the industry.

The objective of this research is to provide insight into the willingness and capability of producers to increase flock size, and to make long term commitments to these levels. Experience has shown that just as in the market, any given supply base also has a range of behaviours and capabilities. Segmenting suppliers provides a base to predict the ability of the supply base to change and the different sourcing strategies that might be used to maximise supply in the long term.

Interviews were conducted with 194 Sheep producers, and 10 Agents representing sheep producers in four regions of WA (cereal sheep zone north and south; and medium winter rain zone north and south) between April and June, 2015

The interview design was developed by Gattorna Alignment, with significant input from Greenleaf Consulting (who were undertaking value chain modelling in conjunction with this project), DAFWA and MLA. The underpinning of the behavioural segmentation was the Dynamic Alignment™ framework, developed by Gattorna Alignment (Gattorna, 2015).

The research also profiled lamb and sheep producers (in terms of: turn-off and the timing of turn-off, property size, the mix of income earning sources and their attitudes to managing their business.

The feedback from producers clearly indicated signs of a positive climate for change and potential growth. There is a high level of confidence in the future of sheep meat. Producers also exhibited considerable flexibility in their attitudes to change – from their turn-off timing; to the channels they sell into. There was too a significant interest in the application of improved methods, including a focus on improving lambing rates. Off-setting this, however, is the perception by some producers of better returns and an easier lifestyle from grain.

The behavioural segmentation identified three key segments of suppliers for sheep meat. The largest segment, the **'Transactional'** segment is typically very focused on current price, values predictability, influenced by tradition and values agents for their knowledge and access to markets. The next largest segment is the '**Collaborative'** segment. These are more likely to have a longer term view (impacting their evaluation of price), more interested in relationships all along the supply chain and more likely to make decisions in terms of family and sustainability. The smallest group is the '**Opportunist**'segment. They tend to

value ease of doing business and responsiveness. They are less likely to be loyal, and the most likley not to value agents or long term processor relationships. Many in this group considered meat as a secondary part of their business.

When the growth potential of each segment was assessed, the ‘Collaborative’ segment appeared to have the strongest potential for expansion, followed by the ‘Transactional’ segment.

The implications of these results are that processors and the industry bodies aiming to support growth in sheep numbers need to use a range of different strategies to build supply. While the Collaborative mindset, for example, would usually be open to making longer term supply commitments, the security of predictable pricing, and for relationship-based arrangements, the other two segments are likely to be concerned about reducing their options with these types of procurement strategies. Focusing on the needs of each group allows more aligned communication, and more finely tuned sourcing policies to be developed.

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1 Background

1.1 A starting point for value chain alignment

The growing demand for red meat in Asia and the Middle East points to growing opportunities to build new, sustainable markets and reverse the many years of decline in sheep numbers and industry profitability in Western Australia (WA). The Department of Agriculture and Food Western Australia (DAFWA) and Meat and Livestock Australia (MLA) are collaborating on the design and implementation of a series of projects which will focus on opening the way to these markets.

This project is an important first stage input for initiatives around building viable new value chains. It profiles the supply side of the industry, defining current focus, capability and potential for growth, and then uses behavioural segmentation to describe the key differences in how producers respond and make decisions. This segmentation allows more targeted strategies for building supply to be applied by both processors and those supporting the industry.

2 Project Objectives

2.1 Overall objective - WA Supply base segmentation

The objective of this research is to provide insight into the willingness and capability of producers to increase lamb and sheep meat production, and to make long term commitments to these levels. Experience has shown that just as in the market, any given supply base also has a range of behaviours and capabilities. Profiling and segmenting suppliers provides a base to predict the ability of the supply base to change and the different sourcing strategies that might be used to maximise supply in the long term.

2.2 Specific objectives

The specific objectives included:

- To profile the supply characteristics in the wider producer supply base
- To identify the main ‘supply logics’ in the WA Sheep Supply Chain, and to reflect these in a Supplier Segmentation.
- To provide input into the value chain modelling of the industry being undertaken in conjunction with Greenleaf Consulting (GL).

3 Methodology

3.1 Supply side research

Interviews were conducted with 194 Sheep producers, and 10 Agents representing sheep producers in four regions of WA (cereal sheep zone north and south; and medium winter rain zone north and south) between April and June, 2015. These interviews were conducted by telephone, with 14 quantitative questions designed to profile the producer and allow analysis

of growth potential; and 25 qualitative (open ended) questions designed to provide behavioural indicators and to build an understanding of the levers for change.

The interview design was developed by Gattorna Alignment, with significant input from Greenleaf Consulting (who were undertaking value chain modelling in conjunction with this project), DAFWA and MLA. The underpinning of the behavioural segmentation was the Dynamic Alignment™ framework, developed by Gattorna Alignment (Gattorna, 2015).

Analysis was conducted using Excel and Tableau. Calculations of growth potential were undertaken, using aggregations of current turn-off and capacity provided by each producer.

The data and analysis associated with this study have been made available to MLA and DAFWA.

3.2 Industry engagement

During the course of the project, workshops were conducted with DAFWA and MLA and representatives of the Processing sector. The workshops prior to commencing the research informed the design and provided background around key industry issues; and those at the completion were used to review the results and Gattorna Alignment's interpretation of the implications of these results.

4 Results

4.1 Profile

The producers interviewed were all currently turning off lamb or sheep for meat. Beyond this their profiles varied significantly; and the general perception is that they are representative of the many different operations in Western Australia. The modal property size was 1-2,000 hectares; but larger properties were well represented with 23% of respondents from properties of over 5,000 hectares (including 3 properties over 100,000 hectares). The average age of those interviewed was 52 years; with the typical agricultural profile of 62% over fifty. The business structure for most was family-based (only 6% were corporate or a non-family partnership), and only 2% had an external (non family) manager.

