

# lifetimewool

more lambs, better wool, healthy ewes

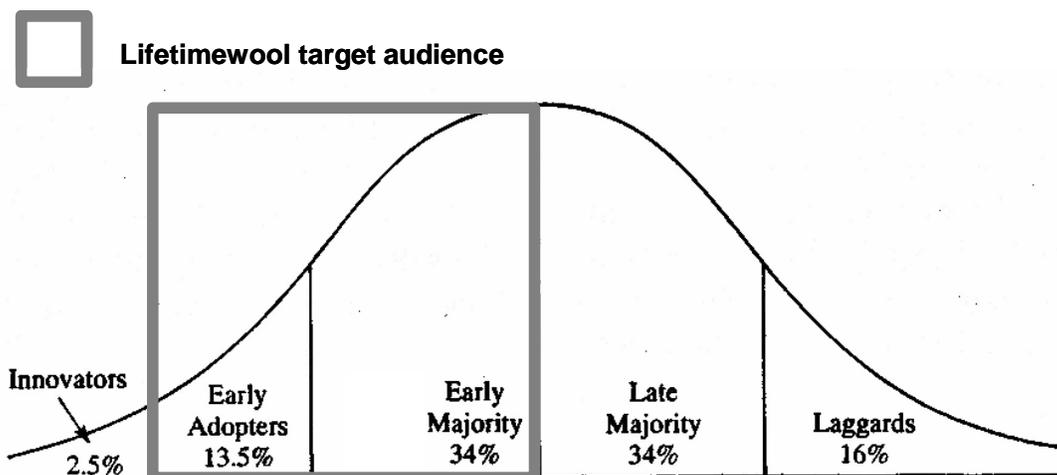
**Lifetimewool – Methodology for market segmentation  
based on ‘willingness to change’ questions in the 2005  
survey of sheep producers**

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## 1. Introduction

Lifetimewool has developed new guidelines for the management of the nutrition of ewes to meet production targets and increase whole-farm profit. The lifetimewool team recognises that farmers can be categorised on how quickly/likely they are to adopt an innovation (Rogers 1995, figure 1). Hence, in the communication and adoption plan developed by lifetimewool the primary targets are specialist sheep consultants and farmers in the early adopter and early majority segments of the market. The aim is to use consultants to help 50% of farmers in these segments of the market (~25% of all sheep producers) to change to a lifetimewool approach by 2008.

A survey of 1788 producers across Southern Australia in 2005 showed that 50% of the wool producers in the early majority and early adopter segments of the market were aware of lifetimewool. However, Rogers (1995) predicts that the perceived need/want to change of the farmers in these market segments will be different. What do these producers want before they are willing to change the way they manage their ewes? The lifetimewool team intends to analyse the 'felt-needs' of farmers classified as innovators, early adopters and early majority in order to design appropriate extension and decision support aids for these different segments of the market. The needs analysis will initially focus on indepth interviews to identify and define common themes (current practice, knowledge and future aspirations) that characterise the early adopters and early majority. However, before lifetimewool can begin the needs analysis, we need to identify farmers in these three market segments.



**Figure 1** Lifetimewool will target the early adopters and early majority. The adopter categorisation is based on how quickly an individual adopts an innovation. Innovators are the first and laggards are the last to adopt an innovation (Rogers, 1995).

## 2. Identifying innovators, early adopters and early majority farmers

Lifetimewool has surveyed farmers doing the Lifetime Ewe Management course with RIST in Vic and the Sheep's Back course in WA<sup>1</sup>. Fifty nine of the farmers doing the RIST course and 19 farmers from the Sheep's Back groups agreed to be involved in a needs analysis. In the survey the farmers were asked questions about how they manage their ewes, what they know about managing ewes. The surveys completed by these farmers are in appendix A. The survey included questions asking farmers how willing they were to try 5 practices that are recommended by lifetimewool.

Please rate your willingness to try the following approaches to ewe or pasture management on a scale of 1 to 5, with 1 indicating you are not at all willing and 5 indicating you are very willing.

Please indicate that the statement is not relevant if you are already using the approach.

- a. How willing are you to try formal systems of condition scoring, fat scoring or weighing of ewes to monitor their condition.
- b. How willing are you to try formal pasture assessment systems to calculate feed on offer, pasture growth rate and pasture quality.
- c. How willing are you to separate ewes into lighter and heavier mobs and manage the mobs according to their different nutritional needs?
- d. How willing are you try pregnancy scanning to separate twin bearing ewes to manage them as a separate mob.
- e. How willing are you to try a formal pasture budgeting program to assist with getting ewes to a target body weight or condition score.

