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Return on investment for implementing electronic identification tags in a commercial sheep flock

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Abstract

To effectively sustain the sheep industry, it is important to equip producers with tools to improve performance through increased production and profitability. One such tool is the electronic identification (eID) tag. There are a number of benefits that producers implementing eID within their sheep flock can use to identify individual performance of animals, allowing for significant improvements to sheep flock from informed selection decisions and labour savings through ease of management and handling. This report presents the economic benefits of using electronic Identification (eID) tags in a commercial sheep flock. The benefit cost ratio of implementing electronic identification ranged from $1.23 return for: $ 1invested to $2 return : $1 invested varying based on implementation strategy, enterprise type and size. Also included in the results are the outcomes from a producer survey on the use of eID in Western Australian sheep flocks.

Executive summary

To effectively sustain the sheep industry, it is important to equip producers with tools to improve performance through increased production and profitability. One such tool is the electronic identification (eID) tag. There are a number of benefits that producers implementing eID within their sheep flock can use to identify individual performance of animals, allowing for significant improvements to sheep flock from informed selection decisions and labour savings through ease of management and handling. However, an economic analysis needs to be undertaken in order to determine if this technology is applicable and in what size flock it would be most effective.

This report presents the research that has been undertaken regarding the economic benefits of using eID tags in a commercial sheep flock. This economic analysis evaluates a range of parameters including, flock size, cost of the initial outlay of technology, approximate implementation costs and the useful breeding life of a ewe in a commercial sheep flock, in order to determine the return on investment of implementing eID technology in a commercial sheep flock in Western Australia. The benefit cost ratio of implementing eID ranged from $1.23 return for : $ 1invested to $2 return : $1 invested over a ten year period based on modelling against three scenarios for implementation.

A producer survey was also completed and the results are outlined in this report. Included from this survey is the perceived benefits and concerns shared by the participants. Modelling of the additional income and costs associated with implementing eID has been completed, this includes the cost benefit ratio, as well as a detailed explanation of the findings. Specific traits measured utilising eID have been determined, with a brief outline as to why they were selected included. The associated costs in equipment and software purchases to implement electronic identification have also been detailed in this report. Three scenarios, which are most likely to be used by a producer when implementing eID technology in their business, are outlined to be used when determining the additional income and costs.

The benefit of this report to industry is that on the grower level, it provides producers an economic model to base their decision to implement eID technology into their commercial sheep flock for economic gain through genetic selection. The broader benefits to the industry is an improved flock which will increase productivity and therefore profitability of the sheep industry.

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1 Background

To effectively sustain the sheep industry, it is important to equip producers with tools to improve performance through increased production and profitability. One such tool is the electronic identification (eID) tag. There are a number of benefits that producers implementing eID within their sheep flock can use to identify individual performance of animals, allowing for significant improvements to sheep flock from informed selection decisions and labour savings through ease of management and handling.

This report for the project P.PSH.1047 – *Return on investment for implementing electronic identification tags in a commercial sheep flock* establishes a case for positive return on investment for implementing eID tags in a commercial sheep flock through financial modelling based on three flock sizes and three different entry price points with the aim to encourage Western Australian (WA) sheep producers to make an informed decision to adopt the technology. A benefit cost analysis (BCA) focusing on the Great Southern region in WA has been completed, identifying all the quantitative, qualitative, tangible and intangible factors and place a value on each. To add further depth and clarity a benefit cost ratio (BCR) has been provided. The BCR describes the amount returned for each dollar invested into the purchase of the technology. The result of this analysis provides a strong indication of whether or not the investment is advisable. This report also identifies the useful life of a breeding ewe and uses this to inform the economic analysis and generation of a BCR.

The overarching aim of this report is to deliver clear guidance to commercial sheep producers in WA, regarding practical strategies to implement eID technology within their flock and, crucially, the long-term cost benefit of implementing eID in their business with the goal of increasing the use of this technology in commercial sheep flocks in Western Australia.