The average turn-off of the producers in the sample group was 2,800 head in 2014; but for most sheep accounted for less than 50% of their land use and of their income. For only 12% of the sample was the income from sheep (meat plus wool) more than half of their total property income in 2014.

Most in the sample were also grain producers (all but 9 - 5% were not); but the mix of income from grain vs wool plus sheep meat varied significantly with no clear pattern related to the proportion of land use assigned.

The predominance of mixed farms, and the significance of grain is an important consideration in strategies to encourage expanded production.

4.2 Management practices

The way that Producers managed their sheep meat business was explored in the research, with one line of questioning around their priorities for the business. Apart from the obvious

response of ‘make a profit’; the other priorities indicated a focus on productivity especially around lambing rates and survival. When asked about how they went about achieving these priorities, the focus was clearly on scientific management methods.

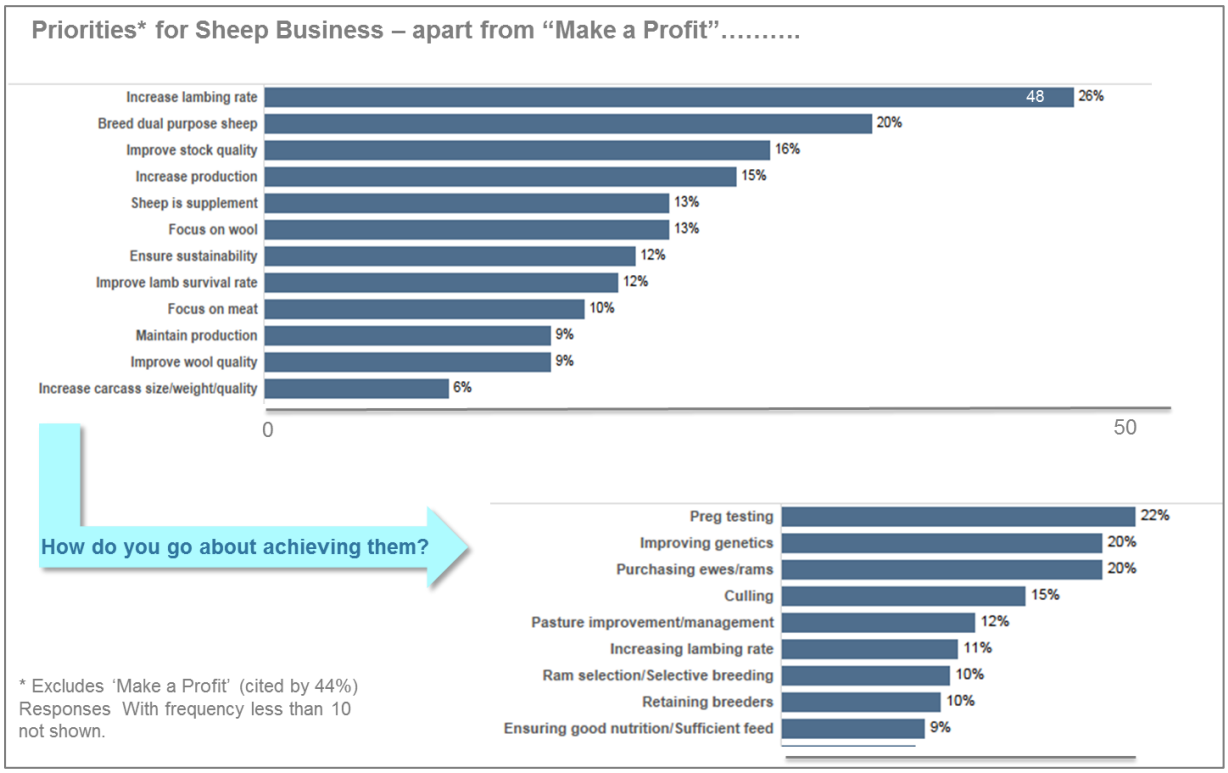

Figure 4.2.1 Priorities for Sheep Meat business

4.3 Behavioural supply segments

Three main segments were identified, which are depicted in the Figure below. These are shown overlayed on the PADI logic framework utilised in Dynamic Alignment™; which provides a method of differentiating individuals and groups based on the bias in their behaviour. It recognises that in any group or individual all of the four ‘logics’ are present, but there is a bias towards a particular mindset.