*NOTE: In the analysis those wool producers who said they are very willing (5) and those who were already doing the practice were treated as the same.*

These questions were previously used in the survey of 1788 wool producers in 2006. The response of wool producers to these 5 questions about their 'willingness to change' were turned into a score used to assign producers to the market segments in shown in figure 1. The score was calculated using the matrix in table 1.

The matrix was designed to give more weighting to the questions that lifetimewool consider the most important.

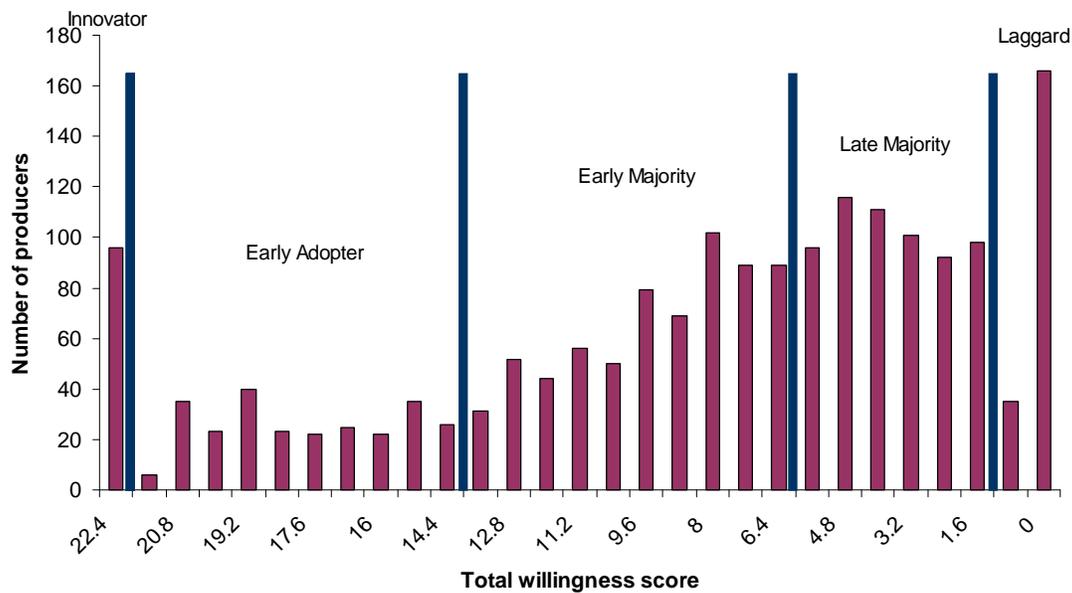
**Table 1** Calculating the score from willingness to change questions

Response	Questions				
	a	b	c	d	e
5 (very willing)	8	4.8	4	3.2	2.4
4	4	2.4	2	1.6	1.2
3	2	1.2	1	0.8	0.6
2	0	0	0	0	0
1 (not willing)	0	0	0	0	0
<b>Example</b>					
Responses to questions	3	4	2	5	1
Values	2	2.4	0	3.2	0
<b>Total</b>	<b>7.6 Early majority (see table 2)</b>				

Assuming that market for the adoption of innovations in ewe management by wool producers fitted the general model proposed by Rogers (1995), the 5 market categories are defined by the scores shown in table 2 and figure 2.

**Table 2** Segregation of wool growers surveyed by lifetimewool

% of producers surveyed	Segment category	Score to questions
2.7	Innovator	22.4 (perfect score)
13.0	Early Adopter	21.2 - 13
34.0	Early Majority	12.8 - 6.2
34.6	Late Majority	6 - 1.6
15.6	Laggard	1.4 - 0



**Figure 2** Distribution and segregation of wool growers surveyed by lifetimewool

This process was then used to allocate the farmers from the RIST and Sheep's back groups to one of the 5 possible market segments. Of the producers surveyed, 9 from the RIST course and 8 from the Sheep's Back have been identified as Early Majority producers using this process. The 17 producers will be represented as 1 to 17 with 1-9 being from the RIST course and 10-17 from the Sheep's Back course. The scores for these 17 farmers are in table 3.

