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Producer Training Needs Analysis

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Executive summary

Introduction

MLA engaged RMCG to conduct social research on the skills and training requirements of meat producers to inform suitable program content and provide insights into producers' delivery needs. The findings from this research will provide intelligence into the next generation of national extension programs with the intent to improve business skills, industry productivity and sustainability.

The overall approach has involved combining a large-scale telephone interview survey of 500 producers with follow-up discussions on the main findings of the survey with a smaller number of industry stakeholders (government and private) and producers, through telephone and Skype interviews. This study has also been informed by a literature review of relevant MLA and meat industry programs and an initial series of interviews with industry stakeholders to help frame the primary data collection.

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Main survey findings

The main findings from the survey were:

- Producers consider that their meat production knowledge and skills are reasonably good.
- The vast majority of producers have an interest in improving their knowledge and skills in more than one area.
- The majority of meat producers have not participated in training or extension activities in the areas surveyed over the past five years.
- Producers have a strong preference for informal learning and accessing information from trusted sources.

- The majority of producers do not see a value proposition in the training and extension activities being offered to them.
- There was only a moderate level of variation between producer segments i.e. between MLA regions, states, main line of production and scale of production.

Implications of the study findings to MLA

The survey and analysis of results has clearly established a number of facts about training needs of meat producers, their preferences, self assessed knowledge and skills, levels of participation, and the barriers to participating in training and extension activities.

The overall finding is that current methods of provision of training for meat producers is not delivering to a majority of producers or only delivering to a small number of interested producers. The low participation levels strongly reinforces a long held idea that it is habitually the "same old faces" attending a lot of the training and extension activities being offered.

A large majority of meat producers are unlikely to participate in training because they are small, unfocused and time poor. The relatively small scale of meat production amongst most respondents, especially cattle producers, indicates that a large proportion of the sample comprised non-commercial producers who are part time farmers with other sources of income and work (and priorities).

The delivery of training therefore needs to be tailored to market segments (larger / small / younger producers, for example).

The majority of meat producers, especially cattle only, are unprofitable (ABARES 2014, McLean et al. 2013) and their awareness and understanding of their own skill levels and actual training needs is low. There is especially low awareness of business weaknesses and opportunities.

The majority of producers are interested in learning but will only invest a small amount of time and money into learning. A high level of trust is required for producers to commit to training and producers are not prepared to make a high-risk investment (time and money) in training.

Producers are not participating because they are not seeing the value in what's on offer. An agreed and clear pathway between practices and improved meat production and profitability is not always evident. There is not always a connection between information, training and extension, and the direct needs of the supply chain.

The current model of supply driven information and extension is to some extent crowding out delivery of high quality training making it difficult for the private sector to operate commercially in livestock.

Recommendations

1. Segment the market and provide a higher quality / higher value service to the larger and more serious meat producers.
2. Contextualise both information and training (and R&D) into direct value chain opportunities for producers.
3. Actively put producers into a supply chain network so they are directly benefiting from practice change.
4. Deliver smaller amounts of high quality / high value training based on demand from producers (should no longer to be supply driven) and charge commercial rates for high quality training.

5. Training and extension activities need to be scientific and backed up by industry benchmarking, delivered by a trusted person (experienced with strong industry knowledge) and linked directly with the value chain.
6. Livestock production messages need to focus on the practical aspects of implementation rather than be too technical.
7. Learning needs to begin with increasing producers' understanding of current performance and opportunities for their business, followed by training which capitalises on these opportunities.
8. More clearly articulate the skills and practices needed that will lead to improved profitability.
9. Training should focus on implementation or the 'how to' rather than disseminating more and more low value information.
10. Target larger and younger (under 40 year olds) producers who are more strongly invested in meat production now and into the future.
11. Support the development of high quality training products (rather than subsidising delivery of activities for producers).
12. Invest in improving the skills of providers.
13. Deliver easily accessible products utilising technologies (e.g. apps, audio pod casts, You Tube, news and twitter feeds…) that embody a low time cost to engage more producers (accessible to all producers).

Contents

1 Introduction

1.1 Project background and objectives

MLA engaged RMCG to conduct social research on the skills and training requirements of meat producers to inform suitable program content and provide insights into producers' delivery needs. The findings from this research will provide intelligence into the next generation of national extension programs with the intent to improve business skills, industry productivity and sustainability.

The study aims to determine the:

- Perceived training and skills requirements of producers, their preferred methods of engagement and ways to improve participation in supply chain extension programs
- Types of activities producers are prepared to pay for and barriers to engaging with skill development
- Extent to which current programs are meeting producers' training needs.

The overall approach has involved combining the comprehensiveness and representativeness of a large-scale telephone interview survey of up to 500 producers with follow-up discussions on the main findings of the survey with a smaller number of industry stakeholders (government and private livestock advisors) and producers, through telephone and Skype interviews. This study has been informed by a literature review of relevant MLA and meat industry programs, and an initial series of interviews with industry stakeholders to help frame the primary data collection and our understanding of market segments (based on farming system, business size and returns) within the beef, sheep and goat industries.

1.2 Methodology

The study comprised a three-step approach as outlined below:

- Consultation with industry stakeholders and review of MLA's program evaluation documentation
- Large sample meat producer survey
- Follow up interviews with stakeholders (regional and statewide MLA program managers, consultant advisors, producers).

1.2.1 Pre-survey consultation and review of MLA program evaluations

The survey content was developed around important knowledge and skill areas identified following a review of evaluation reports on MLA's extension programs and interviews with 12 industry stakeholders. Industry stakeholders were asked for their opinion on the most important training needs and practices and technologies that will make the most difference to producers (with regard to meat production and profitability) and for their feedback on current producer engagement programs.

The most important knowledge and skills needs were identified as:

- Animal nutrition and feeding; managing the feed base / seasonality
- Pastures and grazing land management (grass utilisation, ground cover, stocking rate)
- Improving reproductive performance (managing survival and growth)

- Herd and flock improvement, breeding values, genetics
- Labour saving technologies, farm design and layouts
- Individual animal management (reporting and other technologies)
- Meeting market specifications (MSA grading, supply chain feedback) and marketing, market access
- Decision making and understanding drivers of business performance, business finance
- Farm business structure and farm succession

Those interviewed (acknowledged in Appendix 1) identified substantial training gaps and the need for significant knowledge and skills development for the majority of meat producers.

1.2.2 Survey overview

The purpose of the survey was to establish a representative view of the skills and training requirements of meat producers across Australia, based on the current producer listing in MLA's member database. The questions comprised a combination of quantitative and qualitative questions. The number and type of survey questions needed to fit within a maximum 15-minute interview time.

The questionnaire was divided into six sections as follows:

- A. About the producer
- B. Current skills
- C. Skills needs
- D. Producers' use of data and other information
- E. Adoption of practices
- F. Demographics

The questionnaire is provided in Appendix 3.

1.2.3 Target population and sample design

MLA provided a list of 49,614 records of levy-paying livestock producers (cattle, sheep and goats) across Australia. The list included names and contact details of producers, their location and their livestock type (but no information about the size of their production).

In an attempt to improve the population sample of producers and target larger and more commercially focused producers who have significant potential to benefit from MLA's training services, geographical areas outside the main meat producing regions were excluded from the survey population. Only those producers who had a property address within a postcode location where at least 20 large sized producers resided (according to ABS Agricultural statistics on herd size) were included.

Large producers were defined as follows:

- At least 500 beef cattle and/or
- At least 5,000 sheep

A total of 731 postcodes across Australia satisfied the above criteria, which reduced the usable producer contacts list by around 40 per cent to around 29,000 records. This became the sampling frame for the

survey and was proportionally stratified by State, Region (South eastern Australia, South western Australia and Northern Australia) and the following lines of production:

- Cattle only
- Sheep only
- Cattle and sheep
- Goats only and/or cattle and/or sheep

An analysis of the residual producer listing yielded the following distribution (including splitting WA into NT and SW) of producer segments (Table 1-1). The achieved sample characteristics are presented in the following section 2.1.

Table 1-1: Distribution of producer segments – refined MLA database

State (region)	Total	Cattle only	Sheep only	Cattle & sheep	Goats only &/or cattle &/or sheep
NSW (SE)	11,888	4,873	1,198	5142	675
SA (SE)	1,866	407	364	1035	60
TAS (SE)	822	450	66	291	15
VIC (SE)	3,746	1,523	583	1545	95
QLD (NT)	**7,363**	**6,267**	**48**	**652**	**396**
WA (NT)	**234**	**67**	**64**	**55**	**48**
NT (NT)	**62**	**60**	**0**	**1**	**1**
WA (SW)	**3,047**	985	1,127	866	69
TOTAL	**29,028**	**14,632**	**3,450**	**9,587**	**1,359**

Note: MLA regions were coded in the member database as: SE – South Eastern Australia; NT – Northern Australia; SW – South Western Australia

1.2.4 Follow up interviews with stakeholders

A series of interviews were conducted with stakeholders in each state including regional and state wide MLA program managers (government and private), consultant advisors and producers. Interviewees were provided with a summary report outlining the results and main findings of the survey for review and then interviewed either by telephone or Skype.

The significance and meaning of the survey results were discussed with 12 meat industry stakeholders to help RMCG develop their thinking and interpretation of the main findings of the study. These discussions helped with framing of the implications of the study and what it communicates to MLA about its future extension strategy.

2 Overall survey findings

2.1 Achieved sample characteristics

The producer survey was successful in reaching a good sample of meat producers across Australia (founded on the representativeness of MLA's member data base). The target sample design (as outlined in the previous section) was achieved (Table 2-1 and 2-2). A total of 2,000 records were used to complete 501 interviews (i.e. 6% of all records). The survey took an average of 15 minutes per producer to complete.

Table 2-1: The achieved sample of producers

State/region	Total sample (n=501)	Cattle only (n=253)	Sheep only (n=59)	Cattle and sheep (n=165)	Goats &/or cattle &/or sheep (n=24)
NSW (SE)	**206**	85	21	88	12
Vic (SE)	**65**	26	10	27	2
SA (SE)	**32**	7	6	18	1
Tas (SE)	**14**	8	1	5	0
WA (SW)	**52**	17	19	15	1
Qld (NT)	**127**	108	1	11	7
WA (NT)	**5**	2	1	1	1
SE region	**317**	126	38	138	15
SW region	**52**	17	19	15	1
NT region	**132**	110	2	12	8

The proportional distribution is as follows:

Table 2-2: Proportional distribution of producer segments

State/region	Total sample (n=100%)	Cattle only (n=50%)	Sheep only (n=12%)	Cattle and sheep (n=33%)	Goats &/or cattle &/or sheep (n=5%)
NSW (SE)	**41%**	17%	4%	18%	2%
Vic (SE)	**13%**	5%	2%	5%	0%
SA (SE)	**6%**	1%	1%	4%	0%
Tas (SE)	**3%**	2%	0%	1%	0%
WA (SW)	**10%**	3%	4%	3%	0%
Qld (NT)	**25%**	22%	0%	2%	1%
WA (NT)	**1%**	0%	0%	0%	0%
SE region	**63%**	25%	8%	28%	3%
SW region	**10%**	3%	4%	3%	0%
NT region	**26%**	22%	0%	2%	2%

The focus of the study was to survey a proportionally stratified sample of 500 MLA members across Australia.

Some refining of the data base listing was made in an effort to target larger and more commercially focused producers in the knowledge that there is a substantial proportion of very small producers listed on MLA's data base. It is likely that refining the database listing (removing approximately 40 per cent of contacts) and targeting producers residing in the main meat producing regions across Australia assisted here because a reasonable sample size of 95 larger producers was achieved using this process (or almost 20% of the total sample), however, relatively small producers dominated the sample.

In many of the population segments, a reasonably good sample size was achieved. However, some care needs to be taken when drilling down to smaller sample segment levels when making inferences about the whole population because this brings larger sampling errors and impacts on confidence intervals.

The regional distribution of each producer segment by MLA region is shown in Figure 2-1.

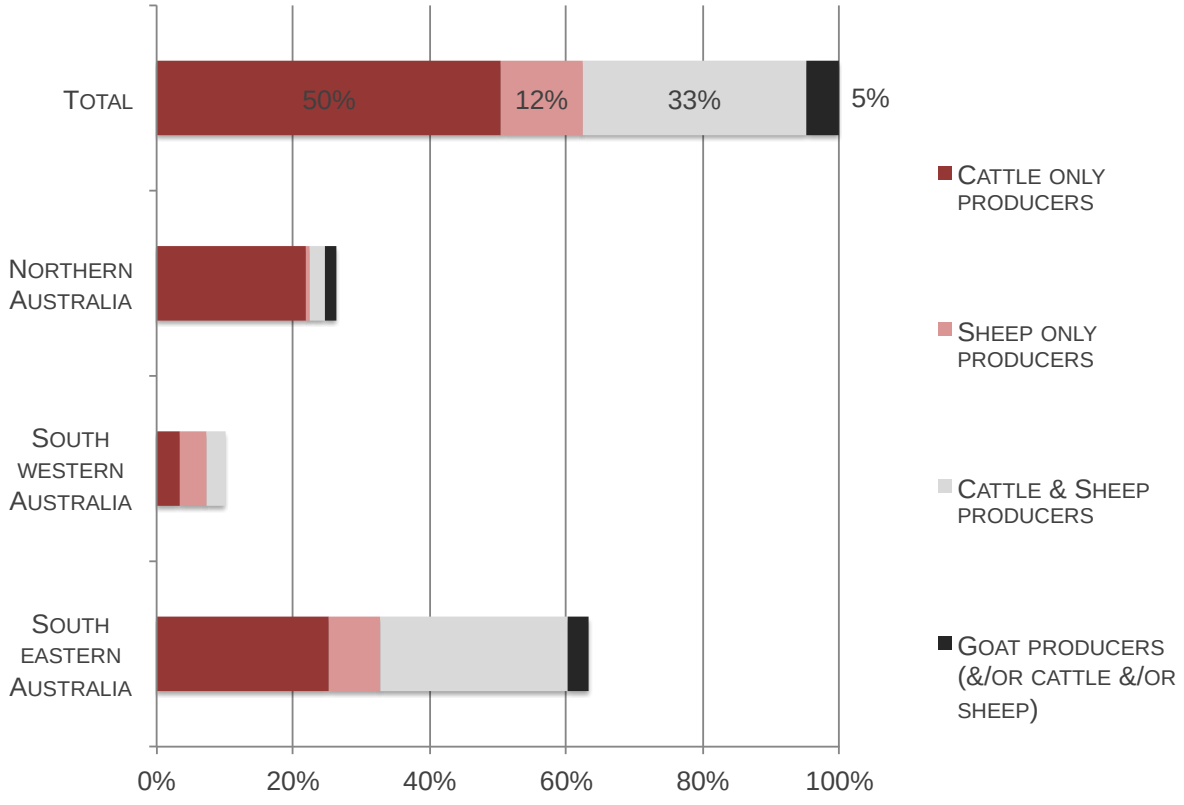

Figure 2-1: Achieved sample – by MLA region and meat production enterprise

The overall regional distribution of survey respondents is shown in Figure 2-2.

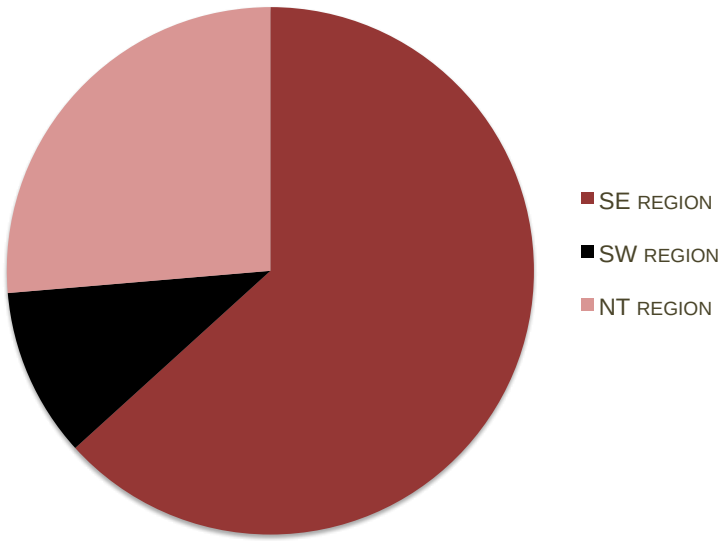

Figure 2-2: Achieved sample – by MLA region

Producers were asked details about their business i.e. their main livestock enterprise, annual sales of livestock (cattle, lambs or goats), the contribution of livestock to farm income and their age.

Summary of sample characteristics:

- **Lines of production**: overall, 86% of survey participants were beef producers, 48% were sheep meat producers and 5% were goat producers (noting that one third were both cattle and sheep).
- **Main line of livestock production**: overall 69% of respondents reported that their main line of livestock production was beef, 29% produced mainly sheep and 2% produced mainly goats.
- **Scale of production**: 81% of the respondents operate on a relatively small scale; i.e. in an average year only 19% of producers (or 95 out of 501) sell more than 500 beef cattle and/or more than 2,000 lambs.

Almost two thirds of producers (65%) reported that they generate more than 75% of their farm income from livestock production. The relatively small scale of meat production amongst most respondents, especially cattle producers, indicates that a large proportion of the sample comprised non-commercial producers with substantial off farm income. Noting that south west Western Australian producers were less likely to generate the majority of their farm income from livestock (as expected in a predominantly mixed farming / grains production State).

2.2 Main findings

An analysis including charting of the survey results is provided in Appendix 4 and a full listing of the results by producer segment for each survey question is provided in Appendix 5. The main findings from this analysis are summarised below.

2.2.1 All producers

Skill levels

Producers consider that their meat production knowledge and skills are reasonably good.

