Knowledge, Attitudes and Practices Associated with Management of Ewe Nutrition and Condition

Amongst

Wool Producers in Victoria and Western Australia

lifetimewool

more lambs, better wool, healthy ewes

Table of contents

1. Executive summary

The LTW evaluation strategy included establishing an early baseline for the practices, knowledge and attitudes of key producer-participants. Baseline data was collected from 80 producers who attended 5 LTW workshops in WA and 145 producers who attended 10 Workshops in Victoria. Methods used for data collection included participatory seasonal calendars exercises, facilitator observation and farmer entry surveys.

Information collected during the workshops indicated that the majority of producers monitor pasture growth and availability and most have their own informal ways of feed budgeting. However, few formally assess pasture nutritional value and availability and few use formal feed budgeting systems. The farmers visually assessed the condition of their ewes and do not have any specific ewe condition targets in mind. Supplementary feeding is triggered when ewes are losing condition but most farmers do not formally assess the condition of their ewes. A number of producers use supplementary feeding prior to joining to enhance for a flushing effect and in late pregnancy for lamb survival.

According to results, feedback from the workshops and observations by project staff, currently very few producers manage ewe nutrition specifically to influence follicle establishment in the foetus or subsequent wool production in lambs.

2. Introduction

2.1 Collection and compilation of baseline data on the practices, knowledge and attitudes of key producer-participants

The main focus of the workshops was to benchmark the knowledge, attitudes and practices of wool producers regarding their approaches to managing ewe nutrition and condition, at the commencement of the LTW project. These benchmarks will be compared with producers' practices at the end of the project, whereby it is hoped that 40% of innovative and aspirant producers will be:

- Implementing feed budgets
- Strategically feeding ewes to reach targets
- Manipulating ewe nutrition for progeny production
- Practising increased monitoring of their pastures
- Practising increased monitoring of the condition of their ewes

2.2 Research approach and methods

Ten wool producer workshops were held in Victoria and 5 in Western Australia during 2004. Two main methods were used to collect base-line data on wool producers: Seasonal calendars and a Farmer entry survey. The underlying philosophy of the seasonal calendar activity was to let farmers build a picture of their annual farming calendar in a visual and participatory manner, according to their own perspectives.

The facilitators participated in the seasonal calendar exercises by listening, talking and prompting producers to discuss and record activities of particular interest to LTW. Information from the calendars and from participants' conversations was recorded by facilitators onto summary sheets (an example of the summary sheets is in appendix I). At the end of the activity, calendars were presented to the audience, which sometimes generated some additional discussion. Producer participants generally responded well to the seasonal calendar activities, and the seasonal calendars were found particularly useful in the following areas;

- Increased LTW's knowledge about their producer audiences.

- Helped LTW characterise wool enterprises in different regions.
- Helped 'break the ice' and stimulate discussion among producers.
- Assisted LTW to adapt research presentations to the audience.
- Stimulated a holistic perspective of producers' ewe and pasture management systems.

After the seasonal calendar activity, farmers were asked to complete a short questionnaire (see Appendix II and III Farmer Entry Survey). The survey was used to collect information about wool producers' age and education, their roles and their approaches to farming and keeping informed, and the scale of wool production in their farm businesses. Some of the seasonal calendar exercises yielded quantitative information about the number of farmers who used each approach, but the approaches and the relative proportions of producers practicing them varied between groups, and the numbers were not consistently recorded. Thus it is difficult to estimate the levels of use of each type of management identified. However, the range of activities and approaches were discussed and will be reported in this document.

3. Victoria

The 10 Victorian workshops were held in Giffard, Lambruk, Moloston, Stratfield, Central Goldfields, Coonooer Bridge, Maryborough, The Gums and two in Hamilton. The following information is based on the responses from 145 farmers who did the entry survey and seasonal calendar exercise.

According to the survey of 145 wool producers who attended the LTW producer workshops in Victoria, about 40% are property owners, half are owner managers, and 10% are managers. About 45% of them are aged between 30 and 49, 40% are aged in their 50s, and 13% are over 60 years of age. The majority (60%) of farmers surveyed have been producing wool for over 20 years and about 40% have been wool producers for 6-20 years.