**Table 3** Distribution of farmers in the RIST and Sheep's Back groups among the 5 market segments described by Rogers (1995). The numbers in the brackets in the Sheep's Back column are the farmers that agreed to be part of a needs analysis.

Market segment	Number of farmers RIST (59)	Number of farmers Sheep's back (67)
Innovators	23	0
Early adopters	25	18 (6)
Early majority	9	39 (8)
Late majority	2	18 (4)
Laggards	0	0

### 3. Producers to interview

The initial needs analysis will be done with producers selected from the RIST and Sheep's Back courses. The allocation of farmers into the adoption segments will be used as a guide to select farmers. The needs analysis will test this process to see if it successfully allocates farmers to the right categories.

This section will show the characteristics of the farmers selected for the initial interviews. 12 farmers have been selected, 6 from RIST and 6 from the Sheep's Back. The total willingness scores for these 12 producers are in table 4.

**Table 4** Total score for willingness for the 12 producers selected for the initial needs analysis interviews.

RIST		Sheep's Back	
Producer No	Score	Producer No	Score
28	20.4	1	18.8
41	16.0	5	15.2
45	14.0	6	14.4
51	11.2	10	8.8
52	11.2	11	8.8
54	9.6	14	6.8

The producers selected for the initial needs analysis were picked based on how they manage their ewes and pastures (tables below). These producers were selected because they manage their ewes and pastures in a range of ways from basic to more advanced methods. This should reflect different locations on the adoption curve.

### Current practice of farmers selected for needs analysis

Monitoring pastures	RIST	Sheep's Back
1. Eyeball your paddocks from the ute whenever you are driving through.	51	1, 5, 6, 10, 11
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	28, 52, 54	14
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	41, 45	
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.		

<b>Monitoring ewes</b>	<b>RIST</b>	<b>Sheep's Back</b>
1. Regular visual assessment in the paddock.	51	1
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	28, 45, 52, 54	5, 6, 10, 11, 14
3. You normally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.	41	
4. You condition score, fat score or weigh and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.		

<b>Supplementary feeding</b>	<b>RIST</b>	<b>Sheep's Back</b>
1. Only supplementary feed if absolutely necessary.		
2. Start hand feeding when ewes look like they have lost too much weight or condition.		
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	28, 51, 52, 54	1, 5, 10, 11
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	45	6
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	41	14

<b>Pregnancy testing</b>	<b>RIST</b>	<b>Sheep's Back</b>
1. No use of ultrasound scanning.	54	1, 11
2. Scan all ewes and remove non pregnant ewes from the mob.	28, 41, 45, 51, 52	5, 10, 14
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.		6

**Agreement with lifetimewool guidelines by producers selected for needs analysis  
(1=strongly disagree, 5=strongly agree)**

Qu.	Don't Know	1	2	3	4	5
Ewes higher in condition score at joining conceive more lambs			5	10	1, 6, 11	14, 28, 41, 45, 51, 52
Production from ewes and their progeny can be predicted from knowledge of the ewe condition score profile	54			5, 10, 52	1, 14, 28	6, 11, 41, 45, 51
Ewes with higher condition score at lambing will have less mortality than ewes with lower condition score			14	5, 10, 54		1, 6, 11, 28, 41, 45, 51, 52
Condition score can be managed to achieve predictable ewe fleece weight, fibre diameter and staple strength outcomes	54	41, 51	52	5, 14, 28, 45	1, 10, 11	6
Managing twin bearing ewes better will increase production			11	5, 14, 52, 54	1, 28	6, 10, 41, 45, 51
Condition scoring is a quick and reliable tool for managing ewes to targets				5, 45, 52	1, 14, 28,	6, 10, 11, 41, 51, 54
Improved ewe condition during pregnancy increases the progeny CFW by up to 0.2 kg and decreases the FD by up to 0.4 $\mu\text{m}$ .	28, 41, 45		52	5, 11, 54	1, 10	6, 51
These effects are permanent for the lifetime of the progeny and are independent of birth type and sire source	41, 52			54	28	51
Whole farm profit is sensitive to the changes in condition of ewes during the year		41	45	5, 51, 52, 54	1, 14, 28	6, 10, 11
Lamb survival at 48 hr can be predicted from changes in condition score between joining and lambing; however, the response is modified by environmental conditions at lambing	52, 54		14	5, 10, 11, 41, 45	1, 6, 11	45

#### 4. Characteristics of the producers in each market segment

To choose which of these producers will be interviewed as part of the needs analysis we can look at some of the characteristics of these farmers. The producers answered questions about how they manage their ewes and pastures and if they agree with lifetimewool guidelines. These responses are all from the results of the surveys in Appendix A.