This is evidenced by:

- A large majority of producers self rated their skills in all surveyed areas as satisfactory or excellent.
- Only a very small proportion of producers (between 1 and 8%) rating their skills as poor and between 20 and 40% rated their skills as excellent (i.e. 9 or 10/10).

Skill needs

The vast majority of producers have an interest in improving their knowledge and skills in more than one area.

This is evidenced by:

- Most producers (60%) identified more than three areas (out of twelve) where they recognise a training need, broadly these were:
  - growing pastures, managing grazing land, feeding livestock, animal health (most important)
  - running a business and marketing produce (secondary importance but still important)
- For each subject area there was between one third and up to 60% of producers wanting to improve their skills.
- There was however a considerable group of producers that do not want to improve their knowledge and skills in each of the identified areas (and 10% of producers indicated they did not want to improve their skills in any areas).

Participation levels

The majority of meat producers (60%) have not participated in training or extension activities in the areas surveyed over the past five years.

This is evidenced by:

- Low participation rates of between 7 and 20% for each of the 12 knowledge and skill areas.
- Low participation even amongst producers who indicated that they were open to training and improving their skills and knowledge e.g. three quarters of producers looking for skills in feeding and animal nutrition had not taken up any opportunities; likewise for around 90% of producers wanting to improve their skills in many aspects of business management (knowing costs of production, understanding profitability, managing cash flow using financial information to make decisions).
- Low participation rates across most of the main sample segments (northern, south eastern and south western Australia, most States, beef only, sheep and beef (exceptions were Tasmania, sheep only, goat producers and larger producers had higher participation rates in some subject areas).
- Only 20% of all producers surveyed indicated (or recognised) that they had participated in any training or extension programs funded by MLA in the last five years.

Preferred learning methods

Producers have a strong preference for informal learning and accessing information from trusted sources.

This was evidenced by:

- Producers most commonly talk to family, friends and neighbours to gain information followed by attending field days and getting advice from a professional.
- Producers are least likely to enrol in an online course or attend a formal training session.

Value proposition

The survey findings suggest significant opportunities to provide training to those producers who want to improve their skills but have not done any training in the last five years. However, the majority of producers do not see a value proposition in the training and extension activities being offered to them.

This is evidenced by:

- Producers indicating that the main reasons for not attending training were because they couldn't find time or they believed the investment in time would be too great for the benefit they would receive.
- Their low preparedness to pay for a typical one-day training session i.e. only 10% are willing to pay more than $200; an amount substantially less than the cost of its provision.
- Low participation levels across the board.

2.2.2 Producer segments

There was only a moderate level of variation between producer segments i.e. between MLA regions, states, main line of production and scale of production.

Some of the differences between producer segments and the overall cohort include:

Large-scale producers

Large-scale producers showed several differences to the overall survey cohort. They were:

- More keen to try new practices
- More likely to self assess their level of knowledge and skills as excellent (in all areas other than natural resource management and animal husbandry)
- More likely to see opportunity to improve skills in all mentioned areas
- More likely to have participated in training in the majority of areas
- More willing to pay for a one-day training session to improve farm production
- More willing to pay for one-on-one follow-up advice
- Likely to use a greater range of sources of information
- More likely to attend and / or recognise MLA sponsored activities
- More likely to use each of the mentioned preferred practices (except for measurement of performance of individual animals)

Noteworthy, however, is that their participation in training was no higher than average, again representing an unmet demand for further knowledge and skills.

State or regional differences

There were no substantive differences in responses between northern (beef) producers and producers in south eastern or south western Australia. However there were some differences between the southern states:

Tasmanian producers reported that they were the least keen to try new practices however they had the highest rate of wanting to improve their skills in a wide range of areas. They also had the greatest level of participation in training in several key skills areas (especially pasture improvement and grazing

management, feeding and animal nutrition, animal health and husbandry, knowing your costs of production and managing cash flow).

At the same time Tasmanian producers were least likely to self assess their skills as excellent however they were also the least likely to assess their skills as poor. This indicates that training may have increased their knowledge and understanding and they appear more open to and would value further learning.

South Australian producers also expressed a high rate of wanting to improve their skills in all areas and had a higher than average level of participation in some of the skills areas. South Australian and Tasmanian producers were more likely to have obtained advice from a professional in the past two years and they were also most likely to have nominated obtaining advice from a professional as the most effective method for them to develop their skills and understanding. They were also the most willing to pay for follow-up one on one advice following a training session.

Victorian and Queensland producers were less likely to access advice from a professional and Victorians were the least willing to pay for training and pay for follow-up advice from a professional. Victorian producers were also least likely to have nominated obtaining advice from a professional as the most effective method for them.

Producers from south west WA had the lowest level of confidence in their level of knowledge and skills in livestock production overall, while producers from Victoria had the greatest level of confidence.

Tasmanian, Victorian and goat producers were more likely to be involved in a producer group and they were also most likely to have nominated group participation as the most effective method for them.

Meat production differences

There were some differences in producer meat production segments.

Sheep only producers had a greater interest in improving their knowledge and skills in the areas of animal health and husbandry, animal breeding and genetics, knowing and managing the individual performance of animals and knowing your costs of production, than cattle only or cattle and sheep producers.

Goat producers had a higher level of participation in training in all of the mentioned areas than other producers. Sheep only producers also had a higher level of participation than cattle only (or cattle and sheep) producers in the areas directly contributing to animal production such as pastures, grazing management, nutrition and feeding, and animal health.

Sheep only and goat producers were also more likely to have participated in MLA sponsored activities over the past five years.

Cattle only producers were the least willing to pay for training and sheep only producers were most willing to pay for follow-up advice from a livestock specialist.

Sheep only producers were substantially less likely to know and record the performance of individual animals than cattle only producers. However they were more likely to use sires based on breeding values.

Learning styles

The analysis identified two distinct groups of producers in relation to the methods they use to develop their understanding and skills:

- **Group 1: Informal learning preferred** (accounting for 54% of survey participants)
  - Are not particularly focused on formal learning, mostly rely on family, friends and neighbours to develop their skills and understanding
  - Less likely to be willing to pay for training or follow-up advice from a professional
- **Group 2: Diverse and more formal learning** (accounting for 46% of survey participants)
  - Use a range of methods to access information and develop their skills and understanding, which is likely to include a combination of obtaining advice / help from a professional, attending formal training (including one-off industry delivered information sessions, enrolling in an online course, attending a formal education program) or being involved in either a producer group or their own on-farm research.
  - More likely to be keen to try new practices and have adopted them

2.2.3 Other findings

The main farm production challenges identified by producers (in response to an initial open question) were climate and drought proofing yet the survey didn't ask producers specifically if they had an interest in improving their knowledge and skills in this area. This wasn't identified as a priority knowledge or skill area during earlier stakeholder interviews or review of MLA extension program evaluation reports.

Several stakeholders expressed a frustration that there is too much low value information being delivered in an ad hoc manner with no direct linkages with the livestock value chain (during interviews conducted post survey). This and other issues are discussed in the following section.

3 MLA extension and training approaches

3.1 Discussion of findings

Implications of the study findings to MLA

The survey and analysis of results has clearly established a number of facts about training needs of meat producers, their preferences, self assessed knowledge and skills, levels of participation, and the barriers to participating in training and extension activities.

The overall finding is that current methods of provision of training for meat producers is not delivering to a majority of producers or only delivering to a small number of interested producers. The low participation levels strongly reinforces a long held idea that it is habitually the "same old faces" attending a lot of the training and extension activities being offered.

A large majority of meat producers are unlikely to participate in training because they are small, unfocused and time poor. The relatively small scale of meat production amongst most respondents, especially cattle producers, indicates that a large proportion of the sample comprised non-commercial producers who are part time farmers with other sources of income and work (and priorities). It is also concluded that it will be challenging to engage larger and more focused producers.

The delivery of training therefore needs to be tailored to market segments (larger / small / younger producers, for example).

The majority of meat producers, especially cattle only, are unprofitable (ABARES 2014, McLean et al. 2013) and their awareness and understanding of their own skill levels and actual training needs is low. There is especially low awareness of business weaknesses and opportunities.

The majority of producers are interested in learning but will only invest a small amount of time and money into learning. A high level of trust is required for producers to commit to training and producers are not prepared to make a high-risk investment (time and money) in training unless they are sure it will be of a high value.

Producers are not participating because they are not seeing the value in what's on offer. An agreed and clear pathway between practices and improved meat production and profitability is not always evident. There is also a lack of connection between information, training and extension, and the direct needs of the supply chain.

The current model of supply driven information (too much low value / low cost delivery) and extension is crowding out delivery of high quality training making it is difficult for the private sector to operate commercially in livestock.

An earlier survey of southern meat producers' training needs conducted in 2008 had some similar findings (Rickards 2008).

This study found that producers can and increasingly do fulfil their knowledge and learning needs independently of formal training and questioned the role of training for producers operating in an increasingly complex environment. The study also found that only a small proportion of producers intended to translate a learning need to a training need and actually participate in training. Training was deemed to carry a significant cost and risk to producers.

3.2 Recommendations to guide the development of a new extension strategy

Producer segmentation

1. Segment the market and provide a higher quality / higher value service to the larger and more serious meat producers.

There are low barriers to entry to the meat industry relative to other farming industries. Small producers dominate meat production in Australia so meat production is a secondary concern. Training is a significant commitment when meat production is only one of many competing priorities (whether it be for a part time meat producer or a larger mixed broadacre farmer).

Direct linkage with supply chain industry

2. Contextualise both information and training (and R&D) into direct value chain opportunities for producers.

3. Actively put producers into a supply chain network so they are directly benefiting from practice change.

The current program deliverers need to better understand livestock networks and who the trusted influencers are and then offer them something. MLA programs should align the delivery of their programs more closely with the agents (e.g. JBS Grassfed Beef program), ram breeders, ewe scanners, cattle preg testers, vets and others already working closely with producers.

Value proposition

4. Deliver smaller amounts of high quality / high value training driven by demand from producers (should no longer be supply driven) and charge commercial rates for high quality training.

5. Training and extension activities need to be scientific, high quality and backed up by industry benchmarking, delivered by a trusted (experienced / strong industry knowledge) person and linked directly with the value chain.

6. Livestock production messages need to focus on the practical aspects of implementation rather than be too technical.

Too much of a technical focus can be disengaging for producers. Information on offer needs to be high quality and supported by industry data (benchmarked) that provides high value to producers. At the moment there is too much low value delivery. Producers want to know what they can do at home e.g. they don't want to know the technical aspects / physiology of meat cutting dark, but they do want to know how to manage their cattle to prevent dark meat and how they can get a premium.

A clearer learning pathway

7. Learning needs to begin with increasing producers' understanding of current performance and opportunities for their business, followed by training which capitalises on these opportunities.

8. More clearly articulate the skills and practices that will deliver improved profitability.

There are confused messages and conflicting opinions amongst professionals in the livestock industry (less consensus compared to grains). Some clarification on these would be beneficial for producers.

It is more difficult to measure performance in grazing systems where the trade offs are more challenging and complex when dealing with animals interacting with plants and their environment. The more complex issues like grazing management, business management and strategic planning (in a changing operating and natural environment) need more supported learning (theory and practice) that can't be achieved in a half or one day workshop.

Implementation focus rather than knowledge and information

9. Training should focus on implementation or the 'how to' rather than disseminating more and more low value information.

There is a difference between what producers 'know about' and what they 'can do' and actually implement on the farm (its not a knowledge gap so much but rather an implementation gap).

Acknowledge that a lot of knowledge and information is out there already and is readily accessible from the internet (e.g. the pastures message has been conveyed for decades through field days, internet and printed materials). Hands on programs are having more success e.g. Lifetime Ewe (including 'feeder' days that hook in producers). Trial and error / observation amongst groups of local producers can also be powerful to evaluate grazing management approaches, for example. The programs need to find new ways of conveying these messages during producers 'work time' on farm and in their own time e.g. podcasts on discussions between producers and between producers and respected livestock specialists would be a good learning tool and utilises 'ute time'.

Business management focus including farm succession

10. Target larger and younger (under 40 year olds) producers who are more strongly invested in meat production now and into the future.

Producers need to be made aware of the pathway from better business decision making to better production and profitability i.e. the business foundations in grazing systems. The technical / on farm issues are to some extent secondary. These can be tackled one by one once the business is on track.

MLA's role in extension

11. Support the development of high quality training products (rather than subsidising delivery of activities for producers).

12. Invest in improving the skills of providers.

13. Deliver easily accessible products utilising technologies (e.g. apps, audio pod casts, You Tube, news and twitter feeds…) that embody a low time cost to engage more producers (accessible to all producers).

A summary of the conclusions drawn from the main survey findings and their linkages with the project recommendations is provided in Appendix 6.

4 References

ABARES (2014). Australian beef: Financial performance of beef cattle producing farms, 2011/12 to 2012/14. Report prepared for MLA by Australian Bureau of Agricultural and Resource Economics and Sciences, ACT.

GHD (2009). Report for External Review of MBfP and MMfS Programs. Meat & Livestock Australia.

Howard, K., Beattie, L., Graham, C. (2014) Final report. Assessing the impacts of MLA's Southern Majority Market Program. Meat & Livestock Australia.

Kahn, J., Shovelton, J. (2013). Producer Demonstration Site program review. Meat & Livestock Australia.

Kahn, J., Shovelton, J., Gorter, E. and Stephens, M. (2013). Developing and implementing participatory R&D – Final report. Meat & Livestock Australia.

McLean, I. Holmes, P. and Counsell, D. (2013). The Northern beef report: 2013 Northern beef situation analysis. Report prepared for MLA by Holmes & Company and Bush AgriBusiness Pty. Ltd.

Rickards, L. (2008). Southern Meat Producers – Training needs analysis. Report prepared by RMCG for Meat & Livestock Australia.

Sargeant, K. (2014). Appendix 13 – EverGraze Impact report. Meat & Livestock Australia.

Sargeant, K. (2014) Final report. EverGraze VI. Meat & Livestock Australia.

Appendix 1: Industry stakeholders consultation list

Name	Organisation/business	State where operating	Email address
Mike Stephens	Meridian Agriculture	Vic	mike@meridianag.com.au
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Appendix 2: Brief literature and MLA program evaluation review

A2.1 Introduction

MLA has engaged RMCG to assist them to establish the training needs of red meat producers. The findings from this work will go towards informing the next generation of producer engagement activities.

The first step of this study involved understanding MLA's producer extension programs and the impact of this work.

This report provides a summary of evaluation findings on MLA's current and previous projects, how they were delivered, and some of their strengths and weaknesses.

A2.2 MLA's approach to delivering training and extension

MLA's current training and extension programs and activities are delivered using the following broad approaches:

14. Producer engagement – develops and delivers information, tools and services to assist farmer's decision making
15. Participatory research – utilises producer participatory R&D to maximise the rate and effectiveness of development and evaluation of new technologies

Producer engagement

MLA considers their engagement with producers in three tiers, each tier increasing the level of engagement required by the producer. The three-tiered approach can be described as follows:

1. Inform (communication/awareness): Keep producers informed about the activities and opportunities created by their levy investment in research and marking
2. Influence (knowledge and skills): Engage producers with MLA information, tools and learning opportunities to influence improved practices
3. Involve (practice change): Facilitate the involvement of innovative producers and delivery partners to enhance producer engagement with MLA programs and activities

Most recently MLA have structured their extension programs and activities to be delivered in this three-tiered approach. The main MLA producer engagement programs are outlined in Table A2-1.

Table A2-1: Details of the main MLA producer engagement programs

Project name	Program	Industry	Strategy	Funding providers	Deliverers	Delivery model
Making More from Sheep	Majority Market program	Sheep	Inform Influence Engage	MLA AWI	Private advisors Government agencies	Manual Delivery of activities related to each module Delivered at State level
More Beef from Pasture	Majority Market program	Southern beef	Inform Influence Engage	MLA	Private advisors Government agencies	Manual Delivery of activities related to each module Delivered at State level
Going into Goats		Farmed and rangeland goats	Inform	MLA		Manual Webinars
BeefUp forums	FutureBeef	Northern beef	Inform	MLA DPI Qld, NT & WA	Government agencies	Experts deliver information and tools
EDGE *network*	FutureBeef	Nation wide	Influence	MLA DPI Vic	Private advisors Government agencies	Training on business, breeding, land management & nutrition
Producer demonstration sites	PDS program	Nation wide	Engage	MLA	Private advisors Government agencies	Regional farmer groups Farmers establish topic

Beef farming systems in Australia are clearly defined between southern and northern Australia, hence the programs delivered by MLA broadly fit within these categories.

This report focuses on describing the observations from MLA programs delivered to influence (increase producers knowledge and skills).

Participatory research

Participatory research occurs as a part of MLA's R&D program. The objective of participatory research is to include farmers in the development of research work to make research more practical and more readily adopted.

MLA's EverGraze program uses this approach. Examples of this approach used outside MLA programs, and relevant to the beef and sheep industries, include Grain n Graze and LifeTime Ewe.

A2.3 Summary of the training outcomes from MLA projects

MLA has recently commissioned evaluations of a couple of the major programs they delivery. A review of these reports gives some insight to how the programs were delivered and the influence on practice change.

A2.3.1 Southern Majority Market Program

This program delivers the Making More from Sheep (MMfS) and More Beef from Pastures (MBfP) programs to farmers in southern Australia. A manual has been developed for each industry with a module on topics relevant to producers' productivity and profitability. Activities are tailored for each state who report performance against modules for each program.

The program had an ambitious target to see practice change occur on 1,500 beef farms and 690 sheep farms over the three years between 2010 and 2013.

Training activities were designed on the same three tiered approach outlined in the Producer Engagement Business Strategy:

- Category A events seek to engage with farmers at an activity level, and measure satisfaction and value of activities, and intention to change.