2 Project objectives

The objectives of this project were as follows:

- To provide a list of benefits that can potentially be realised through adoption of eID technologies
- To identify traits and attributes that can be monitored and improved over time with the adoption of eID technologies
- To complete a detailed BCA analysis, specifically focused on WA sheep producers in the Great Southern region, including:
    - A benefit cost ratio, describing the financial return for each dollar spent and where this benefit is realised e.g. in terms of an increase in fleece weight or weaning %
    - Decision support information relating to economic benefit of adoption in relation to flock size and type
- To complete an anonymised client profiling survey, requesting information including:
    - Size and type of flock(s)

- Breeding objectives
- Current performance status
- Livestock/crop split
- Potential for change in enterprise split
- Use of eID or consideration of implementation
- Existing technologies/equipment and those under consideration
- Reasons for use or consideration of eID and related technologies/equipment
- Perception of the value of eID and their reason(s) why they have adopted the technology of not i.e. barriers to adoption

- Deliver a technical note for circulation to Farmanco clients and for inclusion in other MLA or Farmanco activities; developed in a way that allows common practical decisions to be considered, with key benefits/opportunities highlighted

3 Methodology

In this report, the method of evaluation that will be used to determine the current value of the future cash flow that is generated by the use of eID and the related technologies is net present value (NPV). Net present value is used to establish which projects are likely to turn the greatest profit while capital budgeting (Boyte-White, 2017). It is also referred to as a cost-benefit analysis or a benefit cost analysis and provides an objective framework for comparing different impacts, as well as impacts that can occur in different periods. The objectivity of this is supported by converting all impacts into present value dollar terms (Boardman et al, 2010). The steps for conducting this analysis are outlined below in Table 1.

Table 1. Steps in preparing a cost-benefit analysis

Steps in preparing a cost-benefit analysis
1. Specify the set of options
2. Identify the costs and benefits
3. Identify the impacts and select measurement indicators
4. Predict impacts over the life time of project investment
5. Attach a monetary value to the impacts
6. Discount future costs and benefits to obtain present values
7. Compute NPV of each option and BCA
8. Perform sensitivity analysis

For this project the parameters to the analysis were determined to be:

- The useful life of the breeding ewe
- The entry level costs
- Three logical entry level points that producers may use
- The potential flock size

- The traits that can be measured

3.1.1 Useful life of a breeding ewe

The useful life of a breeding ewe is considered to be six years by industry standard as fertility declines after seven years. In Australia, ewes have been mated in their maiden season (as early as six to seven months of age) with the intent to increase the number of lambs per ewe over their breeding life (Paganoni et al., 2014, Alcock et al. 2015). This project will be taking into account the opportunistic mating of maiden ewes and the cast for age ewes is determined to be six years of age to be aligned with industry standard.

The opportunistic mating of the maiden ewes aims to use the eID to identify the faster growing larger ewe lambs (approximately 20% of the ewe lamb flock) to then take out of the main lamb flock and feedlot to accelerate their weight gain. This increases the likelihood of being ready to mate that season. Approximately half of the ewe lambs that are selected to be feedlotted will have a lamb. This carries additional benefits to the enterprise, firstly through the extra lamb produced and secondly a greater yield of wool when shorn as hoggets due to the conversion of feed (Collins, 2018).

3.1.2 Entry level options

The cost of the electronic ear tags has been budgeted at $1.88 per tag, for the purpose of this project, with this being implemented across three flock sizes of 2,000, 3,000 and 4,000 breeding ewes. 3,000 is the average flock size for Farmanco clients in WA, based on the Farmanco Profit Series benchmarking. The cost of initial implementation was raised as a potential concern that producers may have when initially exploring this project.