##### 4.1 Sheep's Back Producers

There are 6 Early Adopter and 8 Early Majority producers from the Sheep's Back who are willing to be part of the needs analysis (table 5). The responses to the survey questions will be split into these 2 segments.

**Table 5** Total score for willingness for the 14 producers from the Sheep's Back course willing to be part of the needs analysis

Early Adopters (6)		Early Majority (8)	
Producer No	Score	Producer No	Score
1	18.8	7	12.8
2	17.6	8	10.0
3	16.0	9	9.2
4	16.0	10	8.8
5	15.2	11	8.8
6	14.4	12	7.6
		13	6.8
		14	6.8

##### 4.1.1 Sheep's Back current practice

###### *Early Adopters*

###### **Monitoring pastures (Sheep's Back – Early Adopters)**

1. Eyeball your paddocks from the ute whenever you are driving through.	1, 2, 3, 4, 5, 6
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	5
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

###### **Monitoring ewes (Sheep's Back – Early Adopters)**

1. Regular visual assessment in the paddock.	1, 2
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	3, 4, 5, 6
3. You normally 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 and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	
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### **Supplementary feeding (Sheep's Back – Early Adopters)**

1. Only supplementary feed if absolutely necessary.	
2. Start hand feeding when ewes look like they have lost too much weight or condition.	4
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	1, 2, 5
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	3, 6
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	

### **Pregnancy testing (Sheep's Back – Early Adopters)**

1. No use of ultrasound scanning.	1
2. Scan all ewes and remove non pregnant ewes from the mob.	3, 4, 5
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	2, 6

### *Early Majority*

### **Monitoring pastures (Sheep's Back – Early Majority)**

1. Eyeball your paddocks from the ute whenever you are driving through.	8, 9, 10, 11, 12
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	7, 13, 14
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

### **Monitoring ewes (Sheep's Back – Early Majority)**

1. Regular visual assessment in the paddock.	7, 9, 12, 13
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	8, 10, 11, 14
3. You normally 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 and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	

### Supplementary feeding (Sheep's Back – Early Majority)

1. Only supplementary feed if absolutely necessary.	
2. Start hand feeding when ewes look like they have lost too much weight or condition.	8, 12
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	9, 10, 11, 13
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	7
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	14

### Pregnancy testing (Sheep's Back – Early Majority)

1. No use of ultrasound scanning.	11, 13
2. Scan all ewes and remove non pregnant ewes from the mob.	10, 12, 14
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	7, 8, 9

#### 4.1.2 Agreement with lifetimewool guidelines

The producers were asked if they agree with lifetimewool guidelines. These questions were asked to understand how much the producers know about ewe management.

Please rate each of the 10 statements according to your level of agreement with each of the statements:

1= Strongly disagree with the statement, 5= Strongly agree with statement.

Qu.	Statements relating to your farm management practices
a	Ewes higher in condition score at joining conceive more lambs
b	Production from ewes and their progeny can be predicted from knowledge of the ewe condition score profile
c	Ewes with higher condition score at lambing will have less mortality than ewes with lower condition score
d	Condition score can be managed to achieve predictable ewe fleece weight, fibre diameter and staple strength outcomes
e	Managing twin bearing ewes better will increase production
f	Condition scoring is a quick and reliable tool for managing ewes to targets
g	Improved ewe condition during pregnancy increases the progeny CFW by up to 0.2 kg and decreases the FD by up to 0.4 $\mu\text{m}$ .
h	These effects are permanent for the lifetime of the progeny and are independent of birth type and sire source
i	Whole farm profit is sensitive to the changes in condition of ewes during the year
j	Lamb survival at 48 hr can be predicted from changes in condition score between joining and lambing; however, the response is modified by environmental conditions at lambing

**Agreement with lifetimewool guidelines (Sheep's Back – Early Majority)**

Qu.	Don't Know	1 (strongly disagree)	2	3	4	5 (strongly agree)
a			5	4	1, 3, 6	2
b	2			5	1, 3, 4	6
c				4, 5		1, 2, 3, 6
d				5	1, 2, 4	3, 6
e				5	1, 4	2, 3, 6
f				5	1, 2, 4	3, 6
g	2			5	1, 3, 4	6
h	Sheep's Back farmers were not asked question h					
i				5	1, 2	3, 4, 6
j				5	1, 2, 6	3, 4