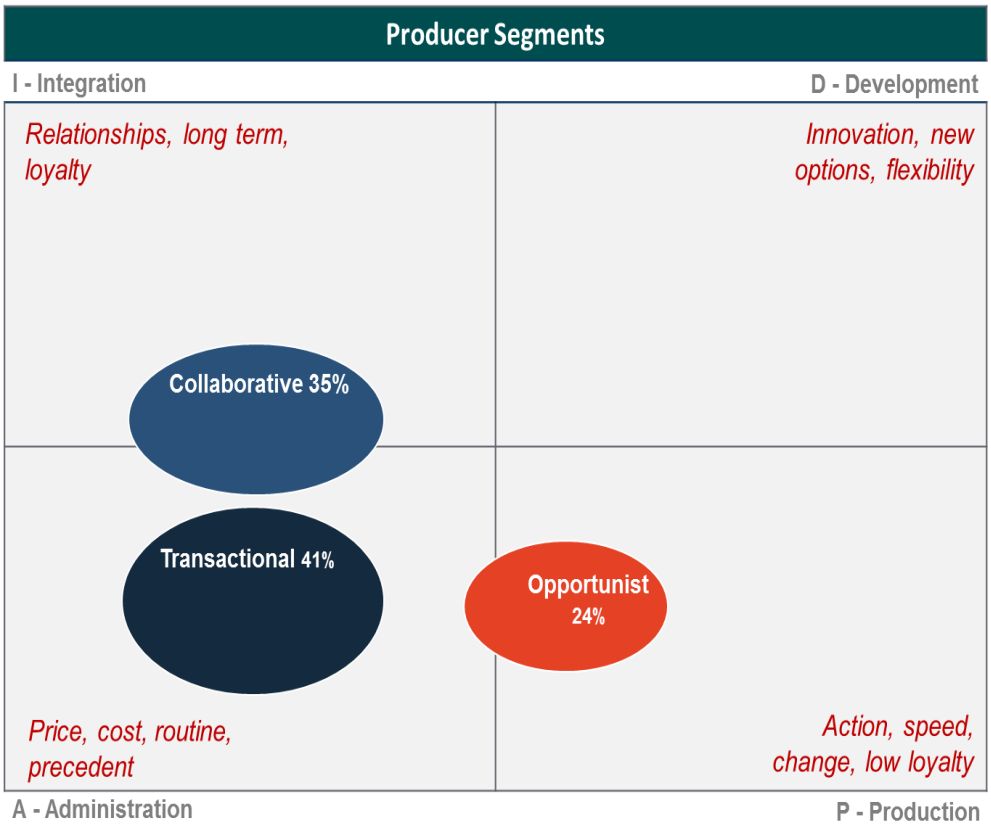

Figure 4.3.1 – WA Sheep Producer Behavioural Segments

Although individual producers have unique aspects to their decision making and approach to the sheep-meat part of their business, this grouping draws together those that are more similar – and thus where focused strategies can be utilised by processors and industry bodies in their engagement.

The producers were assigned to the segments based on their responses to open-ended questions around their decision making on: their business and planning approach, target markets, channels, risk and propensity to change.

The characteristics of the resultant segments are summarised below.

"Collaborative"	35%
▪ Relationship – trust/ honesty/loyalty ▪ Consistency/predictability ▪ Longer term ▪ Security/peace of mind ▪ Family ▪ Sustainability ▪ Price important, but longer term factors traded off	
"Transactional"	**41%**
▪ Price/profit primary focus ▪ Consistency/predictability ▪ Routine/tradition/past results ▪ Detail ▪ Values knowledge and access to markets	
"Opportunist"	**24%**
▪ Low loyalty ▪ Opportunistic ▪ Speed & flexibility of response ▪ Convenience and ease of doing business ▪ Sheep often secondary to other income sources	

Figure 4.3.2 – Supplier Segments - Values and Focus

One element taken into account in the development of this segmentation was the approach to planning. Producers were asked to describe how they plan for the future.

Those assigned to the Collaborative segment were more focused on the long term, goals and planned in terms of the family. Those in the Transactional segment were more likely to plan on precedence and using advice. The shorter term focus of the Opportunistic segment is partly derived from their 'plan based on seasons' and 'Ad hoc/no plan' responses.

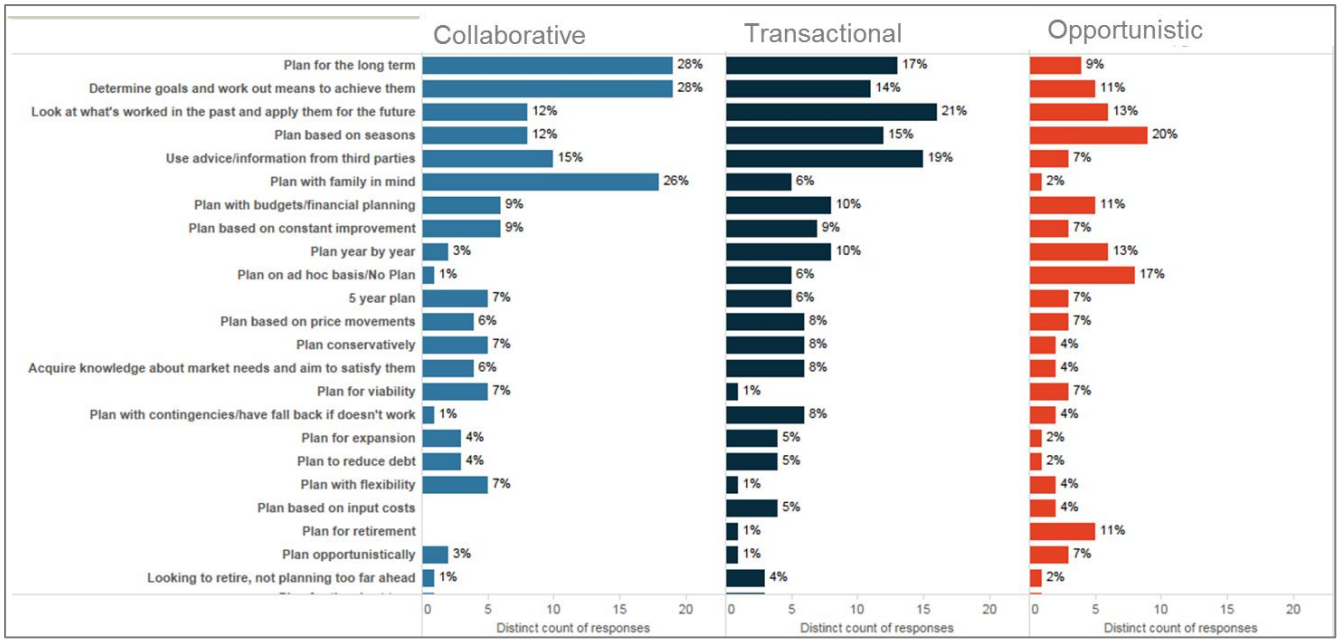

Figure 4.3.3 Approach to planning

4.4 Flexibility

Producer flexibility to change various aspects of their operation was explored in the research. This was useful in terms of the feedback on the particular dimension, and as a general indicator of the level of rigidity within the industry when a number of dimensions were taken in aggregate.