- Category B activities lead on from these events and provide participants with more in-depth information, including problem-solving activities and a focus on skill development. At this level, changes in knowledge, skills and confidence are the primary outcomes measured.
- Category C activities "(characterised by in-depth, locally-adapted, problem-solving activities that enable positioning of information into individual businesses, and the use of facilitators to manage group discussion and interaction) seek to influence practice change (adoption), along with shifts in knowledge and skills, to assess 'how well' farmers understand and can subsequently implement what they have learned." (Howard, 2014).

Adoption

The program evaluation identified key factors to achieving adoption, including:

- support from others, including farmers and professionals
- being a member of a farmer group
- the category of the event

Two thirds of participants surveyed stated that attending the event on its own was enough to implement a practice change. They reported that their participation provided valuable information, skills and motivation.

More broadly, the report comments on how the complexity of the practice change will influence the rate of adoption (and the ease of measuring the change for evaluation purposes). How the activity was delivered (whether it was A, B or C Categories) supports this, with sheep producers in particular referring to the Lifetime Ewe Management program providing the additional support needed to undertake complex changes.

Overall observations on the delivery of activities is that producers required a greater amount of time during the training to reflect upon their learnings for their particular business and understand the impact the change will have on managing their business. Farmers also raised their concern about the potential for negative impacts of practice change i.e. when a change is adopted and farmers found greater complexity and increased stress.

Recommendations

An evaluation of the program made 11 recommendations around how to improve adoption of practices delivered at the event and how to better measure changes made by farmers as a result of the program.

Recommendations from the evaluation included:

- Capture participants intention to change at all MBfP and MMfS events and provide time within events for participants to reflect on their learning and how it applies to their situation.
- Promote the less tangible lifestyle benefits to practices change, i.e. less stress
- Design events where farmers identify and record simple on-farm measures which they keep track and monitor over time
- Use case studies to provide motivation for farmers to invest in practice change and promote an attitude of continuous improvement in farmer decision-making.
- Continue to develop programs and activities based on the tiered event structure by engaging farmers at the A level activities, encourage them into B and C activities and into a group where practice occurs.

- Make key messages of evaluation report available to service providers so they can continuously improve their service delivery.
- Measure practice change through interviews 12 to 18 months after the event. Identify potential case studies farm through this process.
- MLA database be redesigned to be participant based rather than events based and structured to allow better interrogation of data.

A2.3.2 Producer Demonstration Sites

The objective of producer demonstration sites is to demonstrate the application of a practice or technology under local conditions and shorten the time between development of a practice and the application of the practice. This program is delivered in both northern and southern Australia. In the north, the program is managed by MLA, run by state/territory agencies and conducted on a single property. In southern Australia the project has greater private sector involvement and is co-ordinated by Agresults Pty Ltd.

A recent review of the project, focused on how it was conducted, rather than the impact or value to the producer, and noted that the PDS program achievements need to be more clearly identified and communicated to broader community. There may be opportunity for the PDS program to be partnered with the MBfP and MMfS programs to broaden the network for the PDS program.

A2.3.3 Participatory research

Review of participatory research

Participatory research provides a learning environment for farmers to trial new ideas and MLA has developed a process that engages leading producers to take part in their participatory research programs.

MLA's main participatory research program is the EverGraze project.

A review of the work (Kahn et al, 2013) found it to be important to:

- Include producers and advisors from the start of the planning phase
- Take a long term approach, with projects adequately funded and economic analysis completed
- Have advisors facilitating throughout the process

Researchers found it hard to design experiments at participatory sites and there was difficulty with replicating studies, particularly with livestock.

The review recommended:

- That MLA producers and advisors involved in these projects network and share experiences with others.
- Using participatory research to provide a focus for farmer groups.

EverGraze

Program description

The EverGraze project is based on taking an integrated approach to farm systems research, development and extension. It is a Future Farm Industries Cooperative Research Centre (FFICRC) project that had a number of partners including industry organisations, government agencies and universities. The project operated between 2007 and 2014 and claims to have had interactions with 12,715 producers and 8,851 service providers in southern Australia beef and sheep industries. The project delivered activities to both red meat and wool producers.

The project is described as:

"EverGraze was designed to develop, test and implement new farming systems based on perennial pasture plants in a range of environments across the high rainfall zone of southern Australia. The target was to increase profits of sheep and cattle enterprises and at the same time reduce ground water recharge, reduce soil loss by water and wind, improve soil health (including acidity and salinity) and improve biodiversity."

The project involved establishing Proof Sites, where research teams tested new farming systems. A regional EverGraze group directed the research at sites to ensure activities were relevant to the local environment. These sites were partnered with Supporting Sites where farmers groups could trial practices on a larger paddock scale. Supporting sites were each associated with a producer group and had a service provider co-ordinator. The program also delivered a range of extension activities through out target regions.

Value of program

Overall, farmers, service providers, researchers and agencies were satisfied with activities delivered, the website and provided resources. A key aspect to the program was using a regional research approach that was supported with farmers and researchers. This evidence-based approach applied at a local level generated results that could be trusted and was a highly valued aspect of the project.

The evaluation established the impact of the EverGraze project as:

- changes to management of feedbase, soil and grazing management on an estimated 642k to 1.2M ha, and
- improved reproductive performance of 1.21–2.3M ewes.

The regional EverGraze groups reported that the project was successful as a result of the trust developed in the project. Key to developing this trust was using a collaborative approach to develop messages relevant to the region, and what the evidence-based systems approach could offer compared with traditional research.

Recommendations included:

- Maintaining and growing the EverGraze website as a tool for making research relevant and available, and for building capacity of researchers, advisers, producers and agencies, and extending key messages.
- Further building of capacity nationally for delivery of EverGraze formal training to both producers and advisers.

- Taking the EverGraze project model to new regions and new climate zones, and addressing more systems (e.g. beef and low input systems) in existing regions.

A2.4 Overall findings

RMCG has made a number of observations from this brief review of evaluations of MLA producer extension programs include:

- Each program has developed relevant materials and information, including discrete manuals for each meat production farming system. These form the basis to most of the extension programs and are developed to fit into new extension models.
- Programs are adjusted to make improvements during each stage of project funding.
- Ensure the large industry programs are delivering consistent messages between programs and finding opportunities to collaborate.
- Look at different ways to get producers to participate (i.e. promotion of less tangible benefits) and shift them from being informed to being engaged in the program and making practice change.
- As MLA develops the type of activity delivered (i.e. the three tiered approach), there is opportunity to improve the understanding of the market segments within the industry and target activities according to producers participation, interests, knowledge and skills. An example is focusing on the large producer or producer new to the industry.
- Continue to develop the skills and knowledge of service providers in both the technical area / current research and extension approaches.
- Practice change is still difficult to measure in most type of extension activities and programs. Evaluations of all the projects measure a high level of practice change on either a large number of farms or significant change of the farms that participated. This may be established using a simple approach of multiplying the observed change on some farms to all participants. A more sophisticated approach, which establishes actual change on farm and impact on the industry, needs to be developed.

Appendix 3: Producer questionnaire

MLA – Producer Skills and Training Needs Survey 2015

Meat & Livestock Australia

Producer Skills and Training Needs Survey 2015

Background for interviewers

Meat & Livestock Australia Limited (MLA) provides marketing and research and development (R&D) services for cattle, sheep and goat producers in Australia. Most of MLA's funding comes from levies placed on the sale of livestock, with the Australian Government providing matched funding for levies invested in R&D.

Meat production is an increasingly challenging and sophisticated business carried out in a demanding economic, social and environmental context. The capacity of meat producers to manage their businesses profitably and sustainably can be enhanced by taking part in continual improvement of their skills. MLA plays an important role in the delivery of training programs to meat and livestock producers.

About the survey

MLA has around 49,000 livestock producer members with stakeholder entitlements who form the target population for the survey. MLA has provided a list of members (levy-paying producers of grass or grain-fed cattle, sheep, lambs and/or goats); including their location (address) and telephone contact details, and livestock.

Who you will be interviewing

The aim is to complete 500 interviews as follows:

State (Region)	Total	Cattle only	Sheep only	Cattle & sheep	Goats only &/or cattle &/or sheep
NSW (SE)	**205**	84	21	89	12
VIC (SE)	**65**	26	10	27	2
SA (SE)	**32**	7	6	18	1
TAS (SE)	**14**	8	1	5	0
QLD (NT)	**127**	108	1	11	7
WA (NT)	**4**	1	1	1	1
NT (NT)*	**1**	1	0	0	0
WA (SW)	**52**	17	19	15	1
TOTAL	**500**	**252**	**59**	**165**	**23**

The questionnaire

The questionnaire is divided into six sections as follows (plus segment, location and postcode recorded from the sample):

- A. About the producer
- B. Current skills
- C. Skills needs
- D. Producers' use of data and other information
- E. Adoption of practices
- F. Demographics

Difficult participants

- If a participant queries the legitimacy of the survey:
- Inform them of the notice on MLAs website
- Suggest that they call Renelle Jeffrey, at MLA on 02 9463 9333

Introduction

Hello, I'm _____, calling from Lighthouse Data Collection for Meat and Livestock Australia - MLA. MLA has engaged us to gather feedback from meat and livestock producers across Australia to review their skills and training needs. The feedback will help MLA develop programs to help producers improve their productivity. You may have seen a notice about this on their website. We randomly selected your telephone number from MLA's database.

[ONLY IF NECESSARY SAY…] All information you provide is confidential and will only be used by MLA to help to help them improve the training they provide. MLA and their consultants abide by the Australian Privacy Principles. If you have any queries, please contact Renelle Jeffrey, at MLA on 02 9463 9333.

The survey will take around 15 minutes to complete. Is now a good time, or would you like me to call back later?

[PROCEED, OR MAKE SUITABLE APPOINTMENT TIME AND CALL BACK ARRANGEMENTS]

[IF NECESSARY, SAY TO THE PARTICIPANT AT ANY TIME THROUGHOUT THE SURVEY]

You can arrange to continue with the survey later if you don't have time now.

R. Record from sample

R1. RECORD POSTCODE

R2. RECORD LOCATION

R3. RECORD PRODUCER-GROUP2

R3. RECORD CATTLE

R3. RECORD GOATS

R3. RECORD SHEEP

Screening questions

S1 What is your main line of livestock production? [INTERVIEWER PROBE FOR MAIN LINE]

[READ OUT IF NECESSARY]

	S1[MR]
Beef cattle	1
Sheep meat	2
Goats	3
None of the above [THANK AND CLOSE]	3

A. About the producer

[ASK ALL]

A1.1 On average, how many head of beef cattle would you sell each year? [READ OUT iF NECESSARY]

[ASK ALL]

A1.2 On average, how many head of lambs would you sell each year?

[ASK ALL]

A1.3 On average, how many head of goats would you sell each year?

	A1.1 Beef	A2.1 Sheep	A2.3 goats
	[SR]	[SR]	[SR]
None	1	1	1
Less than 100	2	2	2
>100 to 500	3	3	3
>500 to 1000	4	4	4
>1,000 to 2,000	5	5	5
2,000 - 5000	6	6	6
> 5000	7	7	7
Refused/Varies/Uncertain [DNRO]	9	9	9

[ASK ALL]

A2. Approximately, what percentage of your farm income is from livestock production? [READ OUT IF NECESSARY]

	[SR]
None	1
Between 1% and 25%	2
Between 26% and 50%	3
Between 51% and 75%	4
More than 75%	5
Refused [DNRO]	9

[ASK ALL]

A3. What challenges are you currently facing with your farm production? [DO NOT READ OUT]

	[MR]
How to increase production/yield	1
Drought/climate variability/drought proofing the farm	2
How to reduce costs	3
Market prices	4
Banks and finance	5
Meeting market specifications	6
Marketing my product	7
Planning for retirement/succession	8
Other [SPECIFY……]	98
Unsure [DNRO]	99

[ASK ALL]

A4. Usually, when you hear of a new practice that could benefit your business are you keen to try it, or do you prefer to wait and see?

	[SR]
Keen to try	1
Wait and see	2
Unsure	9

B. Current skills

[ASK ALL]

B1. On a scale from 1 to 10, where 1 is "poor", and 10 is "excellent", how would you rate your understanding or skills in the following areas?

[RANDOMISE B1.1 TO B1.10]		Poor									Excellent	Unsure
B1.1	Feeding and animal nutrition	1	2	3	4	5	6	7	8	9	10	99
B1.2	Pasture improvement and grazing management	1	2	3	4	5	6	7	8	9	10	99
B1.3	Animal breeding and genetics	1	2	3	4	5	6	7	8	9	10	99
B1.4	Knowing and managing the individual performance of animals e.g. reproductive performance	1	2	3	4	5	6	7	8	9	10	99
B1.5	Using financial information to make decisions	1	2	3	4	5	6	7	8	9	10	99
B1.6	Knowing the level of profitability of your business	1	2	3	4	5	6	7	8	9	10	99
B1.7	Managing cash flow over the course of the year	1	2	3	4	5	6	7	8	9	10	99
B1.8	Knowing your costs of production	1	2	3	4	5	6	7	8	9	10	99
B1.9	Meeting market requirements, such as carcass specifications	1	2	3	4	5	6	7	8	9	10	99
B1.10	Use of labour saving technologies for farm operations	1	2	3	4	5	6	7	8	9	10	99
B1.11	Natural resource management	1	2	3	4	5	6	7	8	9	10	99
B1.12	Animal health and husbandry	1	2	3	4	5	6	7	8	9	10	99

[ASK ALL]

B2.1 Which of the following methods have you used to develop your understanding and skills over the past 2 years? [READ OUT – RANDOMISE ORDER]?

B2.2 Which method is most effective for you?

	[MR]	[SR]
Obtained advice/help from a professional	1	1
Talking to family/friends/neighbours	2	2
Attended a one-off industry delivered information session	3	3
Enrolled in an online course	4	4
Attended a formal education or training program	5	5
Involved in an on-farm research project	6	6
Undertaken own or group research	7	7
Belonging to a special interest group or network, such as a beef, sheep or goat producer group	8	8
Attending field days	9	9
None of the above [DNRO]	99	99

[ASK ALL]

B3.1 Have you been involved in any programs organised or funded by Meat and Livestock Australia in the last five years?

	[SR]
Yes	1
No	2
Can't recall	9

C. Skill needs

[ASK ALL]

C1.1 In which of the following areas would you like to improve your skills?

C1.2 Over the past 5 years, have you participated in any training or extension activities in the following areas ?

	C1.1 [MR]	C1.2 [MR]
Feeding and animal nutrition	1	1
Pasture improvement and grazing management	2	2
Animal breeding and genetics	3	3
Knowing and managing the individual performance of animals e.g. reproductive performance	4	4
Using financial information to make decisions	5	5
Knowing the level of profitability of your business	6	6
Managing cash flow over the course of the year	7	7
Knowing your costs of production	8	8
Meeting market requirements e.g. carcass specifications	9	9
Use of labour saving technologies for farm operations	?	?
Natural resource management	?	?
Animal heath and husbandry	97	97

[ASK ALL]

C2. What has prevented you from participating or reduced your attendance at these types of training sessions? [DO NOT READ OUT – PROBE FULLY]?

	[MR]
Time involved in the training	1
Difficulty finding suitable/relevant course	2
The cost of the course	3
Lack of motivation	4
Other priorities	5
Unsure where to find training	6

Too busy with other things	7
Too far to travel	8
Other [SPECIFY…….]	98
None of the above [DNRO]	99

[ASK ALL]

C3. How much would you be willing to pay for a one day training session to help improve your farm production? [READ OUT]?

	[SR]
Nothing – not willing to pay for training	1
Less than $50 per day	2
Between $50 and $100 per day	3
Between $100 and $200 per day	4
More than $200 per day	5
Unsure [DNRO]	9

[ASK ALL]

C4. Would you be willing to pay for follow-up one-on-one advice from a livestock specialist?

	[SR]
Yes	1
No	2
Unsure	9

D. Producers' use of data and other information

[ASK ALL]

D1. How often would you visit MLA's website to get program related information, for example..

[SAY FOR BEEF PRODUCERS, S1=1 …] More Beef from Pastures, Beef Up, or EDGEnetwork forums?

[SAY FOR SHEEP PRODUCERS, S1=2 …] Making more from Sheep?

[SAY FOR GOAT PRODUCERS, S1=3 …] Going into Goats?

[READ OUT RESPONSE OPTIONS IF NECESSARY]?

	[SR]
At least once a week	1
At least once a month	2
A few times a year	3
Once a year	4
Less often	5
Never	6
Unsure	9

[ASK ALL]

D2. How could MLA improve the information it provides for producers? [PROBE FULLY]?

E. Adoption of practices

[ASK ALL]

E1. I'd now like you to think about your farm and business practices. Do you usually…? [READ OUT - RANDOMISE ORDER]

		Yes	No
E1.1	Actively manage pasture (or other) feed supply and demand	1	2
E1.2	Know your costs of production in cents per kilogram	1	2
E1.3	Routinely pregnancy test / scan your ewes / cows & heifers	1	2
E1.4	Know and record the performance of individual animals	1	2
E1.5	Meet market expectations on carcass specifications	1	2
E1.6	Use labour saving equipment on your farm	1	2
E1.7	Have a breeding program that uses sires based on breeding values	1	2

F. Demographics

[ASK ALL]

F1.Finally, are you aged [READ OUT IF NECESSARY]?

	[SR]
Under 30	1
30-39	2
40-49	3
50-59	4
60 plus	5
Refused [DNRO]	9

F2. [RECORD OR ASK THE PARTICIPANT'S GENDER]

	[SR]
Male	1
Female	2

They're all the questions I have today. Just to remind you, I'm _____ calling from Lighthouse Data Collection for Meat & Livestock Australia.