**Agreement with lifetimewool guidelines (Sheep's Back – Early Majority)**

Qu.	Don't Know	1 (strongly disagree)	2	3	4	5 (strongly agree)
a				10	9, 11	7, 8, 12, 13, 14
b				9, 10, 12, 13	8, 14	7, 11
c			14	10, 13	9, 12	7, 8, 11
d			12	8, 9, 14	7, 10, 11, 13	
e			11	7, 9, 12, 13, 14		8, 10
f				9	7, 12, 13, 14	8, 10, 11
g			9	11	7, 8, 10, 13	
h	Sheep's Back farmers were not asked question h					
i				9, 13	7, 9, 13, 14	10, 11
j				9, 10, 11	7, 12, 13, 14	8

#### 4.2 RIST Producers

There are 22 Innovators, 24 Early Adopter and 9 Early Majority producers from the RIST groups (table 6). The responses to the survey questions will be split into these 3 segments.

**Table 6** Total score for willingness for the 55 producers from the RIST course willing to be part of the needs analysis

Innovators (22)		Early Adopters (24)		Early Majority (9)	
Producer No	Score	Producer No	Score	Producer No	Score
1	22.4	23	21.2	47	12.8
2	22.4	24	20.8	48	12.4
3	22.4	25	20.8	49	12.0
4	22.4	26	20.8	50	11.6
5	22.4	27	20.4	51	11.2
6	22.4	28	20.4	52	11.2
7	22.4	29	20.4	53	10.8
8	22.4	30	20.0	54	9.6
9	22.4	31	20.0	55	8.4
10	22.4	32	20.0		
11	22.4	33	18.8		
12	22.4	34	18.8		
13	22.4	35	18.8		
14	22.4	36	18.0		
15	22.4	37	17.2		
16	22.4	38	16.8		
17	22.4	39	16.8		
18	22.4	40	16.4		
19	22.4	41	16.0		
20	22.4	42	15.2		
21	22.4	43	15.2		
22	22.4	44	14.4		
		45	14.0		
		46	14.0		

## 4.2.1 Current practice of producers in RIST course

### *Innovators*

#### **Monitoring pastures (RIST Innovators)**

1. Eyeball your paddocks from the ute whenever you are driving through.	5, 10
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	1, 2, 3, 4, 6, 8, 9, 11, 13, 16, 17, 18, 20, 21, 22
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	7, 14, 15, 19
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	12

#### **Monitoring ewes (RIST Innovators)**

1. Regular visual assessment in the paddock.	2, 4, 5, 8, 9, 10, 11
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	1, 3, 6, 13, 16, 17, 20, 22
3. You normally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.	14, 15, 18, 19, 21
4. You condition score, fat score or weigh and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	7, 12

#### **Supplementary feeding (RIST Innovators)**

1. Only supplementary feed if absolutely necessary.	
2. Start hand feeding when ewes look like they have lost too much weight or condition.	4, 9, 10
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	1, 2, 3, 5, 13, 16, 17, 20, 21
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	6, 7, 11, 12, 14, 15, 18, 19, 22
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	8

#### **Pregnancy testing (RIST Innovators)**

1. No use of ultrasound scanning.	5, 6, 10, 13, 14
2. Scan all ewes and remove non pregnant ewes from the mob.	1, 20
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	2, 3, 4, 7, 8, 9, 11, 12, 15, 16, 17, 18, 19, 21, 22

## **Early Adopters**

### **Monitoring pastures (RIST Early Adopters)**

1. Eyeball your paddocks from the ute whenever you are driving through.	26, 27, 30, 36, 37, 40, 46
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	23, 24, 25, 28, 29, 31, 32, 33, 34, 35, 42, 43, 44
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	38, 39, 41, 45
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

### **Monitoring ewes (RIST Early Adopters)**

1. Regular visual assessment in the paddock.	27, 33, 36, 37, 46
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	23, 24, 25, 28, 29, 30, 31, 32, 34, 38, 39, 40, 42, 43, 44, 45
3. You normally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.	35, 41
4. You condition score, fat score or weigh and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	26