There are three entry level points determined with Option 1 being the implementation of the eID tags for all sheep in the flock as well as a stick reader, an electronic read panel to be fitted to an existing handler or a new handler that is eID ready and auto draft capable and software that is specifically designed for the data collection of sheep traits. Option 2 was the same equipment as Option 1, however the aim with Option 2 is to gradually introduce the eID tags to the flock. Option 3 aims to be more conservative in terms of the initial cost outlay with only the ewe lambs being tagged with eID tags, a stick reader and software as an entry level assumption. These options are further detailed below:

- Option 1: Implementing 100% of the flock with eID technology, including an autodrafter/handler, immediately inclusive of all ewes, rams and lambs. The following is what will be purchased or used to achieve this:

    - Tags in all sheep
    - Stick reader
    - Autodrafter
    - Barcode Scanner
    - Barcode Printer
    - Load bars

    The initial outlay cost for a 3000 head flock for Option 1 will be $34,618, including eID tags for 5,460 sheep (3,000 breeding ewes, 2,400 lambs and 60 rams)

- Option 2: Incrementally introducing eID technology to the flock, starting with the maidens, lambs and rams, using the eID tags in the Maiden ewe mobs and increasing this each year until all mobs of ewes are using eID tags (approximately three years). The following is what will be purchased or used to achieve this:

    - Tags in maidens & all lambs born
    - Stick reader
    - Autodrafter
    - Barcode scanner
    - Barcode printer
    - Load bars

    The initial outlay cost for a 3000 head flock for Option 2 will be $33,377, including eID tags for 2,400 sheep (2,400 lambs only)

- Option 3: Incrementally introducing eID technology to the flock, starting with the maidens, lambs and rams, not including the auto drafter/handler. The flock improvements that can be recorded and achieved using the autodrafter/handler will be recorded through the use of man power.

    - Tags in maidens & all lambs born
    - Stick reader
    - Barcode scanner
    - Barcode printer
    - Load bars

    The initial outlay cost for a 3000 head flock for Option 3 will be $13,377, including tags for 2,400 sheep (2,400 lambs only)

The following assumptions were also made in completing the analysis of the NPV:

- The systems purchased will last 10 years before a replacement or upgrade is required, with the wand reader to be replaced at Year 5
- Ewes are carried until they are 6 years of age before they are then sold, this equates to approximately 4 lambs per ewe lifetime.
- Rams are set at a ratio of 1:35 (maidens) or 1:50 (mature)
- Currently 80% weaning
- Currently 90% of ewe flock is single bearing, 10% of flock is twin bearing
- Mobs are divided into maximum of 500 for single bearing mature ewes, 250 for multiple bearing mature ewes, 400 for maiden ewes
- Wethers are sold as lambs
- A standard culling percentage of approximately 25% on the ewe lambs
- EID tags to be applied at lamb marking instead of plastic non eID tags

3.1.3 Measurable traits

There are many traits that are able to be measured and recorded using eID technology. For the simplicity of this modelling exercise three objectives were be selected to be analysed.

- Weight
- Twinning
- Wool cut increase

3.1.3.1 Increased weight gain

Increased weight gain would be achieved through selection of lambs for fastest growth as well as culling lambs with low weight or slow growth rate. These weights would be measured at four points in time; month of birth, lamb marking, weaning and summer drenching.

An additional benefit to recording and selecting for weight gain is that there is the potential to mate fast growing ewe lambs that achieve a set weight prior to the rams joining the ewes, increasing the number of lambs they have over their useful lifetime. As well as this, these larger ewe lambs grow additional wool in their first year.

3.1.3.2 Increased weaning percentage

Increased lambing percentage would be achieved by selecting for multiple bearing ewes (recorded at preg scanning) and selecting ewes that have carried a lamb through to weaning. Ewes that do not carry a lamb through to weaning would be culled, as well as all ewes that preg scan as empty.

The assumption made when measuring the gain from undertaking this selection is that an average increase of 1% per annum in weaning is achieved, taking the weaning percentage from 80% to 90% in 10 years that the project is modelling.

3.1.3.3 Increased wool cut

For the purpose of this modelling, there is an aim to increase average wool cut by 100g per head per generation. The following assumptions have been made for the purpose of the modelling:

- Greasy wool is priced at $10.25/kg (GFW) ($13.05 clip average at 67% yield)
- Recorded at shearing
- Discount rate at 6%
- 2% per annum inflation for costs & benefits
- Stick reader to be replaced in year 5

3.1.4 Costs Associated with implementing eID

The following table (Table 2) contains the list of equipment for the implementation of the eID technology in a commercial sheep flock, as well as the cost of the initial purchase.