[STANDARD LDC CLOSURE TO BE INSERTED]

NOTES

SR = Single Response question

MR = Multiple Response question (i.e. more than one response option is acceptable)

DNRO = Do not read out.

Appendix 4: Analysis of survey results

A4.1 Characteristics of survey participants

This section considers the characteristics of the survey participants.

Producers were asked details about their business i.e. their main livestock enterprise, annual sales of livestock (cattle, lambs or goats), the contribution of livestock to farm income and their age.

A4.1.1 Scale and types of production

Survey participants have been grouped into small scale and large scale producers based on the number of cattle and lambs sold each year. A large-scale business was defined as one that sells more than 500 head of cattle and/or greater than 2,000 lambs each year. These producers contribute significantly to the overall industry's earnings and therefore it has been important to segment the results to establish their training needs and preferences.

Large-scale producers

Nineteen per cent (or 95 out of 501 respondents) were identified as large-scale meat producers. Within this group the businesses were evenly split between cattle only and cattle and sheep, with only 4% of businesses operating as large-scale sheep only enterprises. The proportion of meat enterprise types amongst large-scale producers is shown in Table A4-1.

Table A4-1: The enterprise type of large-scale businesses

Category based on annual livestock sales	% of large businesses (n=95)
Cattle only (>500 head)	48%
Cattle and sheep (either >500 cattle and / or >2,000 lambs)	48%
Sheep only (>2,000 head)	4%

Sheep producers

Sheep only producers tended to sell larger numbers of sheep than cattle and sheep producers (Figure A4-1). The majority (54%) of sheep only enterprises sell more than 1,000 sheep/lambs per year. Two thirds of goat producers sell either a small number of lambs or none at all.

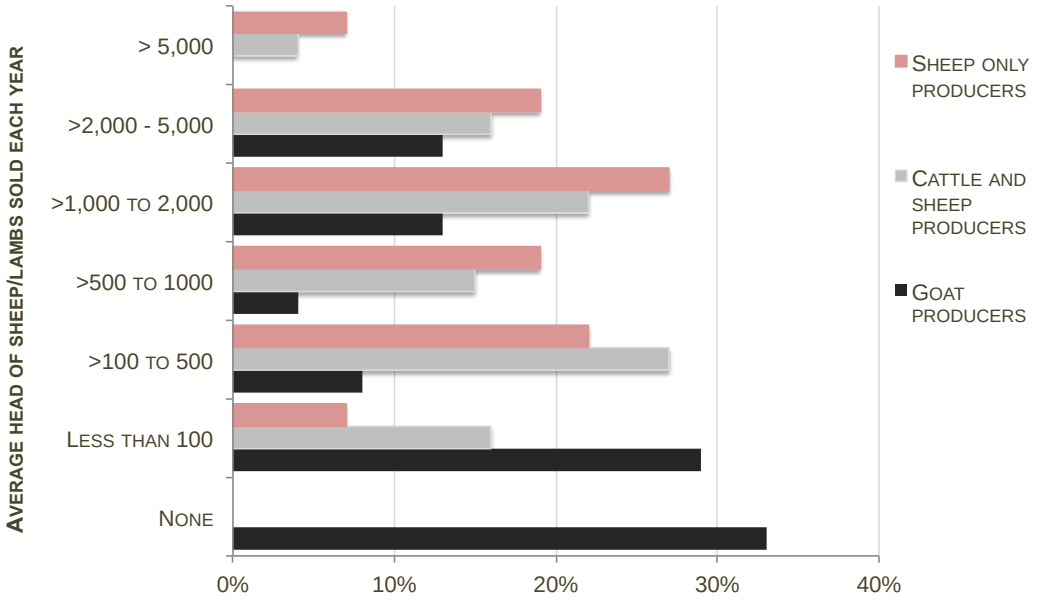

Figure A4-1: Scale of sheep production

Cattle producers

Most cattle only and cattle and sheep producers were small producers (Figure A4-2). Around 40% of cattle only producers sold less than 100 head each year and a further 40% between 100 and 500 head. However, most of the large cattle producers were cattle only businesses. The majority of goat businesses (87%) sold less than 500 head of cattle each year.

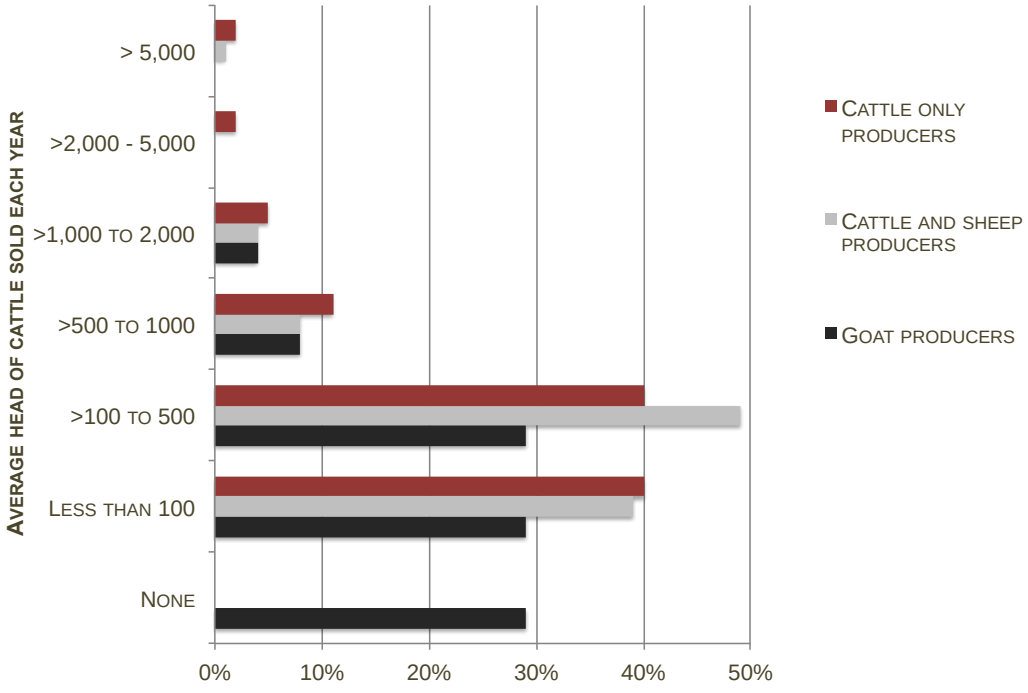

Figure A4-2: Scale of cattle production

Goat producers

Only 5% of survey participants reported to have a goat business. Of these businesses, most (84%) produced less than 500 goats each year and a small proportion (16%) produce greater than 500 goats (Figure A4-3).

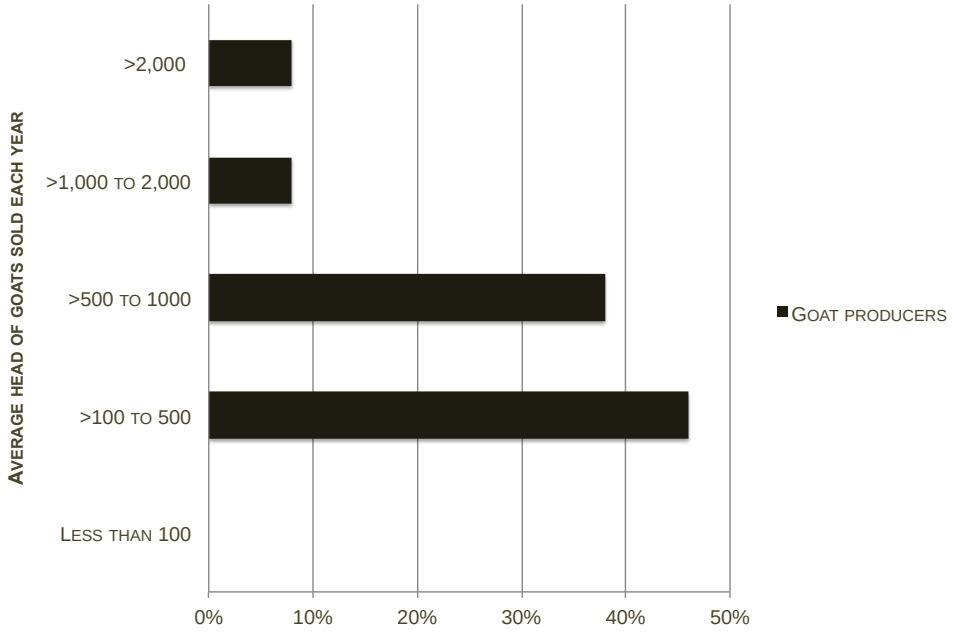

Figure A4-3: Scale of goat production – all goat producing respondents

A4.2 Farm production challenges and new practices

A4.2.1 Challenges with meat production

Producers were asked an open question about what challenges they are currently facing with their farm production. Responses were coded into themes and collated according to frequency of mention.

The key challenge identified by producers was related to drought, climate variability and drought proofing the farm, and was mentioned by 67% of producers (Figure A4-4). Producers in the south west of Western Australia (SW) were less concerned about climate and drying conditions than other MLA regions. Tasmania was the next least concerned geographical area. Producers in South Australia were most likely to be concerned (77 per cent). Large and smaller producers alike were concerned about climate and dry seasons.

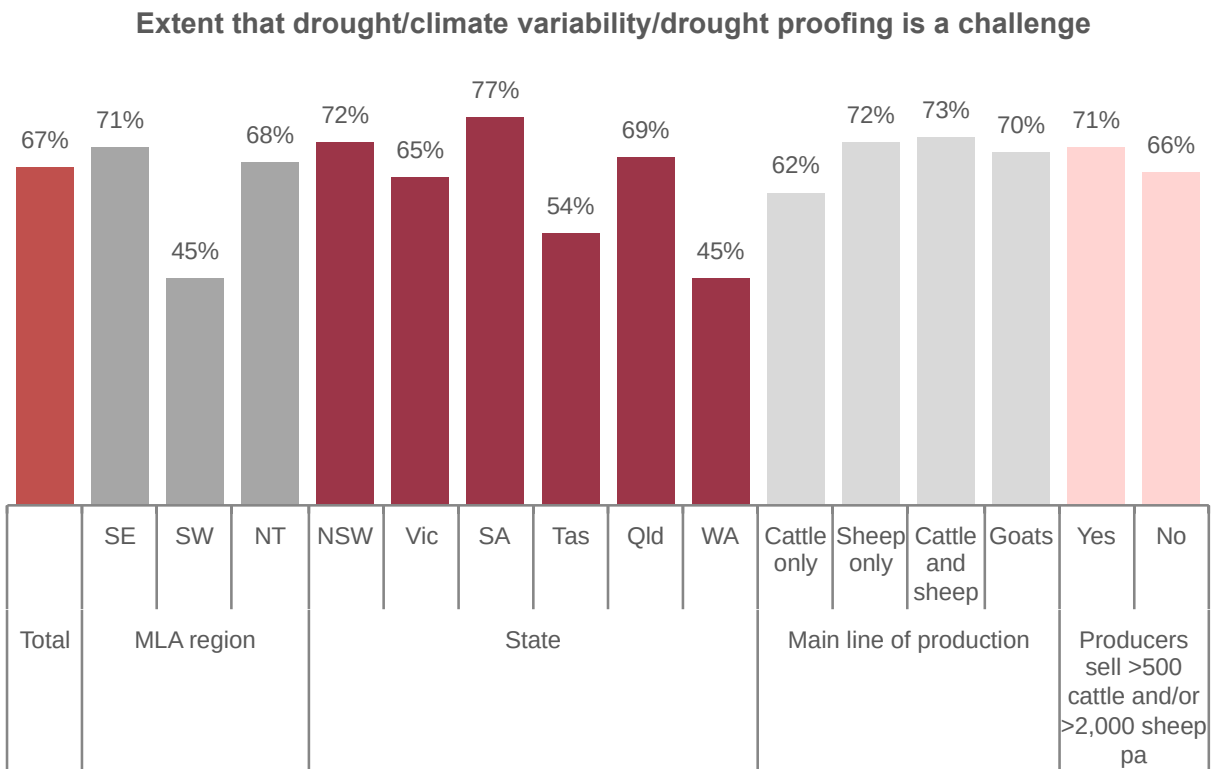

Figure A4-4: Concern about managing the impacts of climate and dry conditions (by segment)

Notes: MLA regions: SE – South Eastern Australia; SW – South Western Australia; NT – Northern Australia

Other notable challenges reported by producers included (Figure A4-5, over page):

- Market prices (mentioned by 18% of producers overall), and:
  - 31% of Tasmanian producers
  - 26% of large scale producers
  - 24% of cattle only producers
  - 23% of SW region producers
- How to reduce costs (mentioned by 10% of producers overall), and:
  - 31% of Tasmanian producers
  - 18% of SW region producers
  - How to increase production/yield (9% of producers overall), and:
  - 38% of Tasmanian producers

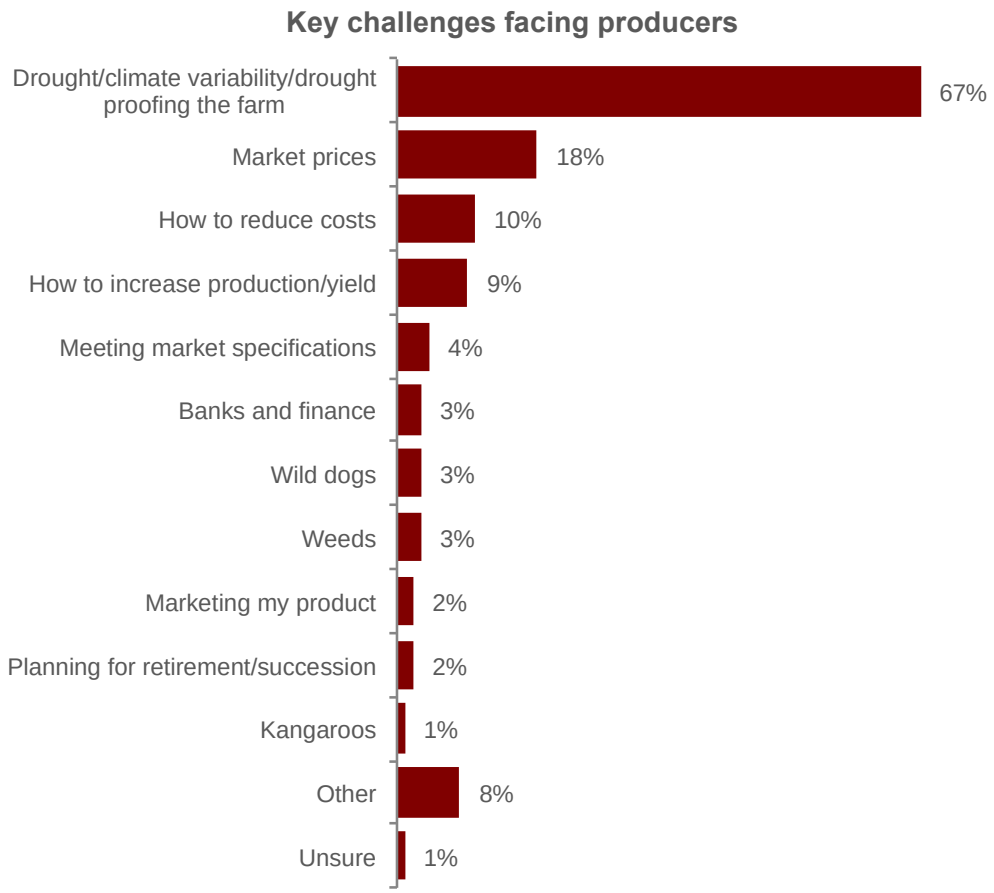

Figure A4-5: Most identified challenges faced by producers

A4.2.2 Reaction to new practices

Producers were then asked about their readiness to adopt new practices i.e. when they hear about a new practice that could benefit their business are they keen to try it or do they usually prefer to wait and see?

Just over half (56 per cent) of all producers prefer to 'wait and see' when they hear about a new practice (Figure A4-6).