Forty five percent of the producers class themselves as farmers who are the first to try new methods or ideas, while the rest indicated that they prefer to wait and see ideas proven before trying them. There was one exception; one producer indicated that he/she prefers to stay with tried and trusted routines. Nearly 40% of the respondents gather agricultural information and advice from many sources including consultants, and just over half seek information and advice from local farmer groups and advisory services.

The average number of bales of wool produced was 168. Most of the respondents (66%) are producing wool in the 18-20 micron range. The range for proportion of income from wool is 20% to over 80%, with just over half the producers making 51-80% of their farm income from wool sales. According to observations during seasonal calendar exercises, the types of enterprises range from predominantly wool to mixed wool, prime lamb, beef and cropping enterprises.

When asked what level of effect improving ewe nutrition would have on profitability, most (55%) believe there will be an increase in profits in the order of 5-20%. A smaller but significant number (28%) think profits may increase by 20-50%, and one respondent feels the increase might be over 50%. A sizeable group (17%) predict that improved ewe nutrition will result in a modest increase in profitability (<5%), and one respondent believes feeding ewes more will decrease profitability.

3.1 Knowledge of farmers at the workshops

According to the survey of farmers at the workshops, half are aware of the effects of nutrition of the ewe during pregnancy and the effect is has increasing the fibre diameter in ewes and decreasing in their progeny. Nearly all of the farmers knew that an improved nutrition in the ewe during pregnancy would increase fleece weight in the ewe and in their progeny as well as increases lambing percentage (Table 1).

Table 1 Level of knowledge about how improved nutrition of the ewes during pregnancy effects production in their flocks. Responses are from the entry survey completed by farmers at the Victorian workshops.

What effect will improved nutrition of the ewe during pregnancy have on	Increase	No change	Decrease
Ewe fibre diameter	45%	46%	9%
Progeny fibre diameter	6%	42%	52%
Ewe fleece weight	95%	5%	0%
Progeny fleece weight	91%	7%	1%
Lambing percentage	98%	2%	0%
Percentage of twins	72%	28%	0%
Next years conception	76%	24%	0%
Lamb birth weight	96%	4%	0%

3.2 Approaches to managing pastures

According to the seasonal calendars, most of the farmers that went to the Victorian workshops visually assess their pastures. About a quarter of the farmers visually assessed feed on offer whilst about 10% used a calibrated stick or boot method to estimate feed on offer. There were about 5% of farmers that measured pasture quality and sward composition. Some farmers defer grazed their pastures at the break of the season so that had more feed for ewes during lambing.

3.3 Feeding targets and strategies

Feeding ewes depended on the area, rainfall and pasture production. Grain prices also restricted farmers in areas where only wool is grown from feeding their ewes. Traditionally these farmers do not feed their ewes unless in unusual years when there is low rainfall. Those farmers that do feed their ewes feed hay or silage and/or feed-tested cereal grains (mainly oats) to ewes at strategic times throughout the year. The seasonal calendars indicated that these producers commence supplementary feeding between early to mid summer and continue up to the autumn break. A few also supplementary feed ewes in late winter, coming up to lambing, and some continue to feed out throughout lambing.

Wool producers' motives for supplementary feeding vary. They include boosting ewe nutrition during the last trimester of pregnancy and during early lactation to prevent metabolic diseases (e.g. pregnancy toxaemia, milk fever) and to maximise lamb survival. Some producers keep ewes on a rising plane of nutrition and/or 'flush' ewes prior to joining with high protein supplement (lupins) to maximise fecundity and conception rates.

Some respondents said they allow ewes to 'live of their fat' as a management strategy during pregnancy, with an objective to save pasture for 'feed pinches' that occur later on. Supplementary feeding is also used to limit the rate of weight loss during pregnancy. Some producers, who have been influenced by LTW, strategically feed to keep ewes at a constant condition during pregnancy or feed to condition targets at various times.

3.4 Approaches to management and monitoring ewe condition

According to information recorded from seasonal calendar activities, most farmers assess the condition of their ewes visually. About half of the farmers did condition score ewes when they were in the yard but they rarely used the information to make management decisions and mainly relied on visual assessments.