Table 2. Equipment Costs

	Brand	Cost
eID enabled tags	Allflex	$1.88 ea
Stick reader	Gallagher HR4 v2 Hand Held EID Tag Reader and Data Collector – G03302	$2,000
Autodrafter with RFID reader	Gallagher Sheep Auto Drafter RFID – G05714	$20,000
Barcode Scanner	Gallagher QuickScan Barcode Scanner – SG3910	$815
Barcode printer	Gallagher Barcode Printer RW220-SG3900	$2,050

Load Bars	Gallagher 2000kg load bars 1000mm with Leads	$2000
Koolcollect & KoolPerform		$2,000 initial startup, $330 ongoing annually

** Please note, the inclusion of these specific brands is not an endorsement of these products by Farmanco Management Consultants or MLA, they have been included to enable a cost structure to be determined.

4 Results

4.1 Producer Survey Results

Ten producers were surveyed through two different methods: an online survey and a focus group. The aim of the focus group was to discuss the use of eID technology with producers who are currently using the technology within the sheep enterprise of their farming business.

The focus group was also used as a forum to brainstorm the qualitative factors of the use of eID, as well as the software and hardware that is used in conjunction with this technology, from the perspective of producers using the technology. There was also discussion was regarding how to measure quantification for commercial sheep producers in Western Australia.

The timeframe that the participants have used eID technology ranged from one year through to over ten years. There was also a mix of use within commercial flocks, as well as stud breeders who used the technology solely in their stud flocks but not commercial. There were 5 different breeds covered amongst the participants, including Merino, Dohne and Wiltipoll. There was a variety of technology used to read the tags, record and store data and analyse the data collected. Flock sizes ranged from 500 to 5,000.

Please see Appendix 2 for more information on the survey, focus group and the participants.

4.1.1 Advantages to implementing eID

Below are listed the qualitative advantages of using eID technology from the perspective of producers. This information was gathered from the survey participants:

Qualitative Advantages of Using eID Technology	
• Assist with production decisions • Ewe net $ returns (wool & lamb) • Identify bottom performers earlier • Genetic gains • Analyse dam/sire performance • Quickly & accurately weigh/record fleece weight • Cull/select by fleece weight • Ability to analyse data • Improved knowledge of the flock • Carcass improvement	• Manage the weight gain/loss • Ability to shift the bell curve on anything • Combine or separate a mob into larger or smaller sizes • Traceability/safety/biosecurity • Lifetime records • Objectively cull in hard times • Processor feedback can be analysed to improve traits • Manage variation in the flock

4.1.2 Concerns regarding the implementation of eID technology

Below are the concerns or perceived disadvantages that were expressed by the producers who participated in the grower survey and focus group.

- Additional labour requirements (contract/casual) for fleece weighing and scanning
- Cost of tags when compared to tags without the eID technology
- Cost of initial set up

Potential concerns regarding Option 1 is that the initial outlay is high, however the advantage to implementing all of the technology is the lower ongoing costs due to the lower amount of wages required to achieve the intended outcomes. The advantages of implementing Option 1 over Option 2 and Option 3 is that these outcomes are easily tracked, making it easier for producers to achieve the intended outcomes.

An advantage to implementing Option 2 is that it is a lower up front cost which slowly brings all of the technology into the sheep enterprise. This allows producers to implement the technology while spreading the cost over several years. However, for the first three years while the technology is being purchased and implanted the cost of wages will potentially be higher to achieve the desired outcomes. Accuracy in recording could also be less than using the technology from the start.

Option 3 is the lowest entry price point. It also has the least amount of equipment to learn to use. However, although the initial outlay is low, the disadvantage could be that ongoing costs could be high to achieve the same outcome.