### **Supplementary feeding (RIST Early Adopters)**

1. Only supplementary feed if absolutely necessary.	34, 42
2. Start hand feeding when ewes look like they have lost too much weight or condition.	33, 40, 46
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	25, 28, 30, 31, 32, 37, 38, 43, 44
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	23, 24, 26, 27, 29, 36, 39, 45
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	35, 41

### **Pregnancy testing (RIST Early Adopters)**

1. No use of ultrasound scanning.	27, 30, 32, 33, 35, 36, 39, 40, 42, 43, 46
2. Scan all ewes and remove non pregnant ewes from the mob.	24, 25, 28, 37, 41, 45
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	23, 26, 29, 31, 34, 38, 44

## **Early Majority**

### **Monitoring pastures (RIST Early Majority)**

1. Eyeball your paddocks from the ute whenever you are driving through.	47, 48, 51
2. Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	49, 50, 52, 54, 55
3. Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g from training, field days and books etc.	53
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

### **Monitoring ewes (RIST Early Majority)**

1. Regular visual assessment in the paddock.	51
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	47, 48, 50, 52, 53, 54, 55
3. You normally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.	49
4. You condition score, fat score or weigh and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	

### **Supplementary feeding (RIST Early Majority)**

1. Only supplementary feed if absolutely necessary.	47, 55
2. Start hand feeding when ewes look like they have lost too much weight or condition.	48
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	50, 51, 52, 54
4. You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	49, 53
5. Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	

### **Pregnancy testing (RIST Early Majority)**

1. No use of ultrasound scanning.	47, 53, 54, 55
2. Scan all ewes and remove non pregnant ewes from the mob.	48, 51, 52
3. Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	49, 50

#### 4.2.2 RIST agreement with lifetimewool guidelines

The producers were asked if they agree with lifetimewool guidelines. These questions were asked to understand how much the producers know about ewe management.

Please rate each of the 10 statements according to your level of agreement with each of the statements:

1= Strongly disagree with the statement, 5= Strongly agree with statement.

<b>Qu.</b>	<b>Statements relating to your farm management practices</b>
<b>a</b>	Ewes higher in condition score at joining conceive more lambs
<b>b</b>	Production from ewes and their progeny can be predicted from knowledge of the ewe condition score profile
<b>c</b>	Ewes with higher condition score at lambing will have less mortality than ewes with lower condition score
<b>d</b>	Condition score can be managed to achieve predictable ewe fleece weight, fibre diameter and staple strength outcomes
<b>e</b>	Managing twin bearing ewes better will increase production
<b>f</b>	Condition scoring is a quick and reliable tool for managing ewes to targets
<b>g</b>	Improved ewe condition during pregnancy increases the progeny CFW by up to 0.2 kg and decreases the FD by up to 0.4 $\mu\text{m}$ .
<b>h</b>	These effects are permanent for the lifetime of the progeny and are independent of birth type and sire source
<b>i</b>	Whole farm profit is sensitive to the changes in condition of ewes during the year
<b>j</b>	Lamb survival at 48 hr can be predicted from changes in condition score between joining and lambing; however, the response is modified by environmental conditions at lambing

**RIST Innovators Knowledge**

Qu.	Don't Know	1 (strongly disagree)	2	3	4	5 (strongly agree)
a		12	8, 9		1, 5, 10, 14, 19	2, 3, 4, 6, 7, 11, 15, 16, 17, 18, 20, 21, 22, 23,
b	11			2, 5, 8, 12, 13, 22	1, 9, 14, 15, 16, 20	3, 4, 6, 7, 10, 17, 18, 19, 21, 23
c		8	9	12, 13, 22	1, 5, 14, 20	2, 3, 4, 6, 7, 10, 11, 15, 16, 17, 18, 19, 21, 23
d	5, 8, 9, 11, 12, 18, 22			1, 4, 13, 19	2, 14, 16, 20, 23	3, 6, 7, 10, 15, 17, 21
e		8		5, 11, 13	1, 14, 16, 17, 20	2, 3, 4, 6, 7, 9, 10, 12, 15, 18, 21, 22, 23
f	7		8	1, 4, 5, 11, 13, 20	14	2, 3, 6, 9, 10, 12, 15, 16, 17, 19, 21, 22, 23
g	5, 7, 8, 9, 11, 12, 15, 18, 22	1		4, 19, 20	2, 14, 21	3, 6, 10, 16, 23
h	5, 8, 11, 12, 15, 18, 22		1	4, 9	2, 14, 19, 20, 21	3, 6, 7, 10, 16, 23
i	5, 15, 18		8	1, 11, 12, 13, 19	9, 14, 16, 20, 22, 23	2, 3, 4, 6, 7, 10, 17, 21
j	5, 15, 18	8	9	1, 4, 11, 12, 13, 22	6, 14, 16, 19, 20, 21	2, 3, 7, 10, 23