There was about 5% of farmers who weigh or condition score all of their ewes and use the results to draft lighter ewes and then manage lighter and heavier ewes separately. For example, lighter ewes may be put on a higher feeding regime than the rest of the mob, or are not joined and are run as dry sheep until the following season. One producer said he weigh-drafts ewes four times per year. The scale of approaches to monitoring ewe condition included:

4. Western Australia

Of the 85 farmers that were surveyed at the workshops, 90% managed and owned own their property and 70% had more than 5,000 sheep. The farmers produced an average of 225 bales in 2003 and their main fleece line for 2003 was 18 – 20 microns. Wool made up 20 – 50% of their income in 2003 and they have mostly been producing wool for more than 20 years. Nearly half of the farmers are 39 – 49 years old and most have achieved secondary education.

The farmers that went to the Western Australian workshops were in the LTW target audience with 52% saying they like to see a new farming idea proven before they give it a try and 45% are usually one of the first farmers in the district to try new farming methods and ideas. The remaining two farmers usually did not try new farming methods or ideas and were not in the projects target audience. Most farmers (62%) got their information from many sources including consultants whilst 35% got their information from formal discussion groups with other farmers. All of the farmers believed that managing ewe nutrition would increase profitability of their flock with 70% believing it would increase by 5 – 20%. The farmers had mostly (61%) heard of the Lifetime Wool project before the workshop.

At the early stage of the project we can feel confident that our target audience, the innovators and aspirants, are being attracted to the Lifetime Wool Workshops. The farmers that have attended the workshops produce substantial amounts of wool (a total of 17,746 bales annually). If we can help these farmers improve the quality and quantity of their wool clip, we will be on the way to achieving our goal of increasing wool production throughout Australia by 20%.

4.1 Knowledge of farmers at the workshop

The farmers that went to the Western Australian workshops thought improving nutrition during pregnancy could contribute to mostly a sizable effect on improving wool quality and quantity of their flock and improve lambing percentage (table 2). They also thought that improving nutrition during lactation would contribute to a sizable effect on improving wool quality and quantity of their flock (table 3)

Table 2 Level of knowledge about how improved nutrition of the ewes during pregnancy effects production in their flocks. Responses are from the entry survey completed by farmers at the Western Australian workshops.

How do you think improving the nutrition of your ewes through pregnancy could contribute to	Negative effect	No effect	A small effect	A sizable effect	A major effect	No idea
Improved wool quality of your flock	3%	3%	25%	41%	29%	0%
Improved wool quantity of your flock	0%	0%	30%	43%	27%	0%
Improved lambing percentage of your flock	0%	1%	21%	49%	28%	1%

Table 3 Level of knowledge about how improved nutrition of the ewes during lactation effects production in their flocks. Responses are from the entry survey completed by farmers at the Western Australian workshops.

How do you think improving the nutrition of your ewes through lactation could contribute to	Negative effect	No effect	A small effect	A sizable effect	A major effect	No idea
Improved wool quality of your flock	1%	3%	24%	48%	24%	1%
Improved wool quantity of your flock	1%	4%	26%	42%	27%	0%

4.2 Condition scoring exercise

The farmers that attended the Western Australian workshops were asked to analyse the condition of ten ewes. Once the farmers had made their own assessment of condition, Tom Plaisted explained condition scoring before the farmers were asked to make a second assessment of the 10 ewes. Their assessments were compared to Tom's assessment so the farmers could identify how effective they are at assessing the condition of ewes. The farmers thought that this was a worthwhile exercise and most farmers improved their assessments. Figure 1 is an example of a farmer who had not condition scored before and who picked up the skill quickly.

> "[The best aspect of the workshop] was the good explanation of condition scoring together with practical doing it. Now I know how to use condition scoring as a management tool."

No.	Condition Assessment	Second Assessment	Tom's Assessment
1	LIGHT	2	2.5
2	LIGHT	2	2.5
3	FAT	4	3.5
4	OK	3	3.0
5	FAT	4	3.5
6	OK	3	3.0
7	OK	3	3.0
8	FAT	4	4.0
9	LIGHT	1½	2.0
10	OK	3	2.5

Figure 1 Example of condition scoring exercise done at Western Australian workshops. Tom's assessment was done by the expert in condition scoring from WA, Tom Plaisted.

4.3 Approach to managing pastures

The management of pastures ranged from visual assessments of feed on offer to using 'Pastures from Space' to get pasture growth and feed on offer. Most of the farmers assess their pasture visually whilst some farmers using the condition of their sheep to indicate whether there is enough feed. A lot of farmers said that they used previous experience to determine if they will have enough feed during the year. One in five farmers used pastures from space for weekly pasture growth rates during the growing season. The paddock scale farmers are also collaborators for Pastures from Space and are part of Pastures from Space producer groups that meet every two months. The workshops would have been well advertised at these meetings so this high percentage is not an accurate indication of the number of farmers that use Pastures from Space.