With regards to changing their target specifications, there was little evidence of flexibility: most indicated that they preferred to stay with their current specification.In other aspects, however, considerably more flexibility was seen.

The timing of turn-off was of particular significance. The ability of processors to provide stable supply across the year can be an important underpinning to support ‘baseload’ export demand in a consistent and reliable way.

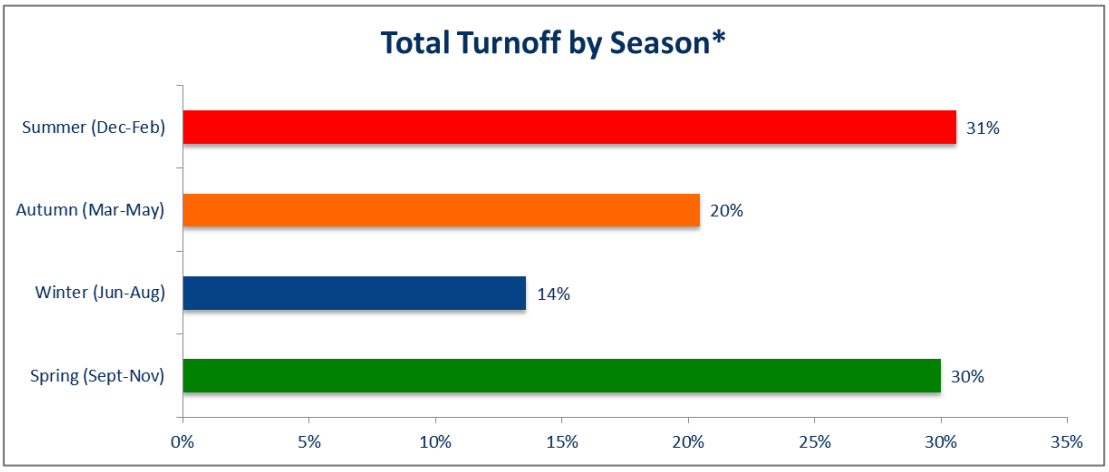

Figure 4.4.1 Turn-off by Season

The total turn-off by season was calculated using the producer's feedback on their total turn-off for 2014, and their feedback on the percentage turned off each season.

Producers were then asked how flexible they were to change their turn-off times. Most producers indicated that they had some level of flexibility in this regard.

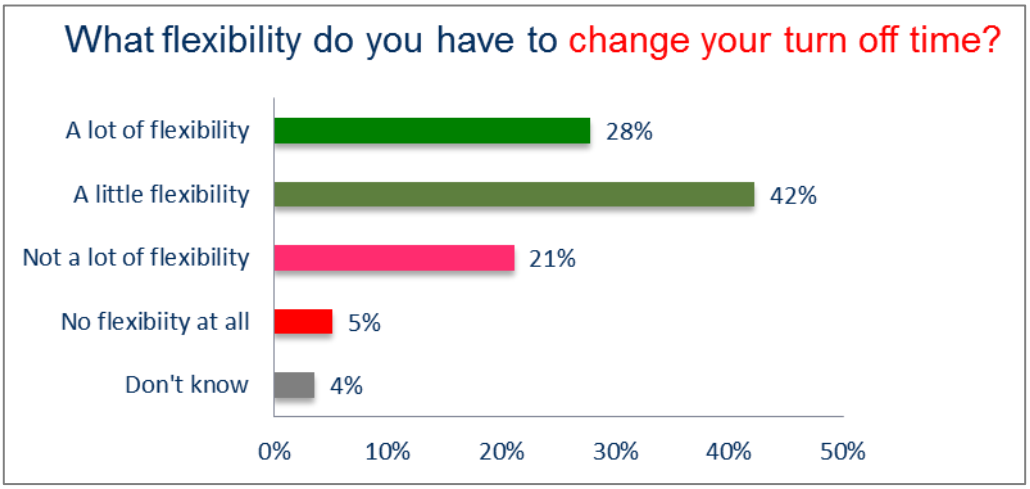

Figure 4.4.2 Turn-off flexibility

One of the underlying aspects of a producer's mindset that impacts their flexibility, and thus ability to change course, is their attitude to risk. It is widely thought that there is more tolerance for risk in agricultural industries, and the results from this research support a risk tolerant assumption for sheep producers, with 60% of producers more accepting of risk than risk averse.

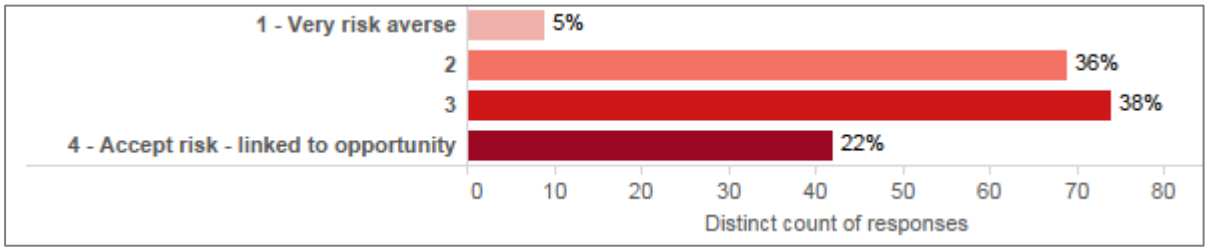

Figure 4.4.3 Attitude to risk

4.5 Channels

Most producers interviewed sold all, or the majority, of their production through agents in 2014. The first destination of this production is shown in Figure 5, with the majority going to a processor. Live Export represented 21%.