On the other hand around 40 per cent of all producers reported that they were usually keen to try a new practice and the remainder were unsure. This includes:

- 51% of large scale producers (were keen to try a new practice)
- 56% of SA producers, and
- only 29 % of Tasmanian producers

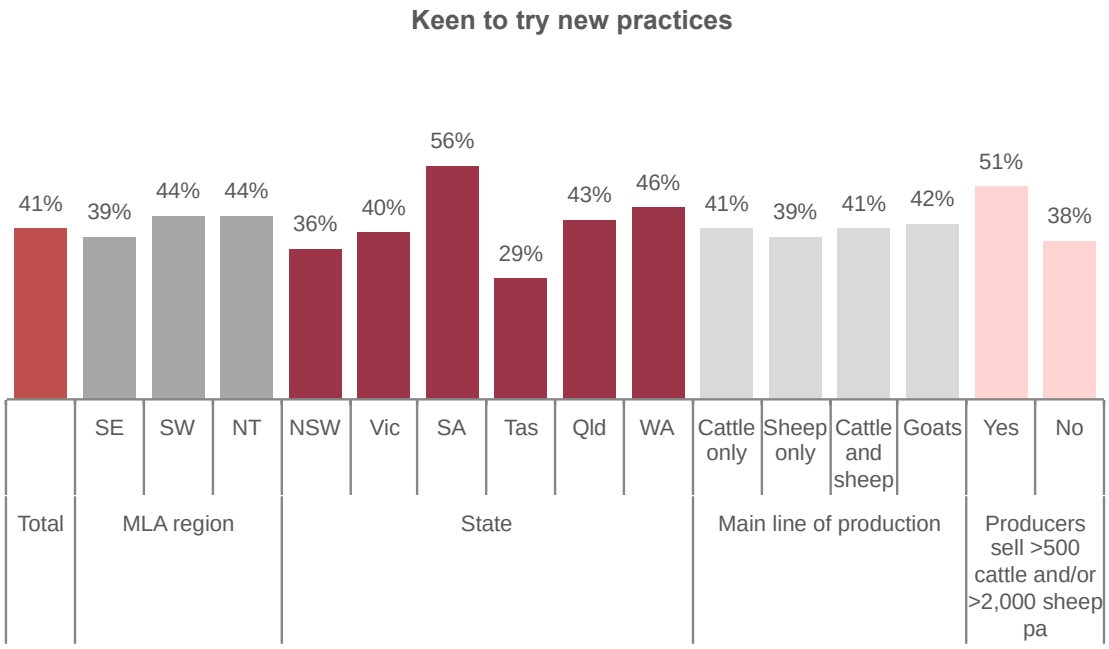

Figure A4-6: Reaction to new practices of producers (by segment)

A4.3 Current skills

The survey investigated producers' knowledge and skill levels, training needs and level of participation in twelve key areas (Table A4-2)

Table A4-2: Key areas of knowledge and skills

No.	Key knowledge and skill area
1	Feeding and animal nutrition
2	Pasture improvement and grazing management
3	Animal breeding and genetics
4	Knowing and managing the individual performance of animals e.g. reproductive performance
5	Using financial information to make decisions
6	Knowing the level of profitability of your business
7	Managing cash flow over the course of the year
8	Knowing your costs of production
9	Meeting market requirements e.g. carcass specifications
10	Use of labour saving technologies for farm operations
11	Natural resource management
12	Animal heath and husbandry

A4.3.1 Self rated knowledge and skill levels

Producers were asked to rate their understanding or skills on a range of livestock production areas, using a 10-point scale where 1 = poor and 10 = excellent. Responses were further coded as follows:

- Poor understanding (1 to 4/10)
- Satisfactory understanding or skill level (5 to 8/10)
- Excellent understanding or skill level (9 or 10/10)

A large majority of producers rated their meat production skills in a range of areas as satisfactory or excellent (Figure A4-7).

Their key strengths are:

- Animal health and husbandry (42% excellent)
- Knowing the level of profitability of their business (32% excellent)
- Managing cash flow over the course of the year (31% excellent)

The main areas where producers are less confident about their skills are:

- Use of labour saving technologies for farm operations (82% less than excellent i.e. poor plus satisfactory)
- Meeting market requirements, such as carcass specifications (76% less than excellent)
- Pasture improvement and grazing management (75% less than excellent)
- Using financial information to make decisions (75% less than excellent)

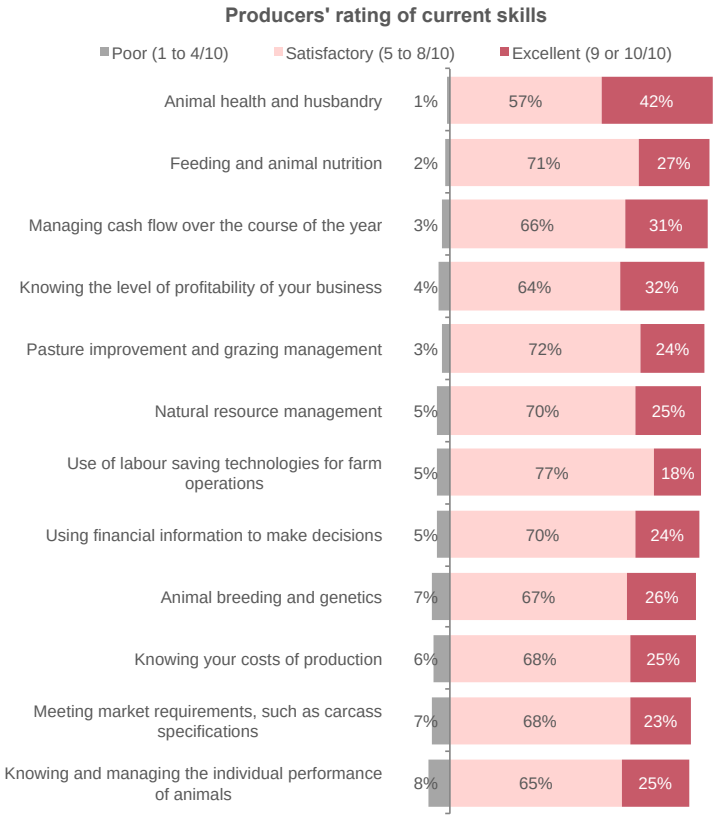

Figure A4-7: Self-rating of current understanding and skills (all producers)

In general, producers with the greatest confidence in their understanding or skills were:

- Producers from Victoria
- Sheep only producers
- Large scale producers

In general, producers with the lowest level of confidence in their understanding or skills are:

- Producers from the SW region
- Tasmanian producers
- Goat producers

A4.3.2 Methods of learning and attaining knowledge and skills

Producers were asked if they had used a range of methods to develop their understanding and skills over the past two years. Most producers use a range of methods to develop their farm production understanding and skills. The most commonly used method was talking to family, friends and neighbours (83 per cent). This method was also deemed most effective by the most producers (35 per cent) (Figure A4-8).

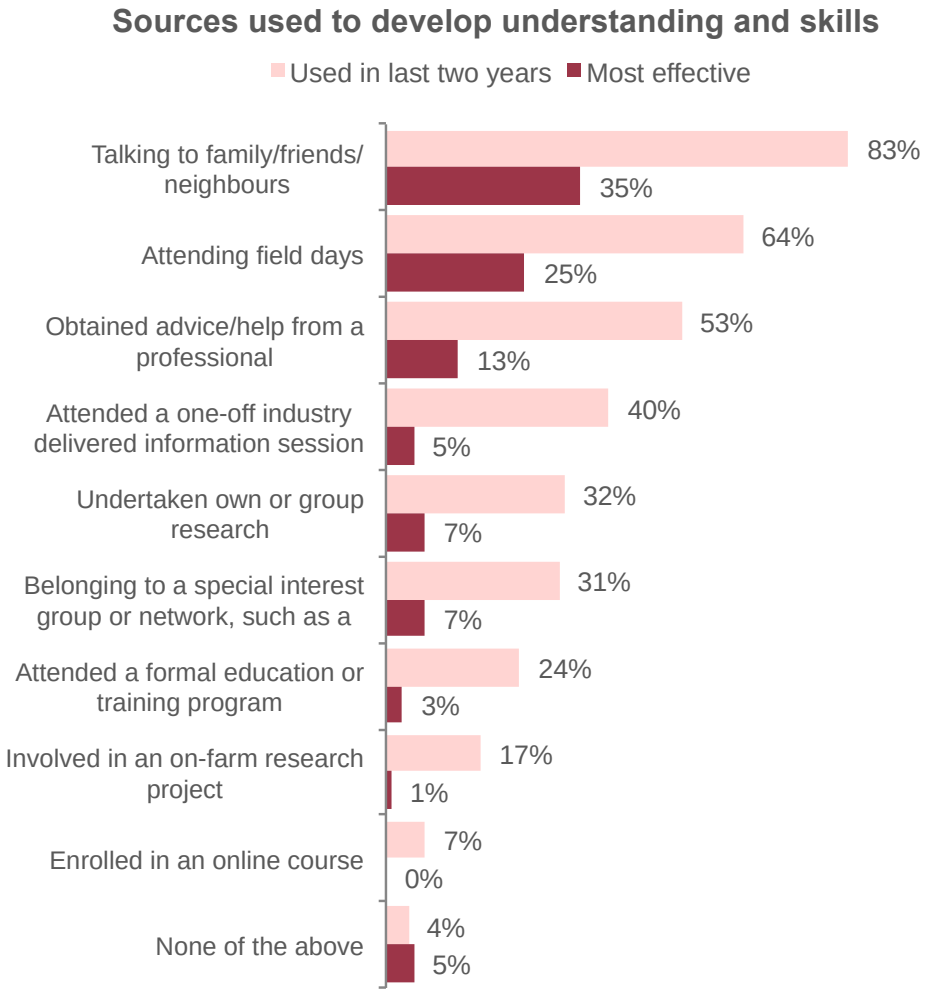

Figure A4-8: Sources used to develop understanding and skills about farm production

The next most commonly used methods are:

- Attending field days (64%)
- Obtaining advice/help from a professional (53%)
- Attending a one-off industry delivered information session (40%)

Producers were asked to nominate the most effective method for them. The most effective methods align with those most commonly used i.e.:

- Family, friends and neighbours (35%)
- Attending field days (25%)
- Obtaining advice/help from a professional (13%)

The results were broadly consistent between regions and states, according to main line of production and producer size. However some differences were:

- Tasmanian, Victorian and goat producers were more likely to be involved in a producer group (36 and 38% and 58% respectively)
- - They were also most likely to have nominated group participation as the most effective method for them
- South Australian and Tasmanian producers were more likely to have obtained advice from a professional (81 and 64%)
- - They were also most likely to have nominated obtaining advice from a professional as the most effective method for them
- Victorian producers were least likely to have nominated obtaining advice from a professional as the most effective method for them
- South Australian and Tasmanian producers were more likely to have attended a formal education or training program (41 and 50%)

Involvement in MLA programs

A total of 20 per cent of survey participants indicated that they had been involved in MLA organised or funded programs in the last five years.

Those **most likely** to have been involved were:

- Tasmanian producers (43%)
- Goat producers (29%)
- Large scale producers (32%)

Those **least likely** to have been involved were:

- Northern region producers (17%)
- NSW and Qld producers (17%)
- Cattle only producers (15%)
- Smaller scale producers (17%)

Use of MLA website

Producers were also asked how often they visited MLA's website to get program related information. Prompts were provided depending on their line of production e.g. More Beef from Pastures, Beef Up, Making more from Sheep, Going into Goats.

Two thirds of producers (65%) have visited MLA's website for program related information and just under one third (29%) are frequent visitors for program related information (i.e. at least once a month).

Key users of MLA's website (i.e. they visit the MLA website at least once a month) were:

- Victorian producers (38%)
- Tasmanian producers (40%)
- Large scale producers (36%)

A4.3.3 Producer group profiles

A cluster analysis is a multi-variate statistical procedure that can be used to group objects (in this case, producers) based on their similarity with respect to a defined set of characteristics. A two-step cluster analysis was undertaken to determine if there were any identifiable groups of producers in relation to the methods they use to develop their understanding and skills.

The analysis identified two distinct groups of producers in relation to the methods they use to develop their understanding and skills:

- **Group 1: Informal learning preferred** (accounting for 54% of survey participants)
  - Are not particularly focused on formal learning, mostly rely on family and friends to develop their skills and understanding
- **Group 2: Diverse and more** formal **learning** (accounting for 46% of survey participants)
  - Use a range of methods to access information and develop their skills and understanding, which is likely to include a combination of obtaining advice help/from a professional, attending formal training (including one-off industry delivered information session, enrolling in an online course, attending a formal education program) or being involved in either producer group or their own on-farm research.

A comparison of the two groups, identifying their distinguishing features, is outlined in Table A4-3.

Table A4-3: Results of two-step cluster analysis – two distinct producer groups

	Group 1: Informal learning preferred	Group 2: Diverse and more formal learning
Demographics	▪ More likely to be aged 60+ ▪ Less likely to be under 50 (19%) ▪ More likely to have beef cattle as their main line of production (76%) ▪ Slightly less likely to be large scale producers (18%)	▪ More likely to be aged less than 60 ▪ More likely to be under 50 (34%) ▪ Less likely to have beef cattle as their main line of production (61%) ▪ Slightly more likely to be large scale producers (25%)
Mindset	▪ More likely to wait and see before introducing new practices ▪ Less likely to know their costs of production ▪ Less likely to be involved in MLA	▪ More likely to be keen to try new practices ▪ More likely to know their costs of production ▪ More likely to be involved in MLA organised or funded programs ▪ More interested in improving their skills in a

	Group 1: Informal learning preferred	Group 2: Diverse and more formal learning
	organised or funded programs ▪ Less interested in improving their skills in a range of areas ▪ Less likely to have participated in training ▪ The main barrier to attending training is being too busy with other things (not a priority) ▪ Less likely to be willing to pay for training ▪ Less likely to be willing to pay for follow-up one-on-one advice from a livestock specialist ▪ Considerably less likely to adopt the following farm practices: – Actively manage pasture (or other) feed supply and demand – Meet market expectations on carcass specifications – Have a breeding program that uses sires based on breeding values – Routinely pregnancy test / scan your ewes / cows & heifers – Know and record the performance of individual animals – Know their costs of production in cents per kilogram	range of areas ▪ More likely to have participated in training ▪ The main barrier to attending training is the time involved ▪ More likely to be willing to pay for training ▪ More likely to be willing to pay for follow-up one-on-one advice from a livestock specialist ▪ Considerably more likely to adopt the following farm practices: – Actively manage pasture (or other) feed supply and demand – Meet market expectations on carcass specifications – Have a breeding program that uses sires based on breeding values – Routinely pregnancy test / scan your ewes / cows & heifers – Know and record the performance of individual animals – Know their costs of production in cents per kilogram

A4.3 Skill needs

A4.3.1 Most important knowledge and skill areas

Overall, almost 90 per cent of producers indicated that they need knowledge and skills in one or more of the identified skill areas. Around 10% of all producers indicated that they would like to improve their skills in each of the 12 identified skill areas and over one third are wanting improved skills in seven or more areas (Figure A4-9).

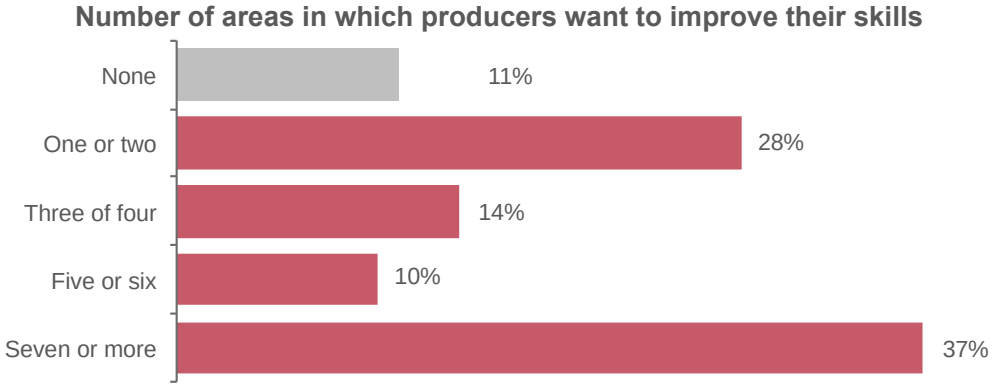

Figure A4-9: Number of areas producers want to improve knowledge and skills

The key areas where producers are looking to improve their knowledge and skills are: (Figure A4-10):

- Pasture improvement and grazing management (59% of producers would like to improve their skills in this area)
- Feeding and animal nutrition (50% of producers)
- Animal health and husbandry (47% of producers)

The skill areas where producers least value training are:

- Knowing and managing the individual performance of animals (33% of producers would like to improve their skills in this area)
- Managing cash flow over the course of the year (34%)
- Natural resource management (38%)

While the vast majority of producers reported a desire to improve their knowledge and skills in a range of areas only 40 per cent indicated that they had actually participated in training or any extension activities related to any of the identified skill areas in the survey. Participation in training or extension activities is spread across a range of areas, but the two most common areas of training participation were:

- Pasture improvement and grazing management (20% of all producers have participated in training in this area)
- Feeding and animal nutrition (18% of all producers)

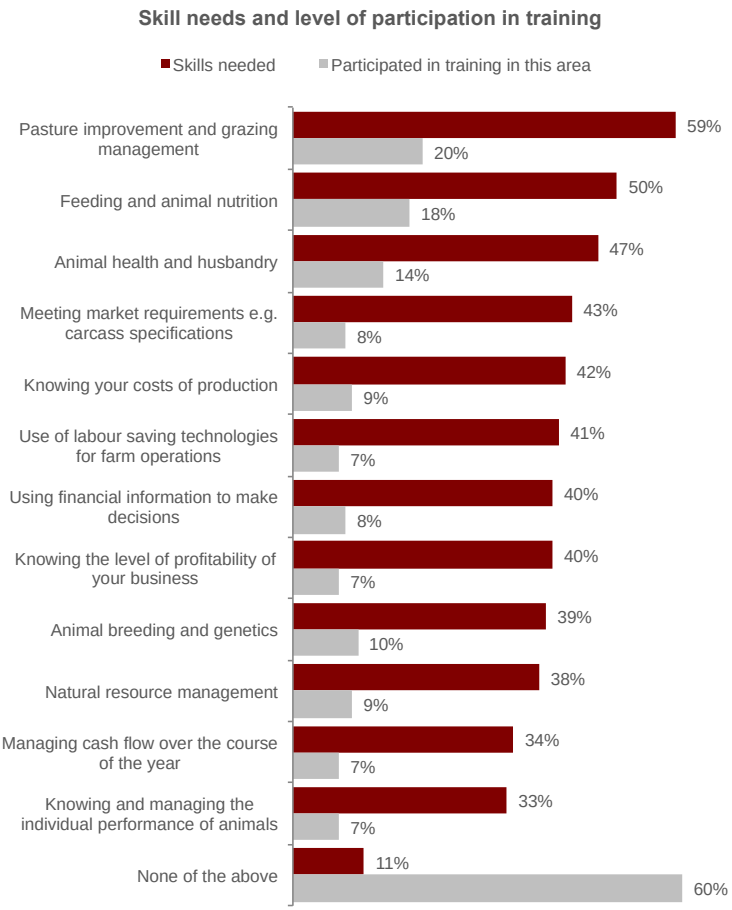

Figure A4-10: Identified skill needs and level of participation in training – <u>all producers</u>

A4.3.2 Training gap

The main opportunities to provide training are for those producers who want to improve their skills but have not done any training in the last five years. Presentation of the results of the data analysis is presented in Table A4-4.