There were 2 farmers that use rotational grazing and 1 farmer that uses deferred grazing as part of his cropping program. Most of the farmers use timerite to spray their pastures for red legged earth mite.

4.4 Approaches to management and monitoring ewe condition

The information from the seasonal calendars shows that the farmers who went to the Western Australian workshops mostly visually assess their ewes. The farmers that condition score their ewes (44%) did it

opportunistically when they are in the yards but generally did not make any recordings. Out of all the farmers that did the seasonal calendar, 5% condition scored or weighed their ewes at joining, lambing and weaning with a view to achieving production targets. One farmer condition scored every 6 weeks and aimed to keep their ewes in condition score 3 throughout the year.

One group agreed that condition scoring was important and admitted they did not do it properly. One farmer said that the Department of Agriculture Western Australia Farmnotes were useful to assess the condition of ewes.

4.5 Feeding targets and strategies

All the farmers use stubbles for feed during summer and then supplementary feed through the Summer/Autumn period. All farmers feed lupins and oats or a mixture of the two and varied between 150 g/h/d to feeding 500 g/h/d. About half of the farmers feed hay during Summer and Autumn. The Darkan workshop had farmers from the Bob Hall group and a quarter of those farmers used standing forage crops (oats and peas).

The farmers mostly start feeding when the condition of their ewes decreases. One farmer starts to feed based on condition score and tries to keep the ewes in condition score 3. This farmer stops feeding based on condition score and condition scores every 6 weeks.

One farmer said that the priority for feeding is after mating and they will always budget for a late break. One person stops feeding when 30 – 50% of the supplementary feed is untouched.

The indicator to start hand feeding depended on the quality of stubbles and joining when it is common practice to give a lupin grain boost to increase ovulation rates.

7. Management platforms

The seasonal calendar is a time consuming process which needs to be facilitated well to collect useful information. To make it easier to collect information about farmers current practices, the project developed global assessments scales of levels or 'platforms' that display the range of livestock and pasture assessment skills used by farmers. The platforms were developed for pasture monitoring, ewe monitoring, pregnancy scanning and supplementary feeding ewes. Farmers can now pick a level that they are currently operating and this can be tracked over time to document adoption of new technology. The platforms are a more quantitative way of tracking changes in farmers over time.

Monitoring pastures

Approach to monitoring pastures
1. Eyeball your paddocks from the ute whenever you happen to be driving through.
2. Visually estimate/guess the amount of feed on offer (Kg DM/ha), particularly during important periods.
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g. from training, field days & books etc.
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.
5. Other approach

Monitoring ewes

Approach to monitoring ewes
1. Regular visual assessments in the paddock.
2. Visual assessments in paddock and occasionally fat score, condition score or weigh a sample of ewes when they are in the yards.
3. You formally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.
4. You condition score, fat score or weigh & draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.

Hand feeding ewes

Approach to supplementary feeding ewes
1. Only supplementary feed if absolutely necessary (e.g. when ewes become weak).
2. Start hand feeding when ewes look like they have lost too much weight or condition.
3. Hand feed if ewes' condition/fat score or body weight fall below your target condition/weigh.
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.

Pregnancy scanning

Approach to pregnancy scanning ewes
1. No use of ultrasound scanning.
2. Scan all ewes and remove non-pregnant ewes from the mob.
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.

6. Conclusions

The workshops with wool producers indicated that the majority of producers do monitor pasture growth and availability, and they have their own informal ways of budgeting feed. However, at this stage only a small proportion formally assess pasture nutritional values and availability and/or use formal feed budgeting systems.

Approaches to monitoring ewe condition varied between locations and producers.

The purposes for feeding ewes were not discussed in depth during the workshops, but it was clear that most producers don't have any specific ewe condition targets in mind, they feed to maintain condition or to minimise weight loss when pasture nutrition is inadequate. A significant number also use supplementary feeding as a tool to enhance ewe reproductive performance.