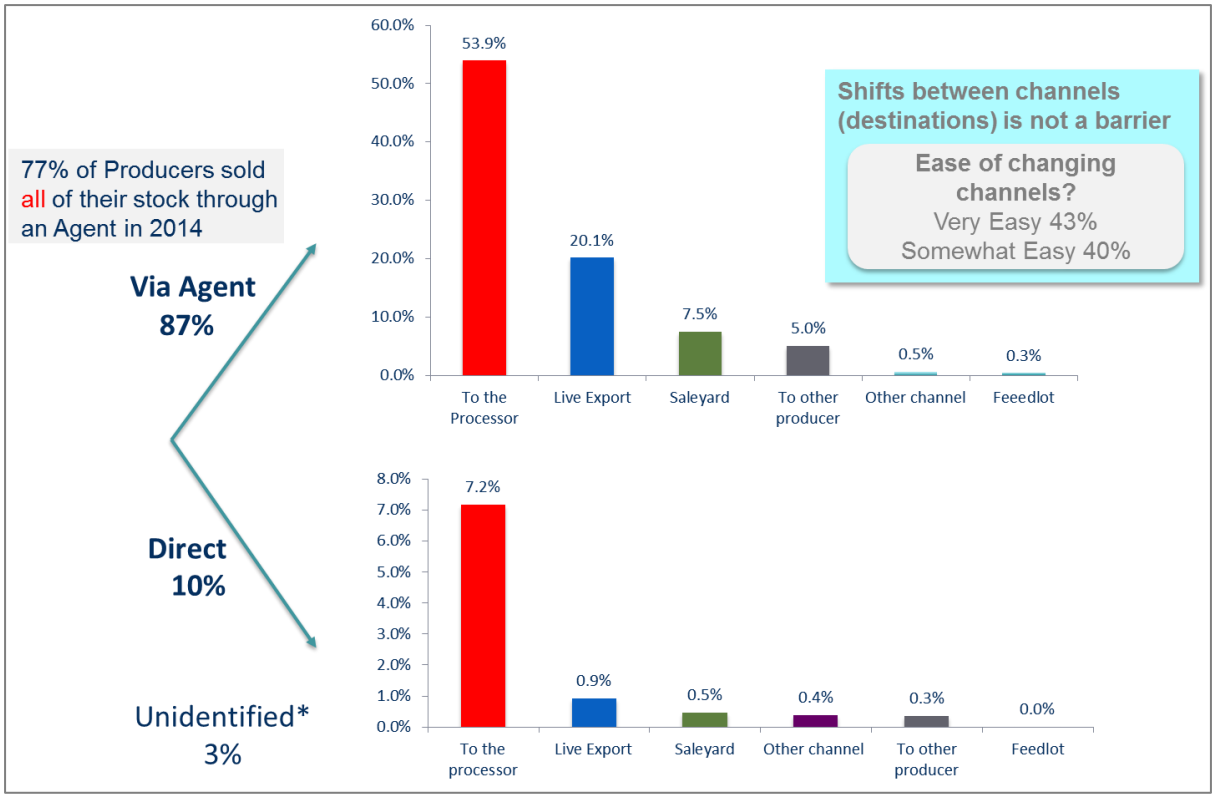

Figure 4.5.1 Channels used by sheep producers (2014 estimated head sold)

Most producers indicated that they saw few barriers to changing channels – 83% said it was very, or somewhat, easy to change.

The very high proportion going through agents is an important consideration in understanding the levers for increasing output. Agents obviously have a significant influence in the channel; and their confidence in the future of the industry and their knowledge of the specifications and timing of requirements can be important to any expansion program.

This leads to the question of the role played by agents. The most common response from producers was that agents provided knowledge of markets, and helped to facilitate the sale (access to markets). Reflecting the uncertainty that the industry carries forward from processor failures in the past, the second most common reason is to guarantee payment. See Figure 6 below.

Many processors, however, also spoke of the support Agents give them for practical aspects of their operation including arranging transport, consolidation of loads and many spoke of the loyalty they felt and experienced. On the other hand, there were a significant number of producers that saw little value from the relationship. Producers in the 'Opportunist' segment were more likely to be of this opinion.

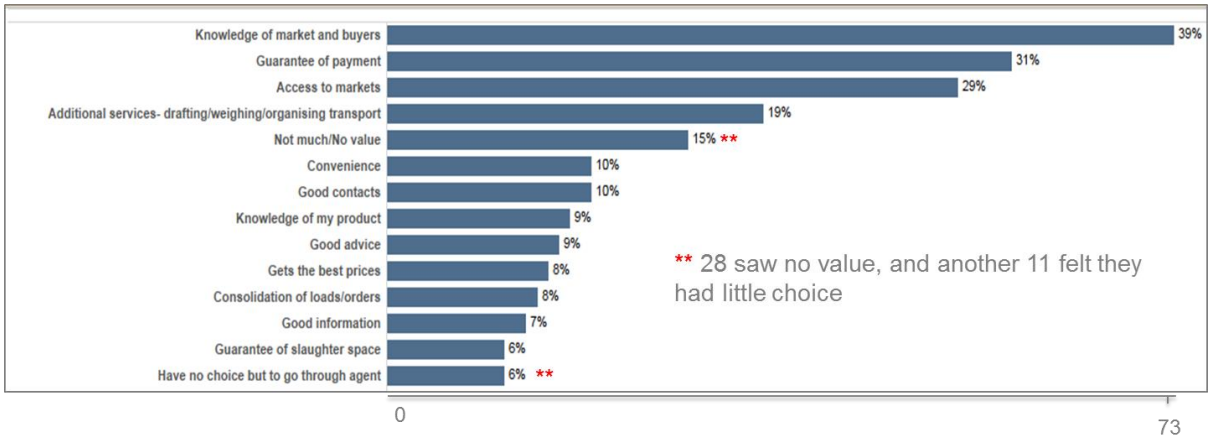

Figure 4.5.2 Perceptions of the value of agent

4.6 Growth projections

Producers were asked to indicate their capacity for expanding lamb and sheep turn-off, in their current situation and with further investment. The type of further investment was not limited or pre-defined. These estimates were then compared to each of the producer's stated turn-off numbers for 2014, to give a guide to the potential for growth. These should be used as a general guide only, as producers may have somewhat different views of 'current situation' and did have different versions of 'further investment'; but the results still provide good insight into the range of possible levels.