There are unmet training needs across all surveyed areas. The area where there is the greatest number of producers wanting more training yet not participating is pasture improvement and grazing management. The next most important area of unmet training needs was found in the areas of: meeting market requirements, feeding and animal nutrition, and animal health and husbandry.

Figure A4-11 illustrates the percentage of producers (out of those who indicated that they want to improve their skills) who have not participated in any training or extension activities in that area over the past five years. This ranges from between 76% and over 90%.

Figure A4-12 shows the number of areas in which producers have participated in training or extension activities in the past five years.

Table A4-4: Proportion of producers seeking knowledge and skills and the level of participation in training

Knowledge and skill area	Want to improve skills			Do not want to improve skills		
	Total want to improve skills	Not done training	Done training	Total do not want to improve skills	Not done training	Done training
Pasture improvement and grazing management	59%	**46%**	13%	41%	34%	7%
Feeding and animal nutrition	50%	**38%**	12%	50%	44%	6%
Animal health and husbandry	47%	**38%**	9%	53%	49%	5%
Meeting market requirements, e.g. carcass specifications	43%	**39%**	4%	57%	53%	4%
Knowing your costs of production	42%	**37%**	5%	58%	54%	4%
Use of labour saving technologies for farm operations	41%	**37%**	4%	59%	57%	2%
Using financial information to make decisions	40%	**36%**	4%	60%	56%	4%
Knowing the level of profitability of your business	40%	**36%**	4%	60%	57%	3%
Animal breeding and genetics	39%	**33%**	6%	61%	57%	4%
Natural resource management	38%	**34%**	4%	62%	57%	5%
Managing cash flow over the course of the year	34%	**31%**	3%	66%	62%	4%
Knowing and managing the individual performance of animals	33%	**30%**	3%	67%	63%	4%

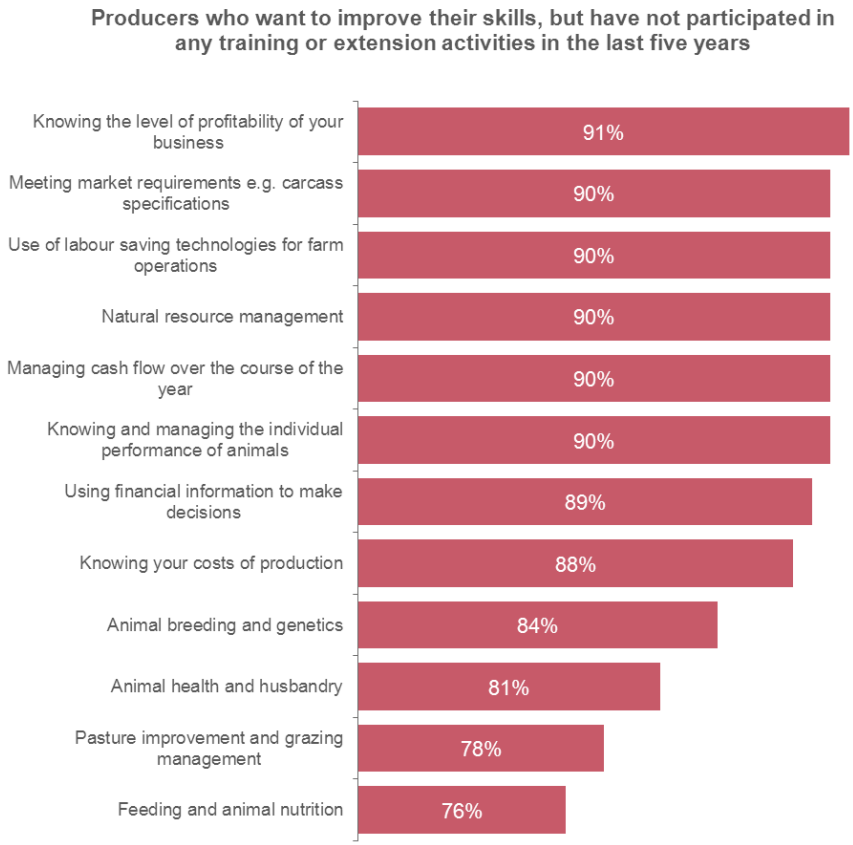

Figure A4-11: Training gap – skill areas identified by producers and level of training

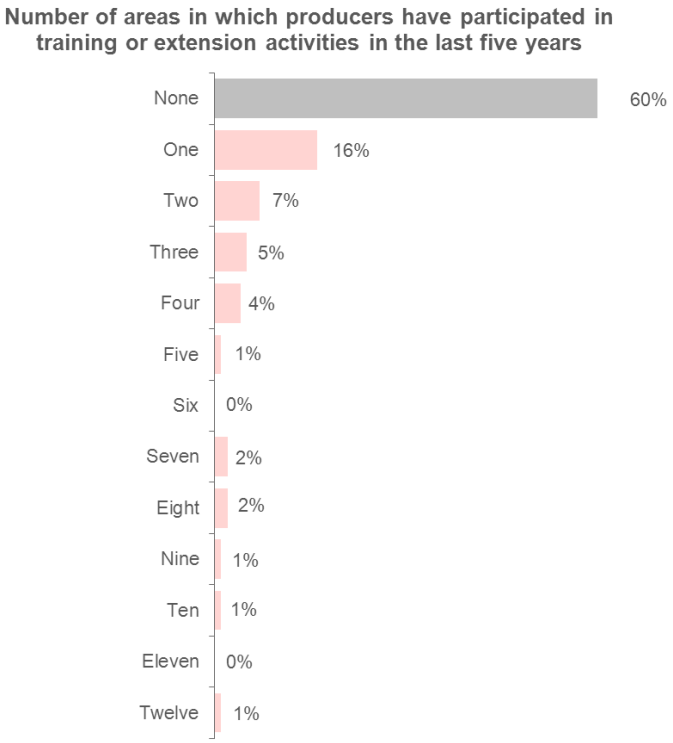

Figure A4-12: Main areas of participation in training and extension activities by producers

Costs of production

Just over 40 per cent of all producers would like more skills in knowing their costs of production. There are some differences between segments (Figure A4-13). Those who would like better skills in this area are more likely to:

- Be located in South Australia (66% of producers would like to learn more about costs of production)
- Be a larger producer (53%)
- Be a sheep only producer (51%)

They are less likely to:

- Be located in Victoria (28%), Queensland (35%) or Northern Australia (36%)

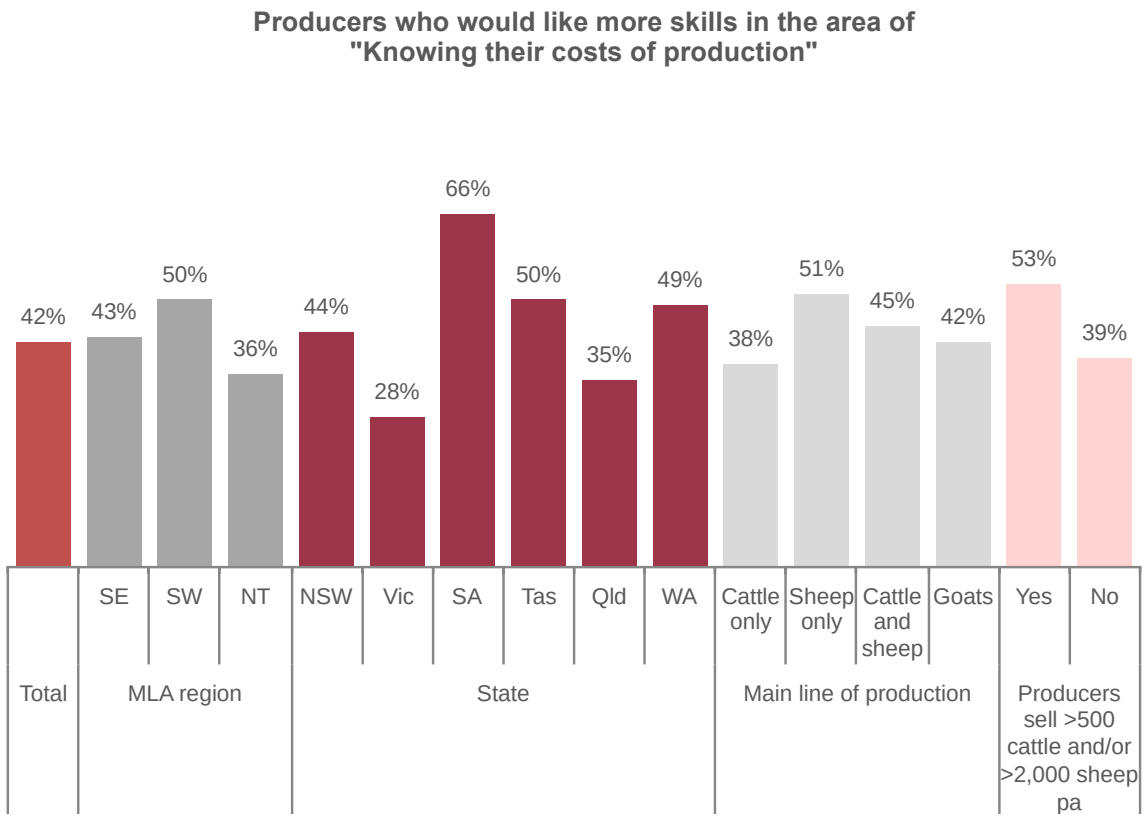

Figure A4-13: Producers who would like more skills in knowing their costs of production

Barriers to training

Producers were asked what has prevented them from participating or reduced their attendance at training opportunities (Figure A4-14-1). The key barriers to training are:

- Too busy (mentioned by 45% of participants)
- The time involved to undertake training (mentioned by 42% of participants)
- Too far to travel (18%)

A very small minority (less than 2 per cent of respondents) of producers reported that they had had negative experiences with training in the past and their sentiments are reflected in the following:

I find a lot of training a waste of time – I can find out for myself what I need to know.

Some participants hog the time with their questions and you don't get to ask yours and its very frustrating.

Some of the courses are very repetitive.

The teachers do not have any practical experience so I see it as a waste of time.

I haven't attended due to poor timing of events.

I would question the relevance of some of the training sessions.

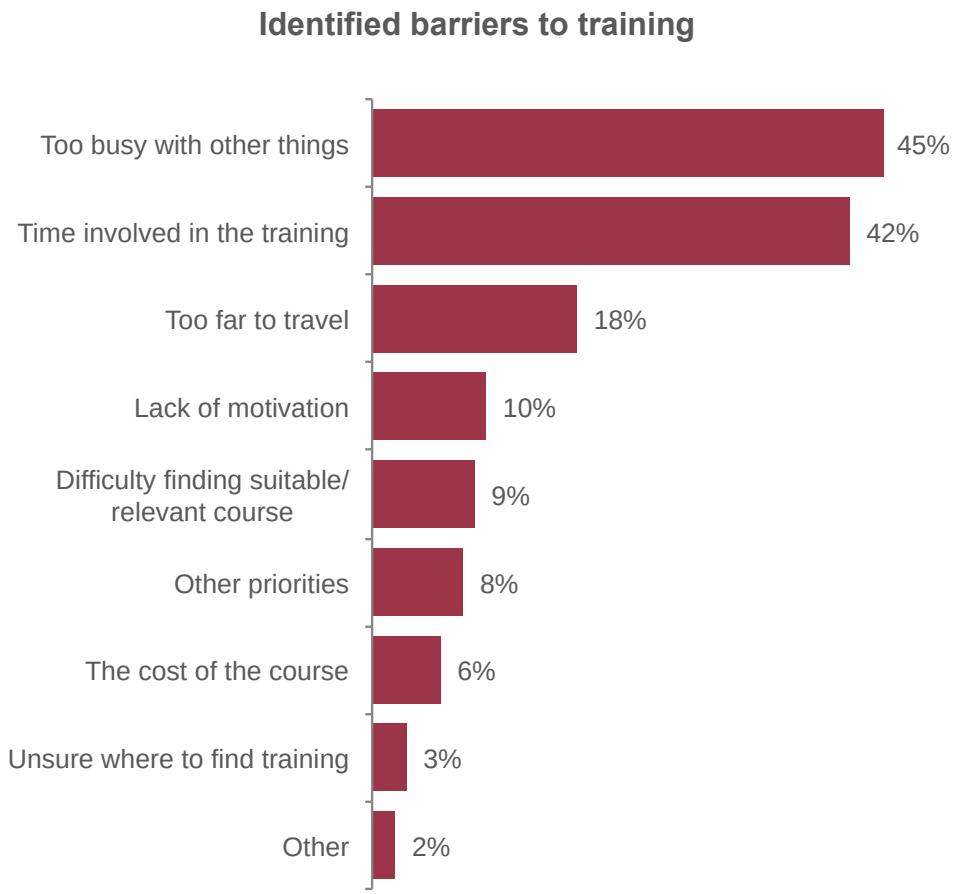

Figure A4-14-1: Barriers to participating in training – identified by producers

Willingness to pay for training and advice

Producers were asked how much they would be willing to pay for a one-day training session to help improve their farm production. Most producers are willing to pay for training as follows:

- 30% are not willing to pay more than $50 (of which 16% are not willing to pay anything)
- 67% are willing to pay $50 or more per day
- 41% are willing to pay $100 or more per day
- 11% are willing to pay more than $200 per day

Older participants (aged 60 plus) were least likely to pay for training whereas younger participants (under 40 years) were most likely, as illustrated in Figure A4-14-2 (over page).

Willingness to pay for one-on-one advice

Producers were then asked if they would be willing to pay (wtp) for follow-up advice from a livestock specialist. 50 per cent of all producers indicated that they would be willing to pay for one-on-one advice. Those most willing to pay are:

- 69% of South Australian producers
- 64% of large scale producers
- 64% of Tasmanian producers
- 64% of those in Group 2 (with a preference for diverse and more formal learning)
- 61% of sheep only producers

Those least willing to pay are:

- Producers in Group 1 (with a preference for informal learning, 39% wtp)
- Victorian producers (40% wtp)
- Cattle only producers (44% wtp)

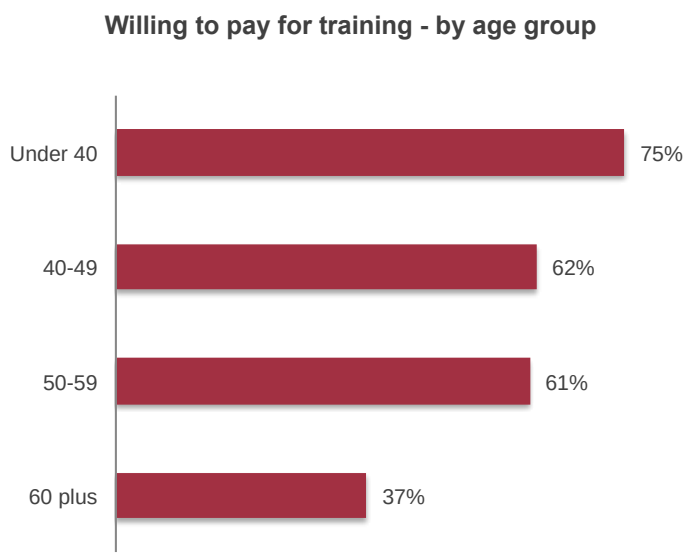

Figure A4-14-2: Proportion of producers willing to pay for training (by age group)

A4.4 Adoption of practices

The majority of producers had adopted most of the asked farm and business management practices (Figure A4-14-3). The adoption level of sound farm management practices was greater than sound business practices, such as knowledge and recording of individual animal performance and knowing their costs of production (in cents per kilogram) are less common. The most widely adopted practices are active management of pasture (or other) feed supply and demand, and use of labour saving equipment on the farm (both 88 per cent adoption rate).

There was little variability by region, state, main line of production, however, large scale producers (selling either greater than 500 cattle and / or 2,000 lambs per year) are more likely to adopt more wide-ranging production practices (Figure A4-14-4).

Figure A4-14-3: Level of adoption of farm and business management practices by all producers

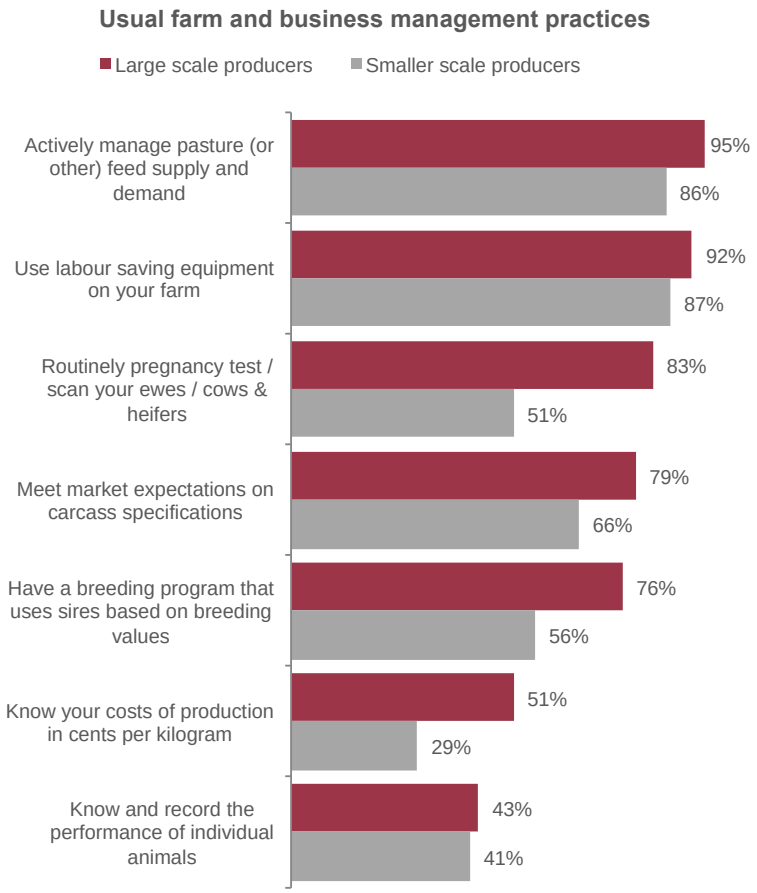

Figure A4-14-4: Level of adoption of farm and business management practices by producer size

A4.5 Producer feedback on MLA provided information

Producers were asked how MLA could improve the information it provides for producers.