4.2 Benefit Cost Analysis Results

4.2.1 Option One

The initial outlay for Option 1 is outlined in Table 3. These figures include:

- Tags in all sheep (5,460 total)
- Stick reader
- Autodrafter
- Barcode Scanner
- Barcode Printer
- Load bars

Table 3. Option 1- Initial Outlay

Option one – Initial Outlay & Analysis			
Flock Size (ewes)	**2000**	**3000**	**4000**
Number of tags purchased	3,640	5,460	7,280
Initial outlay	$32,700	$34,618	$36,535
Ten year return (profit)	$94,614	$160,938	$138,790
Payback period	6	5	5
Benefit: Cost Ratio	1.63:1	1.80:1	1.63:1

Profit from the flock improvements starts at $1,866 in the first year through to $24,352 in the tenth year. This also includes a replacement stick reader purchased in the fifth year. As shown in Table 3, the payback period for the initial investment for a 2,000 head ewe flock will take six years to repay and the BCR over the ten year period is 1.64:1, indicating that for every dollar invested a dollar and sixty four cents will be returned. In the first year there is a small additional profit of $2,702, however in the tenth year there is a profit of $20,462 per year being earnt.

Table 3 also shows that the payback period for the 3,000 head ewe flock will take five years and the BCR over the ten year period is 1.89:1, indicating that for every dollar invested, one dollar and eighty nine cents will be returned close to doubling the amount invested. Similar to the 2,000 head ewe flock option, the 3,000 head flock also achieves a small profit of $3,615 for the first year, however in the tenth year has earnt a profit of $37,993 per year.

The payback period for the 4,000 head ewe flock will take five years and the BCR over the ten year period is 1.64:1, indicating that for every dollar invested there will be a return of a dollar and sixty cents for each dollar invested. As with the 2,000 and 3,000 head flock, the 4,000 head flock also earns a small profit of $1,678 in the first year but then by the tenth year is earning a profit of $34,519 per year.

Based on these figures, the optimum flock size to invest in this level of technology is a 3,000 head ewe flock.

4.2.2 Option Two

Option 2 is the incremental introduction of eID technology to the flock, starting with the maidens, lambs and rams. The initial outlay for Option 2 is outlined in Table 4. These figures include:

- Tags in maidens & all lambs born
- Stick reader
- Autodrafter
- Barcode scanner
- Barcode printer
- Load bars

Table 4. Option 2 - Initial Outlay

Option two – Initial Outlay			
Flock Size (ewes)	**2000**	**3000**	**4000**
Number of tags purchased	1,600	2,400	3,200
Initial outlay	$31,873	$33,377	$34,881
Ten year return (profit)	$104,168	$179,872	$157,764
Payback period	5	4	4
Benefit: Cost Ratio	1.85:1	2:1	1.8:1

Profit from the flock improvements initially starts at $2,702 in the first year through to a profit of $25,262 in the tenth year. This also includes a replacement stick reader purchased in the fifth year. As shown in Table 4, the payback period for the initial investment for a 2,000 head ewe flock will take

five years to repay and the BCR over the ten year period is 1.85:1, indicating that for every dollar invested, a dollar and eighty five cents will be returned. In the first year there is a small additional profit of $2,702, however in the tenth year there is a profit of $25,262 per year being earnt.

Table 4 also shows that the payback period for the 3,000 head ewe flock will take four years and the BCR over the ten year period is 2:1, indicating that that investment would be double in a ten year period. Similar to the 2,000 head ewe flock option, the 3,000 head flock also achieves a small profit of $6,387 for the first year, however in the tenth year has earnt a profit of $37,993 per year.

The payback period for the 4,000 head ewe flock will take four years and the BCR over the ten year period is 1.8:1, close to double the return. As with the 2,000 and 3,000 head flock, the 4,000 head flock also earns a small profit of $5,307 in the first year but then by the tenth year is earning a profit of $35,139 per year.

Based on these figures, the optimum flock size to invest in this level of technology is a 3,000 head ewe flock.