Current Turn off (a)	Current Maximum Capacity Turn Off (b)	Maximum Turn off with Investment (c)	Max Growth if taking up current capacity(d)	Max Growth with further investment(e)
545,113	712,479	1,243,260	131%	228%

Figure 4.6.1 Growth projections[1]

These numbers suggest that there is significant latent capacity available; and substantial opportunity that can be envisaged. Some of this extended capacity involves a shift from grain or requires land acquisition.

The main types of investment that producers indicated they would need to employ are shown below. Significantly, many did not relate to land acquisition or a shift from cropping (although these are still the main options) – but involved more incremental changes to their operation (more food, labour, water storage).

(a) [1] Stated turn-offs for 2014
(b) Assuming where 2014 is greater than max capacity, then 2014 turn-off is used as max capacity
(c) Assuming max with investment equals max capacity for producers who do not want to increase turn-off and blank(not stated) max investment equals maximum capacity
(d) Column b as a percentage of Column a
(e) Column c as a percentage of column a

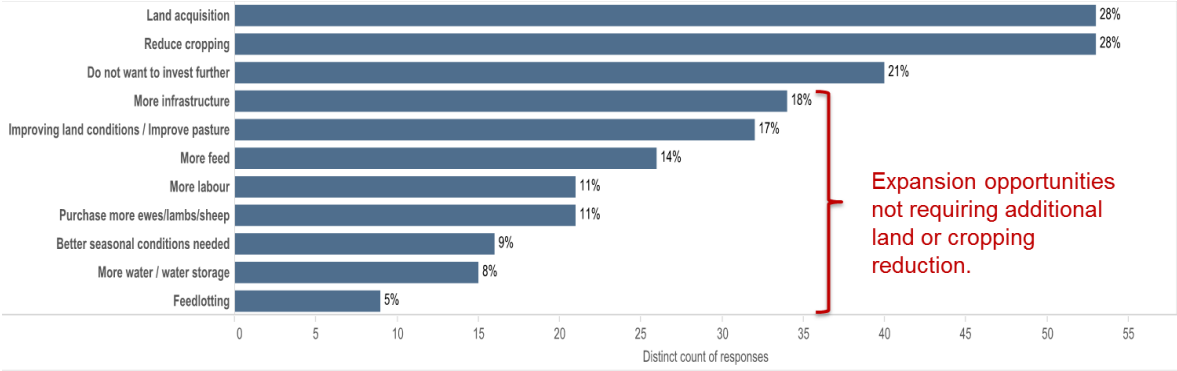

Figure 4.6.2 Investment to increase lamb/sheep capacity

An interesting perspective on growth potential comes from combining the segmentation results, with the various inputs from producers related to their growth potential. See Figure 4.2.3 below. There are proportionally more producers in the Collaborative Segment who display an appetite for growing their production of lamb/sheep; and the Opportunistic Segment has the lowest representation.

SEGMENT	Sample in Segment	Proportion in Segment	Growth Sub Segment	Growth Potential % of Total Producers
Collaborative	68	35%	62% of Coll	22%
Transactional	79	41%	48% of Trans	20%
Opportunistic	47	24%	19% of Opp	5%
	194	**100%**		**46%**

Figure 4.6.3 Producers with growth potential by segment[2]

This has important implications for processors and the industry bodies (esp. DAFWA and MLA) looking to understand the types of strategies they could use to increase sheep meat output in W.A. Although both the Collaborative and Transactional Segments indicate that better prices would be a key lever to encourage them to increase turn-off; the other predictors suggest that, while this is true for Lean, the Collaborative Segment is more likely to take a longer term view and consistent price (vs. highest) and assurances around continuity and support would also be important levers to build confidence and supply levels.

[2] Refer Appendix for Criteria

4.7 Barriers to growth

To unlock the potential, however, requires understanding and working with the perceived barriers. When asked under what circumstance they would increase turn-off, the most common response was that prices would need to increase. When this response was probed in a follow up (open ended) question, the feedback was varied, but much of it related to long term average price (and thus the consistency of price) and also to the relative prices of grain and the 'package' price of wool and meat. It is apparent that the flexibility exhibited in other aspects of the operation, also reflects an ongoing process of income optimisation for many producers. The trade-off and interplay between grain, wool and meat prices are a fundamental dynamic; and a key barrier to sustainable supply as effort is shifted between activities.