Approximately 40 per cent reported that they had nothing to add with respect to MLA provided information or that no improvement was required. A reasonable proportion of these plainly stated that they were happy with the information and formats that MLA is providing.

The MLA website, weekly email and magazine were the main forms of communication producers identified. A number of producers expressed a strong interest in using the website and suggested that MLA should expand the content and improve how the website can be navigated. However, a number of producers (8 per cent) also reported that they didn't have the Internet connected or had no interest in looking at emailed content or the website; and would prefer to receive materials as hard copies in the mail.

The responses indicated that the MLA magazine is well read and producers suggested a number of areas where content could be improved. The most commonly mentioned area was more detailed market updates, including export (15 per cent of responses) and production specific information (8 per cent). Other themes were more locally relevant information on their farming region or system, animal nutrition, genetics and drought management. Numerous producers requested that information be practical rather than technical. Around 5 per cent of respondents indicated that there should be more MLA sponsored workshops and that they would like to receive better notification of upcoming events.

Appendix 5: Survey results tables by producer segment

Table A5 1: Lines of production (S1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Beef cattle	86%	86%	62%	96%	88%	83%	78%	93%	98%	61%	100%	0%	100%	63%	96%	84%	89%	83%
Sheep meat	48%	59%	67%	13%	56%	60%	78%	43%	11%	67%	0%	100%	100%	54%	46%	48%	41%	56%
Goats	5%	5%	2%	6%	6%	3%	3%	0%	6%	4%	0%	0%	0%	100%	4%	5%	3%	7%

Table A5 2: Main line of production (S1 main)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Beef cattle	69%	64%	38%	92%	64%	66%	47%	93%	94%	39%	100%	0%	50%	42%	75%	67%	76%	61%
Sheep meat	29%	35%	62%	4%	34%	34%	53%	7%	2%	61%	0%	100%	50%	21%	24%	31%	24%	36%
Goats	2%	1%	0%	4%	2%	0%	0%	0%	4%	0%	0%	0%	0%	38%	1%	2%	1%	3%

Table A5 3: Average head of cattle sold each year (A1.1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
None	92%	91%	96%	92%	91%	89%	97%	100%	93%	93%	98%	97%	95%	0%	91%	92%	93%	90%
Less than 100	3%	3%	2%	3%	4%	3%	0%	0%	3%	2%	1%	0%	1%	46%	2%	3%	3%	3%
>100 to 500	3%	3%	2%	3%	4%	0%	0%	0%	3%	2%	1%	2%	1%	38%	4%	2%	2%	3%
>500 to 1,000	0%	1%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%
>1,000 to 2,000	0%	0%	0%	2%	0%	0%	0%	0%	1%	2%	0%	0%	0%	8%	1%	0%	0%	1%
>2,000 to 5,000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
>5,000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Refused / Varies / Uncertain	1%	2%	0%	1%	0%	8%	0%	0%	0%	2%	0%	0%	4%	0%	2%	1%	2%	1%

Table A5 4: Percentage of income from livestock production (A2)

	Total	MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
		SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Between 1% and 25%	13%	11%	19%	14%	12%	8%	6%	21%	15%	18%	15%	17%	8%	8%	1%	15%	14%	11%
Between 26% and 50%	14%	14%	23%	9%	15%	11%	16%	14%	9%	23%	11%	24%	15%	13%	9%	15%	13%	15%
Between 51% and 75%	9%	9%	12%	8%	7%	11%	16%	0%	8%	11%	7%	14%	8%	17%	7%	9%	7%	10%
More than 75%	65%	67%	46%	69%	66%	71%	63%	64%	69%	49%	67%	46%	69%	63%	82%	61%	66%	63%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table A5 5: Challenges for farm production

	Total	MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
		SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Drought / climate variability / drought proofing the farm	67%	71%	45%	68%	72%	65%	77%	54%	69%	45%	62%	72%	73%	70%	71%	66%	66%	68%
Market prices	18%	17%	23%	20%	17%	19%	6%	31%	20%	22%	24%	13%	13%	9%	27%	16%	17%	20%
How to reduce costs	10%	9%	18%	9%	6%	14%	13%	31%	10%	16%	12%	6%	10%	9%	12%	10%	8%	13%
How to increase production/yield	9%	10%	14%	6%	11%	2%	10%	38%	4%	16%	9%	15%	7%	13%	8%	10%	8%	11%
Meeting market specifications	4%	3%	5%	5%	2%	5%	3%	15%	4%	6%	4%	2%	4%	9%	3%	4%	3%	5%
Banks and finance	3%	1%	0%	6%	1%	2%	6%	0%	6%	0%	2%	2%	3%	4%	2%	3%	3%	2%
Wild dogs	3%	1%	0%	10%	1%	2%	0%	0%	11%	0%	2%	0%	4%	13%	7%	2%	3%	4%
Weeds	3%	3%	0%	5%	2%	4%	3%	0%	5%	0%	5%	0%	2%	0%	0%	4%	4%	2%
Marketing my product	2%	3%	2%	1%	4%	2%	0%	0%	0%	4%	2%	2%	3%	4%	1%	3%	2%	3%
Planning for retirement / succession	2%	3%	2%	0%	2%	4%	3%	0%	0%	2%	0%	2%	3%	4%	0%	2%	2%	1%
Kangaroos	1%	1%	2%	0%	1%	2%	0%	0%	0%	2%	1%	0%	1%	0%	0%	1%	1%	0%
Other	8%	8%	14%	8%	10%	5%	3%	0%	6%	16%	8%	9%	9%	0%	12%	7%	10%	7%
Unsure	1%	1%	0%	1%	1%	2%	0%	0%	1%	0%	1%	2%	0%	0%	0%	1%	0%	1%

Table A5 6: Reaction to new practices that could benefit the producer (A4)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Keen to try	41%	39%	44%	44%	36%	40%	56%	29%	43%	46%	41%	39%	41%	42%	51%	38%	34%	49%
Wait and see	56%	59%	50%	51%	61%	58%	41%	71%	52%	47%	55%	56%	57%	50%	43%	59%	62%	48%
Unsure	4%	3%	6%	5%	3%	2%	3%	0%	5%	7%	4%	5%	2%	8%	6%	3%	4%	3%

Table A5 7: Perceived quality of current skills (B1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Feeding and animal nutrition																		
Poor	2%	1%	6%	3%	2%	0%	0%	0%	2%	7%	2%	2%	2%	8%	1%	2%	3%	2%
Satisfactory	71%	73%	62%	69%	71%	69%	88%	86%	70%	60%	69%	63%	75%	79%	67%	72%	70%	71%
Excellent	27%	26%	33%	28%	27%	31%	13%	14%	28%	33%	29%	36%	23%	13%	32%	26%	27%	27%
Pasture improvement and grazing management																		
Poor	3%	4%	2%	2%	3%	6%	6%	0%	2%	2%	3%	5%	3%	4%	1%	4%	3%	3%
Satisfactory	72%	72%	77%	70%	73%	63%	75%	86%	71%	75%	69%	68%	75%	88%	65%	73%	73%	70%
Excellent	24%	24%	21%	27%	23%	31%	19%	14%	26%	23%	27%	27%	21%	8%	33%	22%	23%	26%
Unsure	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	0%
Animal breeding and genetics																		
Poor	7%	7%	6%	7%	7%	5%	6%	14%	6%	7%	6%	12%	5%	13%	1%	8%	8%	5%
Satisfactory	67%	68%	65%	65%	68%	58%	81%	71%	65%	65%	65%	63%	69%	71%	68%	66%	63%	71%
Excellent	26%	25%	29%	27%	25%	35%	13%	7%	28%	28%	27%	25%	25%	17%	29%	25%	28%	23%
Unsure	1%	1%	0%	1%	0%	2%	0%	7%	1%	0%	1%	0%	1%	0%	1%	0%	1%	0%
Knowing and managing the individual performance of animals e.g. reproductive performance																		
Poor	8%	9%	6%	8%	11%	6%	6%	0%	7%	7%	8%	5%	7%	21%	9%	8%	8%	8%
Satisfactory	65%	67%	65%	62%	67%	58%	75%	86%	63%	63%	62%	75%	70%	54%	63%	66%	65%	66%
Excellent	25%	23%	27%	30%	22%	32%	16%	0%	29%	28%	29%	19%	22%	21%	25%	25%	24%	26%
Unsure	1%	2%	2%	1%	0%	3%	3%	14%	1%	2%	1%	2%	1%	4%	2%	1%	2%	0%
Using financial information to make decisions																		
Poor	5%	4%	13%	5%	4%	6%	3%	0%	5%	12%	4%	7%	5%	17%	0%	7%	8%	2%
Satisfactory	70%	71%	60%	70%	72%	66%	69%	86%	70%	61%	71%	64%	71%	58%	74%	69%	70%	69%
Excellent	24%	24%	27%	25%	23%	28%	25%	14%	25%	26%	24%	29%	23%	25%	25%	24%	21%	28%
Unsure	0%	1%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%

	Total	MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
		SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Knowing the level of profitability of your business																		
Poor	4%	3%	6%	4%	4%	5%	0%	0%	4%	5%	3%	2%	3%	21%	1%	4%	5%	3%
Satisfactory	64%	66%	62%	61%	69%	58%	56%	79%	61%	63%	63%	59%	70%	46%	57%	66%	67%	62%
Excellent	32%	30%	33%	35%	26%	37%	44%	21%	35%	32%	33%	39%	27%	29%	42%	29%	28%	35%
Unsure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%
Managing cash flow over the course of the year																		
Poor	3%	2%	12%	2%	2%	2%	0%	0%	2%	11%	2%	5%	3%	4%	2%	3%	4%	1%
Satisfactory	66%	67%	56%	68%	68%	60%	72%	64%	69%	56%	66%	51%	71%	67%	63%	67%	67%	65%
Excellent	31%	32%	33%	30%	30%	38%	28%	36%	29%	33%	32%	44%	26%	29%	35%	30%	29%	34%
Knowing your costs of production																		
Poor	6%	8%	2%	4%	11%	3%	3%	7%	4%	2%	6%	5%	7%	8%	6%	6%	7%	6%
Satisfactory	68%	67%	69%	70%	67%	63%	75%	71%	71%	67%	70%	59%	69%	58%	61%	69%	72%	63%
Excellent	25%	25%	29%	26%	23%	32%	22%	21%	24%	32%	23%	36%	24%	29%	33%	24%	20%	32%
Unsure	0%	0%	0%	1%	0%	2%	0%	0%	1%	0%	0%	0%	1%	4%	0%	0%	1%	0%
Meeting market requirements, such as carcass specifications																		
Poor	7%	7%	12%	5%	9%	3%	9%	0%	6%	11%	6%	8%	7%	21%	3%	8%	8%	6%
Satisfactory	68%	69%	65%	69%	68%	74%	63%	71%	69%	65%	67%	58%	75%	67%	65%	69%	68%	69%
Excellent	23%	23%	19%	24%	21%	23%	28%	29%	24%	19%	25%	34%	17%	8%	31%	21%	21%	25%
Unsure	2%	1%	4%	2%	2%	0%	0%	0%	1%	5%	2%	0%	1%	4%	1%	2%	3%	0%
Use of labour saving technologies for farm operations																		
Poor	5%	4%	10%	5%	3%	3%	9%	0%	4%	11%	4%	7%	4%	13%	6%	4%	4%	5%
Satisfactory	77%	76%	75%	79%	79%	68%	72%	79%	80%	74%	77%	66%	80%	71%	75%	77%	76%	77%
Excellent	18%	19%	15%	17%	17%	25%	19%	14%	17%	16%	18%	27%	14%	17%	19%	18%	18%	18%
Unsure	1%	1%	0%	0%	0%	5%	0%	7%	0%	0%	1%	0%	1%	0%	0%	1%	1%	0%
Natural resource management																		
Poor	5%	4%	13%	3%	2%	0%	19%	7%	3%	12%	4%	5%	5%	8%	6%	4%	6%	3%
Satisfactory	70%	71%	69%	70%	72%	71%	63%	71%	69%	70%	69%	73%	72%	71%	75%	69%	68%	73%
Excellent	25%	25%	17%	27%	24%	29%	19%	21%	28%	18%	27%	20%	22%	21%	19%	26%	26%	23%
Unsure	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%	0%	0%
Animal health and husbandry																		
Poor	1%	1%	0%	1%	0%	0%	3%	0%	1%	0%	0%	0%	1%	4%	0%	1%	0%	1%
Satisfactory	57%	57%	65%	56%	59%	48%	59%	64%	55%	67%	53%	54%	63%	75%	62%	56%	59%	55%
Excellent	42%	43%	35%	43%	41%	52%	38%	36%	44%	33%	47%	46%	36%	21%	38%	43%	40%	44%

Poor: 1 to 4 out of 10; **Satisfactory:** 5 to 8 out of 10; **Excellent:** 9 to 10 out of 10

Table A5 8: Methods used to develop skills and understanding (B2.1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Talking to family / friends / neighbours	83%	85%	85%	80%	87%	82%	81%	79%	80%	82%	76%	86%	93%	83%	82%	84%	74%	94%
Attending field days	64%	68%	65%	57%	67%	66%	75%	71%	57%	63%	57%	68%	73%	79%	72%	63%	44%	88%
Obtained advice / help from a professional	53%	57%	52%	43%	57%	45%	81%	64%	43%	53%	45%	66%	60%	54%	60%	51%	28%	82%
Attended a one-off industry delivered information session	40%	41%	42%	36%	41%	29%	53%	64%	35%	42%	34%	44%	44%	58%	59%	35%	10%	75%
Undertaken own or group research	32%	32%	33%	31%	30%	35%	44%	36%	30%	35%	31%	49%	27%	42%	43%	30%	8%	60%
Belonging to a special interest group or network, such as a beef, sheep or goat producer group	31%	32%	31%	30%	29%	38%	34%	36%	29%	33%	27%	37%	33%	58%	49%	27%	12%	54%
Attended a formal education or training program	24%	26%	21%	21%	24%	18%	41%	50%	20%	23%	20%	32%	27%	29%	36%	21%	1%	51%
Involved in an on-farm research project	17%	19%	19%	11%	19%	17%	28%	14%	10%	21%	12%	34%	19%	17%	25%	15%	3%	34%
Enrolled in an online course	7%	8%	6%	5%	7%	11%	9%	7%	6%	5%	7%	12%	4%	13%	7%	7%	3%	12%
None of the above	4%	3%	4%	8%	3%	3%	6%	0%	6%	7%	8%	3%	1%	0%	5%	4%	8%	0%

Table A5 9: Most effective method used to develop skills and understanding (B2.2)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Talking to family / friends / neighbours	35%	34%	37%	36%	35%	38%	22%	29%	36%	35%	33%	34%	39%	29%	35%	35%	49%	19%
Attending field days	25%	23%	29%	27%	24%	17%	25%	21%	28%	28%	23%	15%	31%	21%	20%	26%	18%	32%
Obtained advice / help from a professional	13%	14%	10%	11%	14%	8%	22%	21%	11%	9%	14%	19%	8%	13%	13%	13%	11%	15%
Undertaken own or group research	7%	6%	10%	7%	5%	11%	6%	0%	7%	9%	8%	7%	5%	8%	4%	7%	4%	10%
Belonging to a special interest group or network, such as a	7%	9%	2%	4%	6%	15%	6%	14%	4%	2%	5%	8%	7%	17%	11%	6%	4%	9%
Attended a one-off industry delivered information session	5%	5%	4%	5%	6%	2%	3%	7%	6%	4%	5%	7%	3%	13%	8%	4%	3%	8%
Attended a formal education or training program	3%	4%	2%	2%	3%	5%	9%	7%	2%	2%	2%	3%	5%	0%	4%	3%	1%	6%
Involved in an on-farm research project	1%	1%	4%	1%	1%	0%	0%	0%	0%	5%	0%	3%	1%	0%	0%	1%	1%	1%
Enrolled in an online course	0%	0%	0%	1%	0%	2%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%
None of the above	5%	4%	4%	8%	5%	3%	6%	0%	6%	7%	9%	3%	1%	0%	5%	5%	9%	1%

Table A5 10: Involved in programs organised or funded by MLA in last five years (B3)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Yes	20%	21%	23%	17%	17%	22%	28%	43%	17%	23%	15%	29%	22%	29%	36%	16%	11%	30%
No	79%	78%	75%	82%	81%	78%	69%	57%	82%	75%	84%	68%	77%	67%	63%	83%	87%	69%
Can’t recall	1%	1%	2%	2%	1%	0%	3%	0%	2%	2%	1%	3%	1%	4%	1%	1%	1%	2%