4.2.3 Option Three

Option 3 is the incremental introduction of eID technology to the flock, starting with the maidens, lambs and rams, not including the auto drafter/handler. The initial outlay for Option 3 is outlined in Table 5. These figures include:

- Tags in maidens & all lambs born
- Stick reader
- Barcode scanner
- Barcode printer
- Load bars

Table 5. Option 3 - Initial Outlay & Analysis

Option Three – Initial Outlay & Analysis			
Flock Size (ewes)	**2000**	**3000**	**4000**
Number of tags purchased	1,640	2,460	3,280
Initial outlay	$11,873	$13,377	$14,881
Ten year return (profit)	$74,301	$120,470	$65,698
Payback period	6	5	8
Benefit: Cost Ratio	1.43:1	1.5:1	1.24:1

Profit from the flock improvements initially starts at a loss of $1,618 due to the higher costs of weighing and processing sheep due to the requirement of labour rather than the use of the autodrafter and weighing technology. However, in the tenth year there is a profit of $20,462 per year. This also includes a replacement stick reader purchased in the fifth year. As shown in Table 5, the payback period for the initial investment for a 2,000 head ewe flock will take six years to repay and the BCR over the ten year period is 1.5:1, indicating that for every dollar invested, a dollar and fifty cents will be returned.

Similar to the 2,000 head ewe flock option, the 3,000 head flock also operates at a loss of $1,612 for the first year, however by the tenth year has earnt a profit of $30,793 per year. Table 5 also shows that the payback period for the 3,000 head ewe flock will take five years and the BCR over the ten year period is 1.5:1.

As with the 2,000 and 3,000 head flock, the 4,000 head flock also operates at a loss of $6,371 in the first year but then by the tenth year is earning a profit of $25,539 per year. The payback period for the 4,000 head ewe flock will take eight years and the BCR over the ten year period is 1.24:1.

Based on these figures, the optimum flock size to invest in this level of technology is a 3,000 head ewe flock.

5 Discussion

5.1 Practical Implications for Industry

Practical implications from this research for the industry includes an increased number of producers using eID technology to improve their flock. That is one of the main aims of this research being completed as it provides an economic analysis based on what technology is required to achieve the goals set out, which would be reasonable goals for a sheep producer in the South West of Western Australia to undertake.

The benefits of using eID technology would then flow onto the consumers in the way that there would be improved quality of meat and wool through the goals of the producers on farm. Use of eID also allows for better traceability within the system (both locally and export, live and chilled). This same technology can also be used to record carcass traits during processing, which then enables feedback to be given to producers to track how their changes are having an impact on their end product. Producers that are producing superior quality meat from their on farm changes then have the opportunity to negotiate better prices for their produce. Processors are also then able to create boutique lines of products which are then better able to be marketed to the public as there is a trend currently for consumers to know where their food comes from (paddock to plate).

5.2 Unanswered questions/Additional research

The uses of eID technology are not only restricted to the traits that are used for improvement within this report for the economic analysis. Some of the potential benefits that were not included in this analysis as to get the same outcome as with the technology investment differences would have taken more hours of labour than is reasonable to consider a commercial sheep producer to allocate the livestock enterprise.

6 Conclusions/recommendations

6.1 Recommendations for the grower

Based on the research completed for this paper, I would recommend that prior to purchasing eID technology and implementing it in their commercial sheep flock, growers first determine what they are aiming (breeding objective) to achieve by using it in their business as there is a large amount with a wide variety of data that can be captured. By first determining what they are seeking to achieve producers can get the full benefits of this technology from the start, rather than capturing information that does not apply to their breeding objectives and has the potential to overwhelm them in the volume of data that can be produced.

I would also recommend that growers implement Option 2 if they are considering entering into eID technology use in their flocks as they will benefit from the advances in technology that will make their job easier (autodraft and weighing in particular) as well as the genetic gain that their flock will achieve, while spreading the entry cost over a number of years. It is also an ideal point to add other technologies such as hardware/software that links ewes to lambs to record which ewes are able to carry a lamb through from conception through to weaning to allow for culling based on this to improve weaning percentages. It also has the greatest benefit to cost ratio when compared to Option 1 and Option 3 across all flock sizes used in this report.

6.2 Practical application of the projects insights and implications to the red meat industry

Practical applications from this research for the industry includes an increased use of eID within the industry as primary producers embrace the change in order to advance their sheep enterprises genetically. This then has the flow on effect that enables processors and exporters to then have greater traceability within their markets and production which can then lead to consumers having greater trust in the product because of the traceability.