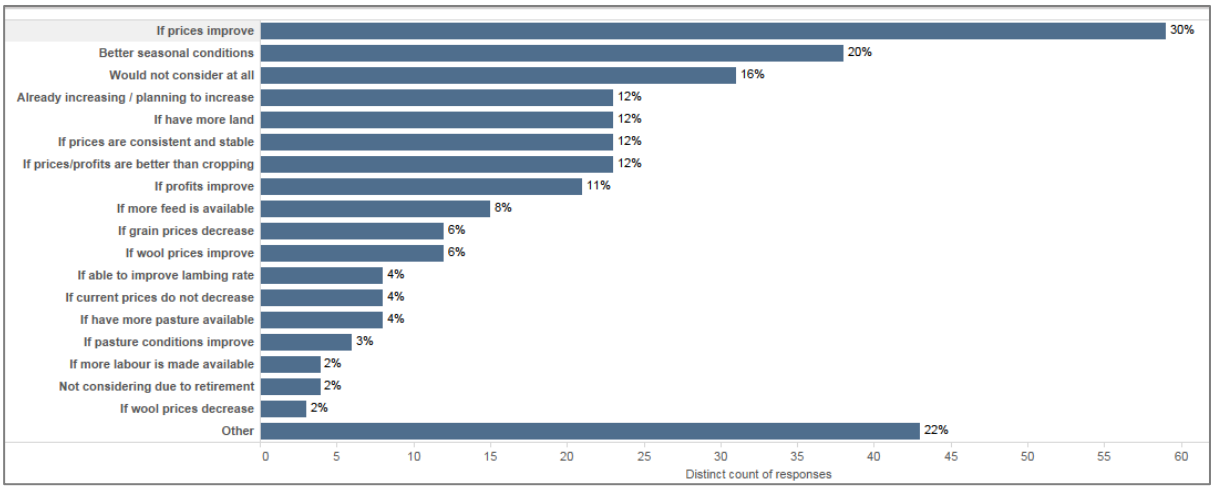

Figure 4.7.1 Under what circumstances would you increase turn-off

The other important point to note in Figure 4.2.4 though, is that only 18% said they would not consider increasing (including 2% planning to retire); and although the most common response was 'if prices improve', this was still only mentioned in 30% of instances (note: there could have been more than one instance per interviewee). Many of the other circumstances identified did not relate to higher prices.

4.8 Feedlotting

One of the options that has been proposed to enable more consistent supply for overseas markets is to focus on increasing feedlotting in W.A. The accompanying project by Greenleaf Consulting (Greenleaf Consulting, 2015) modelled scenarios around using feedlots to increase output and minimise seasonal supply fluctuations, with strong indications of significant industry value adding potential.

This research investigated attitudes to feedlotting among W.A producers. It found that 60% of those sampled were using supplemental feeding, and 18% were feedlotting (mainly lambs they had bred; only 3% were fully commercial in that they were buying store lambs and systematically feeding).

Many (66%) expressed no interest in feedlotting, but of the balance there was interest in particular circumstances. As the expectation is that feedlotting would be done by a relatively small group of specialist enterprises, this could be seen as an indication that there is some potential for further development in this area of the value chain.

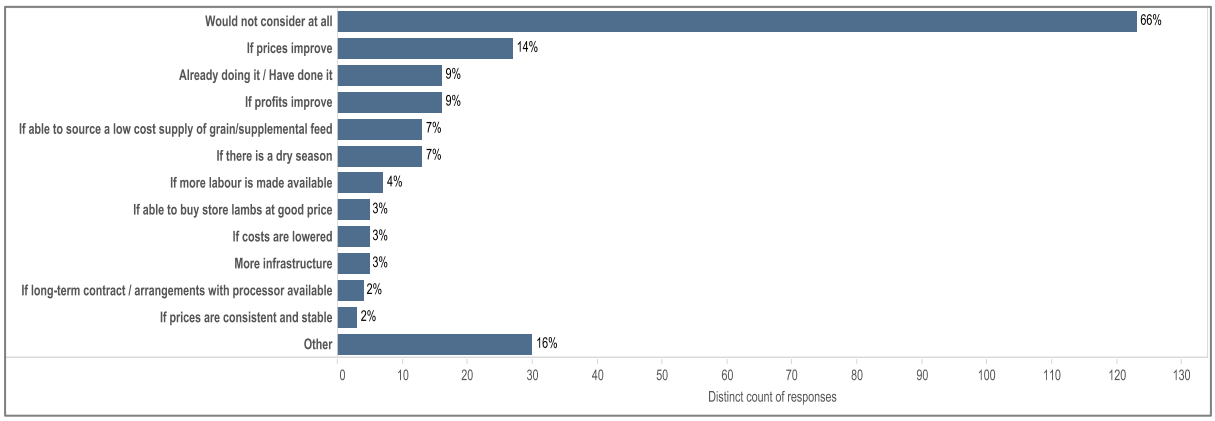

Figure 4.8.1 Under what circumstances would you consider commercial feedlotting

4.9 Confidence

Producers were asked about their level of confidence in the future for lamb and sheep meat, and for the associated commodities wool and grain for Western Australia.

The results, as shown below, indicate high levels of confidence in grain, but even higher in meat. Live export and wool, while not as strong, were still significantly more positive than negative.

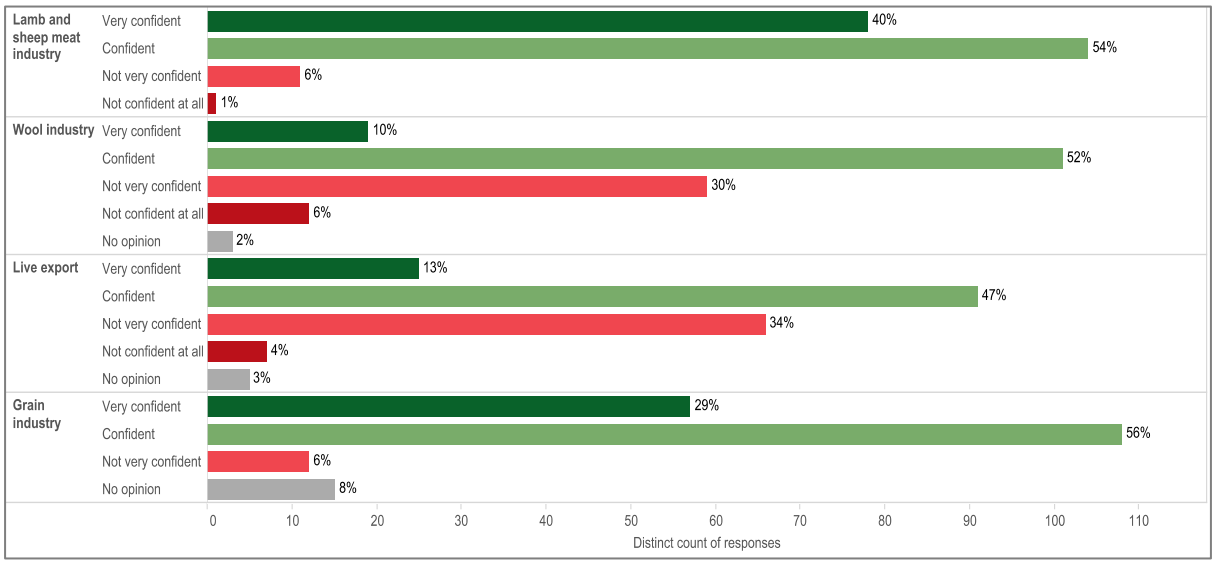

Figure 4.9.1 Industry confidence

This is an encouraging base for expansion of output. It indicates an optimistic mindset, and may indicate that processor and industry strategies to encourage expansion and investment might be timely.