Table A5 11: Areas in which producers would like to improved their skills (C1.1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Pasture improvement and grazing management	59%	60%	62%	55%	58%	60%	69%	79%	54%	61%	57%	59%	63%	50%	58%	59%	52%	67%
Feeding and animal nutrition	50%	50%	50%	48%	50%	40%	63%	64%	49%	47%	47%	53%	52%	46%	49%	50%	39%	62%
Animal health and husbandry	47%	49%	50%	39%	48%	38%	69%	71%	39%	51%	39%	64%	50%	54%	52%	45%	34%	62%
Meeting market requirements e.g. carcass specifications	43%	44%	38%	44%	44%	35%	56%	50%	43%	42%	38%	41%	48%	71%	57%	40%	29%	60%
Knowing your costs of production	42%	43%	50%	36%	44%	28%	66%	50%	35%	49%	38%	51%	45%	42%	53%	39%	29%	57%
Use of labour saving technologies for farm operations	41%	42%	31%	42%	43%	26%	63%	43%	41%	35%	36%	42%	46%	50%	55%	37%	27%	57%
Using financial information to make decisions	40%	39%	48%	38%	39%	26%	56%	64%	38%	47%	36%	42%	46%	33%	51%	37%	31%	50%
Knowing the level of profitability of your business	40%	39%	52%	36%	41%	25%	56%	50%	35%	51%	34%	46%	47%	33%	49%	37%	30%	51%
Animal breeding and genetics	39%	38%	38%	41%	36%	37%	50%	50%	40%	40%	34%	54%	43%	33%	51%	36%	28%	53%
Natural resource management	38%	38%	35%	41%	38%	28%	56%	36%	40%	37%	33%	47%	42%	54%	44%	37%	27%	52%
Managing cash flow over the course of the year	34%	33%	40%	33%	35%	20%	44%	36%	33%	40%	33%	27%	40%	21%	44%	32%	26%	43%
Knowing and managing the individual performance of animals e.g. reproductive performance	33%	32%	35%	35%	32%	29%	41%	29%	35%	35%	27%	41%	38%	42%	49%	29%	23%	46%
None of the above	11%	12%	8%	10%	13%	14%	6%	0%	9%	9%	13%	14%	7%	8%	7%	12%	17%	4%

Table A5 12: Areas in which producers have participated in training (C1.2)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Pasture improvement and grazing management	20%	20%	19%	19%	19%	17%	22%	50%	19%	19%	19%	22%	19%	25%	25%	18%	6%	36%
Feeding and animal nutrition	18%	18%	19%	17%	16%	17%	28%	43%	17%	21%	15%	29%	18%	29%	25%	17%	6%	33%
Animal health and husbandry	14%	15%	12%	12%	14%	17%	13%	21%	12%	12%	10%	22%	16%	21%	22%	12%	4%	25%
Animal breeding and genetics	10%	9%	10%	14%	8%	11%	13%	7%	14%	11%	8%	12%	14%	13%	15%	9%	4%	18%
Knowing your costs of production	9%	7%	6%	14%	5%	6%	9%	36%	13%	7%	9%	10%	7%	17%	18%	7%	2%	17%
Natural resource management	9%	10%	4%	8%	11%	8%	9%	7%	8%	5%	6%	7%	13%	17%	13%	8%	3%	16%
Using financial information to make decisions	8%	8%	8%	11%	6%	8%	16%	7%	10%	9%	8%	8%	8%	13%	17%	6%	1%	17%
Meeting market requirements e.g. carcass specifications	8%	8%	10%	8%	5%	11%	16%	14%	8%	11%	6%	8%	10%	17%	11%	8%	3%	15%
Knowing and managing the individual performance of animals e.g. reproductive performance	7%	6%	6%	10%	5%	11%	3%	0%	9%	7%	8%	5%	6%	13%	11%	6%	2%	13%
Knowing the level of profitability of your business	7%	5%	8%	11%	3%	9%	9%	7%	10%	9%	7%	8%	5%	13%	15%	5%	1%	14%
Managing cash flow over the course of the year	7%	5%	8%	11%	3%	5%	9%	21%	11%	9%	7%	12%	4%	13%	16%	5%	1%	14%
Use of labour saving technologies for farm operations	7%	7%	2%	8%	6%	5%	13%	14%	8%	4%	4%	7%	9%	13%	9%	6%	3%	11%
None of the above	60%	59%	62%	62%	62%	60%	53%	29%	62%	61%	63%	51%	61%	50%	46%	64%	79%	38%

Table A5 13: Barriers to attending training (C2)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Too busy with other things	45%	45%	38%	48%	50%	42%	25%	29%	49%	39%	50%	32%	48%	13%	48%	44%	51%	39%
Time involved in the training	42%	45%	46%	35%	46%	38%	56%	36%	33%	49%	37%	53%	46%	54%	53%	40%	35%	51%
Too far to travel	18%	17%	13%	20%	19%	11%	19%	21%	20%	16%	17%	25%	14%	29%	21%	17%	17%	19%
Lack of motivation	10%	10%	12%	7%	9%	12%	13%	14%	7%	11%	11%	7%	8%	8%	3%	11%	14%	4%
Difficulty finding suitable/relevant course	9%	10%	12%	5%	7%	12%	13%	36%	6%	11%	6%	17%	10%	8%	13%	8%	8%	10%
Other priorities	8%	7%	6%	11%	6%	11%	6%	0%	12%	5%	8%	7%	8%	17%	12%	7%	9%	7%
The cost of the course	6%	6%	2%	6%	6%	5%	9%	7%	6%	2%	6%	3%	6%	13%	3%	6%	3%	9%
Unsure where to find training	3%	2%	2%	7%	1%	0%	3%	14%	7%	2%	3%	5%	2%	8%	2%	3%	3%	3%
Other	2%	3%	2%	0%	4%	0%	3%	0%	0%	2%	1%	2%	3%	4%	0%	2%	1%	3%
None of the above	1%	2%	2%	0%	1%	3%	0%	7%	0%	2%	2%	2%	1%	0%	2%	1%	1%	2%

Table A5 14: Willingness to pay for a one-day training session to improve farm production (C3)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Nothing - not willing to pay for training	16%	15%	19%	17%	15%	20%	6%	0%	17%	21%	17%	17%	11%	29%	9%	17%	21%	10%
Less than $50 per day	14%	15%	13%	9%	15%	17%	16%	14%	9%	14%	13%	7%	16%	17%	7%	15%	17%	10%
Between $50 and $100 per day	26%	26%	29%	25%	26%	26%	19%	43%	25%	28%	27%	22%	27%	17%	24%	26%	24%	28%
Between $100 and $200 per day	30%	29%	21%	33%	29%	23%	47%	21%	35%	19%	28%	37%	30%	29%	33%	29%	27%	32%
More than $200 per day	11%	11%	13%	11%	11%	9%	9%	21%	11%	14%	10%	15%	13%	8%	23%	9%	6%	17%
Unsure	4%	4%	4%	4%	4%	5%	3%	0%	4%	4%	5%	2%	4%	0%	3%	4%	4%	3%

Table A5 15: Willingness to pay for follow-up one-on-one advice from a livestock specialist (C4)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Yes	50%	51%	52%	49%	50%	40%	69%	64%	50%	51%	45%	61%	54%	58%	64%	47%	39%	64%
No	45%	46%	40%	45%	47%	58%	31%	21%	44%	42%	50%	37%	43%	38%	35%	48%	57%	32%
Unsure	4%	3%	8%	6%	3%	2%	0%	14%	6%	7%	5%	2%	4%	4%	1%	5%	4%	4%

Table A5 16: Frequency of use of MLA's website for program related information (D1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
At least once a week	12%	13%	6%	12%	11%	15%	13%	21%	13%	5%	14%	8%	8%	17%	16%	11%	10%	14%
At least once a month	17%	19%	13%	14%	17%	23%	19%	29%	14%	14%	15%	19%	22%	4%	19%	17%	14%	22%
A few times a year	22%	22%	23%	23%	22%	20%	25%	21%	24%	21%	21%	22%	23%	33%	25%	22%	18%	27%
Once a year	9%	10%	10%	8%	13%	5%	6%	0%	7%	11%	6%	14%	11%	17%	11%	9%	8%	11%
Less often	4%	3%	6%	5%	2%	5%	3%	0%	5%	7%	5%	3%	2%	4%	5%	3%	5%	3%
Never	35%	33%	42%	38%	33%	32%	34%	29%	38%	42%	38%	34%	33%	25%	24%	38%	45%	23%
Unsure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table A5 17: Summary of suggestions to improve MLA's information for producers (D2)

	Total	MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
		SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Nothing	41%	41%	44%	42%	35%	49%	66%	15%	42%	44%	37%	47%	46%	42%	40%	41%	41%	42%
Provide more market information	14%	16%	17%	8%	17%	12%	16%	15%	8%	16%	12%	19%	13%	29%	19%	13%	9%	20%
Need hard copy/don't use internet	8%	7%	12%	8%	8%	5%	3%	8%	9%	11%	7%	14%	6%	8%	7%	8%	7%	8%
Provide more production specific information	8%	9%	6%	6%	12%	3%	6%	8%	6%	7%	9%	12%	5%	13%	11%	8%	7%	10%
More practical/general industry updates	6%	6%	8%	6%	7%	5%	0%	0%	6%	7%	5%	0%	10%	4%	5%	6%	9%	3%
Make the website easier to use/navigate	6%	5%	2%	8%	5%	8%	0%	8%	8%	4%	7%	2%	5%	0%	1%	7%	8%	3%
Would prefer more email information	4%	4%	10%	1%	5%	2%	3%	8%	1%	9%	4%	7%	3%	0%	6%	3%	3%	5%
Provide more workshops/field days/training sessions	4%	3%	4%	6%	1%	8%	0%	0%	6%	4%	6%	0%	2%	0%	5%	3%	5%	2%
Better notification of workshops	4%	4%	4%	6%	4%	5%	0%	0%	6%	4%	6%	2%	4%	0%	6%	4%	6%	2%
Provide more local/region specific information	3%	3%	2%	3%	2%	6%	0%	0%	3%	2%	3%	0%	3%	0%	3%	2%	4%	0%
Keep producers up to date with changes	1%	0%	0%	4%	0%	0%	0%	0%	4%	0%	2%	0%	0%	0%	0%	1%	1%	1%
Other	14%	13%	10%	17%	11%	14%	6%	46%	17%	12%	16%	10%	12%	4%	6%	15%	14%	13%
Nothing	41%	41%	44%	42%	35%	49%	66%	15%	42%	44%	37%	47%	46%	42%	40%	41%	41%	42%

Table A5 18: Usual farm practices (E1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Actively manage pasture (or other) feed supply and demand																		
Yes	88%	88%	92%	87%	87%	89%	88%	93%	88%	89%	88%	86%	90%	79%	95%	86%	85%	91%
No	12%	12%	8%	13%	13%	11%	13%	7%	12%	11%	12%	14%	10%	21%	5%	14%	15%	9%
Know your costs of production in cents per kilogram																		
Yes	33%	31%	38%	36%	28%	40%	31%	36%	35%	40%	35%	37%	29%	29%	51%	29%	26%	41%
No	67%	69%	62%	64%	72%	60%	69%	64%	65%	60%	65%	63%	71%	71%	49%	71%	74%	59%
Routinely pregnancy test / scan your ewes / cows & heifers																		
Yes	57%	57%	54%	58%	57%	60%	53%	50%	61%	49%	55%	51%	63%	46%	83%	51%	49%	66%
No	43%	43%	46%	41%	43%	40%	47%	50%	39%	51%	44%	49%	37%	54%	17%	49%	51%	33%
NA	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Know and record the performance of individual animals																		
Yes	42%	44%	38%	38%	41%	57%	34%	50%	37%	40%	48%	27%	39%	29%	43%	41%	36%	48%
No	58%	56%	62%	62%	59%	43%	66%	50%	63%	60%	52%	73%	61%	71%	57%	59%	64%	52%
Meet market expectations on carcass specifications																		
Yes	69%	66%	67%	75%	64%	68%	66%	100%	76%	67%	73%	68%	66%	42%	79%	66%	65%	73%
No	25%	26%	25%	20%	30%	22%	25%	0%	20%	26%	23%	20%	26%	46%	17%	27%	30%	19%
NA	7%	7%	8%	5%	6%	11%	9%	0%	5%	7%	4%	12%	8%	13%	4%	7%	6%	8%
Use labour saving equipment on your farm																		
Yes	88%	88%	81%	90%	91%	86%	84%	57%	90%	82%	87%	90%	89%	88%	92%	87%	86%	90%
No	12%	12%	19%	10%	9%	14%	16%	43%	10%	18%	13%	10%	11%	13%	8%	13%	14%	10%
Have a breeding program that uses sires based on breeding values																		
Yes	60%	62%	60%	54%	62%	68%	56%	57%	54%	58%	54%	64%	67%	54%	76%	56%	54%	67%
No	40%	38%	40%	45%	38%	32%	44%	43%	44%	42%	45%	36%	33%	46%	23%	44%	45%	33%
NA	0%	0%	0%	2%	0%	0%	0%	0%	2%	0%	1%	0%	0%	0%	1%	0%	0%	0%

Table A5 19: Age of producers (F1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Under 30	2%	2%	4%	2%	2%	0%	6%	0%	2%	4%	1%	7%	2%	4%	3%	2%	1%	3%
30-39	6%	5%	10%	9%	5%	5%	3%	0%	8%	12%	7%	14%	4%	0%	8%	6%	4%	9%
40-49	17%	15%	23%	20%	16%	8%	22%	21%	21%	21%	17%	12%	20%	17%	26%	15%	14%	22%
50-59	26%	25%	33%	28%	24%	25%	28%	29%	28%	33%	25%	27%	27%	33%	31%	25%	24%	29%
60 plus	48%	53%	31%	41%	52%	63%	41%	50%	42%	30%	49%	41%	48%	46%	32%	51%	56%	38%
Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table A5 20: Gender of producers (F1)

		MLA region			State						Main line of production				Producers sell >500 cattle and/or >2,000 lambs pa		Approach to skill development	
	Total	SE	SW	NT	NSW	Vic	SA	Tas	Qld	WA	Cattle only	Sheep only	Cattle and sheep	Goats	Yes	No	Mostly rely on family and friends	Use a combination of methods
Sample size	501	317	52	132	206	65	32	14	127	57	252	59	166	24	95	406	271	230
Male	65%	70%	40%	61%	68%	69%	75%	86%	61%	42%	63%	56%	70%	58%	64%	65%	68%	60%
Female	35%	30%	60%	39%	32%	31%	25%	14%	39%	58%	37%	44%	30%	42%	36%	35%	32%	40%

Appendix 6: Summary table of conclusions and recommendations

	Findings (from survey)		Conclusions from survey and interviews (what does this mean?)	Recommendations (from Section 3.2) (what to do)
1	The population of meat producers contains many small producers - majority are either part time farmers or part time meat producers	A	The large majority of meat producers are unlikely to participate in training because they are small, unfocused and time poor - training is therefore only for a small proportion of the population (1, 2, 6)	*1. Segment the market and provide a high quality / higher value service to the serious meat producers (and tailor products and services for these segments)* *10. Target larger and younger (under 40 year olds) producers who are more strongly invested in meat production now and into the future* - adapt program design accordingly (A, C)
2	Producers are time poor with many competing priorities - training is not high enough priority for the majority of producers - the vast majority of meat producers have not participated in training or extension activities	B	Low cost (to the producer) training is perceived as low value and is not being taken up by the majority of producers (2, 4, 6, 7)	*4. Deliver smaller amounts of high quality / high value training based on demand from producers (should no longer to be supply driven)* - charge commercial rates for high quality training (B, I) *9. Training should focus on implementation or the 'how to' rather than disseminating more and more low value information* (B, I)
3	Training is more attractive to the larger, younger producers	C	There is a need for tailoring delivery to market segments (larger / small / younger) (1,2)	*5. Training and extension activities need to be scientific and backed up by industry benchmarking, delivered by a trusted person (experienced with strong industry knowledge) and linked directly with the value chain* (F, G, H)
4	Producers believe their skills are satisfactory already	D	The majority of meat producers are unprofitable: - awareness and understanding of their own skill levels and actual training needs is low - there is especially low awareness of business weaknesses and opportunities (1, 4)	*11. Support the development of high quality training products (rather than subsidising delivery of activities for producers)* (F, G, I)
5	Producers identified an interest in improving skills in a range of areas	E	The majority of producers are interested in learning but will only invest a small amount of time and money into learning (4,7)	*7. Learning needs to begin with increasing producers' understanding of current performance and opportunities for their business* (D, H)
6	Only a small percentage of producers are participating in	F	Producers are not participating because they are not seeing the value in what's on offer	*2. Contextualise both information and training (and R&D) into direct value chain opportunities for producers* (F, H)

	Findings (from survey)		Conclusions from survey and interviews (what does this mean?)	Recommendations (from Section 3.2) (what to do)
	training		- there is a lot of MLA levy money spent on a few producers (6)	
7	The majority of producers are prepared to pay only a small amount for training - some producers will pay the full cost	G	A high level of trust is required for producers to commit to training - producers are not prepared to make a high risk investment (time and money) in training (6, 7, 8, 9)	*12. Invest in improving the skills of producers* (F, G)
8	Producers have a strong preference for informal learning and accessing information from trusted sources - the most preferred learning method is from family, friends and neighbours	H	There is a lack of an agreed and clear pathway between practices and improved meat production and profitability - there is a disconnect between information, training and extension and the direct needs of the supply chain (6, 7)	*6. Livestock production messages need to focus on the practical aspects of implementation rather than be too technical* (H) *3. Actively put producers into a supply chain network so they are directly benefiting from practice change* (H) *13. Deliver easily accessible products utilising technologies (e.g. apps, audio pod casts, You Tube, news and twitter feeds …) that embody a low time cost - to all producers* (A, C, E)
9	There are cultural differences between states with respect to livestock producers' willingness to pay for training and advice	I	The current model of supply driven extension is crowding out delivery of high quality training - it is difficult for the private sector to operate commercially in the livestock industry (1,2,4, 6 ,7, 8, 9)	*8. More clearly articulate the skills and practices needed that will lead to improved profitability* (H)