Some producers feed ewes to increase condition during the final third of pregnancy to maximise lamb birth weights and survival. There was no discussion of other purposes

Appendix I Seasonal calendar example

Management of ewes	March	April	May	June	July	August	September	October	November	December	January	February
BREEDING Weigh/draft Joining Rams out Lambing Marking Weaning	Joining (4-6 weeks)			Rams out			Lambing		Weaning	Weaning Weaning	Weaning	
HEALTH Drenching FEC Vaccination	FEC					FEC D D			FEC as required D, D, D			FEC
WOOL Shearing Crutching	Shear			Shear		Shear						
SUPP FEEDING-F Grain testing-GT	F GT	F F maidens hay/grain	F			F						F
CONDITION Hands on-CSC Bye Eye-BE	2.5, 2.5 BE, BE, BE	3		2.5	2.5, 2-2.5, 2-2.5		3,3	3.2	3.5, 3.5		4	
PASTURES Availability Measurements Targets	By eye By eye By eye Soil testing											
Events that ewes are brought into the yards for	Yes FEC Yes shearing		Yes-draft rams out Yes-draft rams out Yes- draft	Yes-draft rams out Yes-shearing		Yes-D Yes-D Yes-Shear&FEC		All for lamb marking, but not recorded	Yes-Wean Yes-D Yes-D Yes-D&FEC	Yes-Wean Yes-Wean	Yes-Wean	Yes-FEC

Appendix II Survey for Victorian Lifetime Wool workshops 2004

1) What is your role on the farm:

- ❒ Owner
- ❒ Owner/manager
- ❒ Manager
- ❒ Other _____

2) How many sheep did you farm last year?

- ❒ < 2000
- ❒ 2,000-5,000
- ❒ 5,000- 10,000
- ❒ 10,000- 20,000
- ❒ 20,000+

3) Approximately how many bales of wool do you produce in a normal year?

4) What was the micron of your main fleece line for the last wool clip in a normal year?

- ❒ <18 micron
- ❒ 18 -20 microns
- ❒ 20-23 microns
- ❒ 23+ microns

5) What percentage of the total farm income came from wool last year?

- ❒ Less than 20%
- ❒ 20-50%
- ❒ 51-80%
- ❒ Over 80%

6) How long have you been producing wool?

- ❒ 0-5 years
- ❒ 6-20 years
- ❒ more than20 years

7) How old are you?

- ❒ Less than 30
- ❒ 30-49
- ❒ 50-59
- ❒ 60+

8) What education level did you achieve?

- ❒ Primary
- ❒ Secondary
- ❒ Tertiary certificate or diploma
- ❒ Tertiary degree

9) Improved nutrition of the ewe during pregnancy will: (tick the box)

- ❑ **Increase Fibre Diameter of the ewe**
- ❑ **Has no effect on Fibre Diameter of the ewe**
- ❑ **Reduce Fibre Diameter of the ewe**

10) Improved nutrition of the ewe during pregnancy will subsequently :

- ❑ **Increase Fibre Diameter of their progeny**
- ❑ **Has no effect on Fibre Diameter of their progeny**
- ❑ **Reduce Fibre Diameter of their progeny**

11) Improved nutrition of the ewe during pregnancy will:

- ❑ **Increase Fleece weight of the ewe**
- ❑ **Has no effect on Fleece weight of the ewe**
- ❑ **Reduce Fleece weight of the ewe**

12) Improved nutrition of the ewe during pregnancy will subsequently :

- ❑ **Increase Fleece weight of their progeny**
- ❑ **Has no effect on Fleece weight of their progeny**
- ❑ **Reduce Fleece weight of their progeny**

13) Improved nutrition of the ewe during pregnancy will:

lambing percentage	□ increase □ no change □ decrease
Liveweight	□ increase □ no change □ decrease
Percentage of twins	□ increase □ no change □ decrease
Next years conception rate	□ increase □ no change □ decrease
Lamb birth weight	□ increase □ no change □ decrease
Wool tensile strength	□ increase □ no change □ decrease

14) Which statement best describes your approach to farming?