Processors are able to use the eID technology in the individual carcasses to track the origin of the carcasses that have the desired traits for the end consumer, they will then be able to deal directly with the producers who have the better performing livestock, making their businesses more profitable.

There is also the ability for the technology to be applied on a consumer level by modifying how the data is presented, and presenting it in a form that will enable consumers to determine where the meat originated from and what qualities it has, as well as what the best uses of that particular cut would be. Consumers will then be able to choose the right product for the purpose that they are intending to use it for which then increases the likelihood that they will repeat that purchase, as well as consumers being able to relate the product back to an individual farming family, making the farmer more relatable to the consumer.

6.3 Future R&D

Future R&D from the producer level would include what additional technology can be used in conjunction with the eID eartag and the additional technology already used in this research, building

logically on the Options that were presented in this report. This could include Option 1 and Option 2 having additional technology and software applied to track which ewes are carrying lambs through to weaning rather than only through to birth or marking. It can also include tracking the genetics of the lambs produced to enable the producer to track which ewes are producing genetically superior

Future R&D from a consumer level would include research into the effect that the application of the technology in super markets would have on the amount of sheep meat purchased by the end consumer. The research would cover aspects including if having the producer information available and having the “best uses” suggestions would encourage them to purchase the product.

6.4 Development and adoption activities which would ensure the red meat industry achieves full value from the project’s findings

Activities from the report that would ensure the red meat industry achieves full value include incorporating the research into the Lifetime Ewe program by having a section on the benefits of eID technology for the growers and how best to incorporate it into their existing system. Aside from the option to include it in the Lifetime ewe program, presenting the research in stand-alone workshops and making the materials produced from this report available to the public would also be beneficial.

7 Key messages

7.1 Practices that Producers and Processors should be adopting from this report

There are several practices that should be adopted from this report by processors and producers. Processors have a key role to play in the adoption of eID technology in commercial sheep flocks in South West Western Australia,

Processors need to encourage the use of eID technology through tracking desirable carcass traits and offering the incentive of better prices for producers that have proven to produce a superior carcass. This in turn produces a better product for the end consumer and this then correlates with an increase in sales of the product. Processors can also encourage this increase in sales through investing in research to make “paddock to plate” experiences for the end consumer through being able to identify where the meat produced originated from so that consumers can be aware of the distance travelled by the food to reach them as well as being able to put a face to the people producing the products that they consume.

The eID technology should also be adopted as it enables processors to have a range of products that are produced from specified farms to fill a niche market. Accordingly, these products would be priced higher than the regular products that have been processed and the producers accepted into this group would be rewarded accordingly.

7.2 Economic, social and sustainability benefits to producers and processors from adopted changes

7.2.1 Economic benefits

The main economic benefit from investing in eID technology for a commercial sheep flock would be that it enables growers to improve the genetics of their flock by having them produce more, in a shorter time frame and of a better quality. This then leads to the flock being more profitable for the same or less inputs, including labour costs. It also aids in ease of handling which can reduce the stress for both the animals and the people working with them.

The main economic benefit for processors to invest in eID technology or encourage producers to invest in the technology is the ability to measure carcasses for superior qualities and track which producers they came from, therefore then being able to market that meat as a superior product, as well as being able to identify producers to the general public as good public relations.

7.2.2 Social benefits

The main social benefit for producers and processors implementing eID technology is improved traceability within the system, both nationally and internationally. Currently traceability on sheep is limited to “mob traceability”, compared to cattle that is traced on an individual basis. It would bring the sheep standards inline with the cattle standards which will assist the industry in gaining a greater social license.

If producers developed and implemented the “paddock to plate” information system where consumers could see the details of where their produce is coming from, it would assist the producers as the general public would be able to put a face to the people producing the product. This would also assist the industry socially as it is humanising the people producing the product and provide a connection to where it comes from.

8 Bibliography

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9 Appendix

9.1 Appendix 1 - eID Focus Group and Online Survey Summary

Summary of the information gathered through the survey and the online survey for producers.

eID Focus Group and Online Survey Summa

9.2 Appendix 2 - Technical note

Technical Note.docx