5 Discussion and Conclusion

5.1 Implication of the profile and segmentation results

5.1.1 Climate for change

The results from this research point to a high level of confidence in the future of the sheep meat industry in W.A. The various topics that explored flexibility also appear to show that most producers, while having a preference for a particular specification, are generally flexible in terms of many aspects of their operation and the channels they supply.

The growth projections, also point to their being latent capacity even within the current operations; and that producers can envisage investments that would yield a very substantial increase – if circumstances were attractive.

5.1.2 Levers for change

The behavioural segmentation gives insight into the types of levers that could be effectively used to make it more attractive for Producers to commit to expansion. All producers, of course, have their own very specific ways of doing business and do not conform to all aspects of a general 'archetype' as used in segmentation. With this note of caution, however, these generalised clusters move us a step further on from assuming that all producers operate in the same way and have the same mindset; and start to point to the different types of sourcing and industry strategies that may be effective to motivate expansion in sheep meat output.

Producers with a 'Collaborative' mindset value longer term certainty. The sourcing strategies that would be appropriate with this group include multi-year volume commitments; pricing confidence via mechanisms such as market price benchmarks and open book pricing. Many producers in this segment are open to preferred supplier arrangements if they can increase certainty and minimise risk; and they are typically open to the time that these sorts of relationships can involve. To sustainably increase production with this group requires close working relationships, feedback on quality, provision of information on the market generally and forecasts specifically.

'Transactional' producers are more likely to be wary of committing to one processor or channel as it could be perceived as limiting their options for maximising price. While valuing certainty and the ability to minimise risk, these producers are more focused on optimising the current situation. Many are also driven strongly by precedence and what has worked in the past. Processors working with this group need to match market price, be clear about specifications and the timing of their requirements. The strength of the agent network is in harnessing an aggregate supply for specific processors from the broad base of producers, and this approach is suited to this segment. The processor is thus more likely to get value from developing Agent relationships to source from this segment, rather than more direct relationships. Similarly the Agents are likely to be important if 'Transactional' producers are to act on their underlying confidence in the industry to increase their output and capacity.Industry information, and processor information, about market opportunities and forecasts re requirements need to be transmitted via Agents and in the general agricultural

media and formats to reach this segment. Price certainty, however, is still the key lever for this group.

‘Opportunistic’ producers are also more focused on the current price and situation, but are typically more flexible and less committed to precedence than their ‘Transactional’ counterparts. Many in this group, however, viewed sheep as supplementary to their other income – and a large proportion were not interested in expansion. As a small segment, it appears that they should not be the focus for specific expansion strategies.

5.2 Practical implications for industry

5.2.1 Focused sourcing strategies

Processors are the gateway to the growing opportunities for meat in Asia and beyond. Until now in Western Australia, however, much of the stable volume has been dedicated to domestic requirements (especially those of Woolworths and Coles). Export for much of the sector has been opportunistic, in terms of cuts and customers.

To build more consistent, ‘baseload’ supply channels into these markets requires a stable flow of product. Some of this can come with different industry models, such as explored by Greenleaf Consulting (Greenleaf Consulting, 2015); but even these require a willingness to change practices if not to invest.

The segmentation results points to the need for processors to consider a portfolio of sourcing strategies, to respond to the underlying needs and concerns of different producers.

5.2.2 Focused industry strategies

Similarly, industry strategies to support growth, also need to be differentiated. The large segment of ‘Collaborative’ producers tend to be more industry focused, and their concerns re sustainability and long term viability would be the key focus at the industry level.

Both the ‘Collaborative’and ‘Transactional’segments, however, will always want to understand the financial impact – and cost/benefit and case studies based around the financial impact of alternative business models (e.g. early turn-off to feedlotting) would be an effective method of communicating. For both of these groups the ‘build the case’ approach tends to be more effective; vs the ‘Opportunistic’ segment where the top down/short sharp message is more effective.

5.3 Review of Objectives

The objective of this research was to provide insight into the willingness and capability of producers to increase flock size, and to make long term commitments to these levels.

The research clearly indicated that there is confidence on the future of the industry, and a level of interest that could, with the right incentives, be converted into new supply. There was also evidence of a high degree of flexibility towards most aspects of the sheep and lamb

business; including seasonal turn-off patterns and channels sold through, that indicates a potential for change.

6 Bibliography

Gattorna, John. **Dynamic Supply Chains**, 3rd Edition. FTPublishing, 2015

Greenleaf Consulting, Unpublished presentation to DAFWA and MLA, 27th July, 2015

7 Appendix

7.1 Criteria for Producers with NO Growth Potential:

Q18 – How Manage – ‘No’ if:
Wind down business
Selling property
Q22 – Goals for sheep – ‘No’ if:
Withdrawing from sheep
Reducing stock
Stay afloat
Simplify
Q64 – Increase turn-off – ‘No ’if
Would not consider at all
Retirement
Q75 – Max with investment – ‘No’ if
(Max with Inv/Current)<120%.