- ❒ I am usually one of the first farmers in the district to try new farming methods and ideas
- ❒ I like to see a new farming method or idea proven before I give it a try on the farm
- ❒ I don't usually try new farming methods or ideas on my farm – I usually stick to what I know works

15) Which statement best describes your current information sources

- ❒ I gather information from many sources, including paid private consultants
- ❒ I get most of my information from formal discussion groups with other farmers, government departments, farming magazines, etc
- ❒ I tend to get most of my information from talking to neighbours, rural suppliers, wool reps and stock agents

16) I believe that managing ewe nutrition would:

- ❒ decrease the profitability of my flock
- ❒ not affect the profitability of my flock
- ❒ Increase the profitability of my flock by less than 5%
- ❒ Increase the profitability of my flock by 5-20%
- ❒ Increase the profitability of my flock by 20-50%
- ❒ Increase the profitability of my flock by over 50%
- ❒ I don't have an opinion

17) Have you heard of the Lifetime Wool project? (Yes or No)

- ☐ **Yes**
- ☐ **No**

18) If yes, briefly describe your involvement with the Lifetime wool project:

19) What is your understanding of the key messages promoted by this project?

20) What is your opinion of these key messages?

Comments:

Appendix III Survey for WA Lifetime Wool workshops 2004

1) What is your role on the farm:

- ❒ Owner
- ❒ Owner/manager
- ❒ Manager
- ❒ Consultant
- ❒ Other _____

2) How many sheep did you farm last year?

- ❒ < 1000
- ❒ 1,000- 2000
- ❒ 2,001-5,000
- ❒ 5,000+

3) Approximately how many bales of wool do you produce in a normal year?

4) What was the average micron of your main fleece line for the last wool clip in a normal year?

5) What percentage of the total farm income came from wool last year?

- ❒ Less than 20%
- ❒ 20-50%
- ❒ 51-80%
- ❒ Over 80%

6) How long have you been producing wool?

- ❒ 0-5 years
- ❒ 6-20 years
- ❒ more than20 years

7) How old are you?

- ❒ Less than 30
- ❒ 30-49
- ❒ 50-59
- ❒ 60+

8) What education level did you achieve?

- ❒ Primary
- ❒ Secondary
- ❒ Tertiary certificate or diploma
- ❒ Tertiary degree

9) Please rank the items below showing how you think these changes could contribute to improved wool <u>quality</u> of your flock :

	→ Increasing affect					No idea
	Negative effect	No effect	A small effect	A sizeable effect	A major effect	
Increasing your stocking rate						
Increasing your lambing rates						
Increasing your live weights						
Increasing your lamb survival rates						
Improved nutrition of ewes during pregnancy						
Improved nutrition of ewes during lactation						

Comments:

10) Please rank the items below showing how you think these changes could contribute to improved wool <u>quantity</u> of your flock:

→	Increasing affect					No idea
	Negative effect	No effect	A small effect	A sizeable effect	A major effect	
Increasing your stocking rate						
Increasing your lambing rates						
Increasing your live weights						
Increasing your lamb survival rates						
Improved nutrition of ewes during pregnancy						
Improved nutrition of ewes during lactation						

Comments:

Please rank the items below showing how you think these changes could contribute to improved lambing percentages of your flock:

→	Increasing affect					No idea
	Negative effect	No effect	A small effect	A sizeable effect	A major effect	
Increasing your stocking rate						
Increasing your live weights						
Increasing your lamb survival rates						
Improved nutrition of ewes during pregnancy						
Improved nutrition of ewes during lactation						

Comments:

12) Which statement best describes your approach to farming? Choose one only

- ❒ I am usually one of the first farmers in the district to try new farming methods and ideas
- ❒ I like to see a new farming method or idea proven before I give it a try on the farm
- ❒ I don't usually try new farming methods or ideas on my farm – I usually stick to what I know works

13) Which statement best describes your current information sources

- ❒ I gather information from many sources, including paid private consultants
- ❒ I get most of my information from formal discussion groups with other farmers, government departments, farming magazines, etc
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14) I believe that managing ewe nutrition would:

- ❒ decrease the profitability of my flock
- ❒ not affect the profitability of my flock
- ❒ Increase the profitability of my flock by less than 5%
- ❒ Increase the profitability of my flock by 5-20%
- ❒ Increase the profitability of my flock by 20-50%
- ❒ Increase the profitability of my flock by over 50%
- ❒ I don't have an opinion

15) Have you heard of the Lifetime Wool project? (Yes or No)

- ☐ **Yes**
- ☐ **No**

16) If yes, briefly describe your involvement with the Lifetime wool project:

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17) What is your understanding of the key messages promoted by this project?

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18) What is your opinion of these key messages?