### RIST Early Adopters Knowledge

Qu.	Don't Know	1 (strongly disagree)	2	3	4	5 (strongly agree)
a			36	42, 43	24, 26, 27, 31, 35, 38, 44	23, 25, 28, 29, 30, 32, 33, 34, 37, 39, 40, 41, 45, 46
b	31, 36, 43			25, 26, 27, 29, 38, 40, 42, 44	24, 28, 34, 35, 37	23, 32, 33, 39, 41, 45, 46
c		46		26, 27, 35, 36, 40, 42, 43, 44	25	23, 24, 28, 29, 30, 31, 32, 33, 34, 37, 38, 39, 41, 45
d		41, 46	34, 36	27, 28, 31, 42, 43, 44, 45	23, 24, 30, 38	25, 26, 32, 33, 35, 37, 39, 40
e			43	30, 36, 42, 46	27, 28	23, 24, 25, 26, 29, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 44, 45
f	43		46	26, 27, 29, 38, 42, 44, 45	28, 31, 35, 37, 40	23, 24, 25, 30, 32, 33, 34, 36, 39, 41
g	26, 28, 34, 36, 40, 41, 42, 43, 45	46	27		24, 30, 35, 37	23, 25, 31, 32, 33, 38, 39
h	26, 34, 36, 40, 41, 43,			27, 39, 46	28, 30, 35, 37	23, 24, 25, 31, 32, 33, 38
i	31	27, 41, 45		26, 29, 34, 36, 40, 42, 43, 44, 46	23, 24, 28, 30, 33, 35, 38, 39	25, 32, 37
j	24, 27, 31, 43	40	28	34, 39, 41, 42, 45, 46	29, 33, 36, 37, 38	23, 25, 26, 30, 32, 35

### RIST Early Majority Knowledge

Qu.	Don't Know	1 (strongly disagree)	2	3	4	5 (strongly agree)
a					47, 49	48, 50, 51, 52, 53, 55
b	47, 54			49, 52, 53	48, 50	51, 55
c				54	47, 49	50, 51, 52, 53, 55
d	53, 54	51	52	47, 48, 49	50	55
e				52, 53, 54	49	47, 48, 50, 51,

						55
f	47			49, 52	48, 50	51, 53, 54, 55
g	47, 49, 53		48, 52	54	50	51
h	47, 49, 52, 53			48, 54	50	51
i	49, 53		48	47, 51, 52, 54		50, 55
j	47, 49, 50, 52, 53, 54				48	51, 55

## References

Rogers, E.M., (1995), *Diffusion of Innovations*, Fourth Ed, The Free Press, New York

**Appendix A** Surveys for needs analysis  
lifetimewool workshop

lifetimewool want to provide producers with information that is relevant and useful. Improvements to lifetimewool communication relies on feedback from producers. Please take a few minutes to do this survey. Your responses will be confidential and all responses will be stored anonymously.

- 1) How many sheep did you shear last year? \_\_\_\_\_
- 2) How many of those sheep were adult Merino ewes? \_\_\_\_\_
- 3) Approximately how many bales of wool do you produce in a normal year?
- 4) If you have Merino's, what was the micron of your main fleece line for the last wool clip in a normal year?
- 5) What area of pasture do you use for grazing sheep in winter? (specify hectares or acres) \_\_\_\_\_
- 6) What month do you normally join your ewes? \_\_\_\_\_
- 7) What number of lambs would you expect to wean / 100 Merino ewes joined in an average year?
- 8) What number of lambs did you wean / 100 Merino ewes joined this year?

10) Please tick the approach that most resembles your current practice when monitoring pastures.

1. Eyeball your paddocks from the ute whenever you are 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 and books etc.	
4. Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

11) Please tick the approach that most resembles your current practice when monitoring ewes.

1. Regular visual assessment in the paddock.	
2. Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	
3. You normally 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 and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	

12) Please tick the approach that most resembles how you supplementary feed your ewes.

1. Only supplementary feed if absolutely necessary.	
2. Start hand feeding when ewes look like they have lost too much weight or condition.	
3. Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	
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.	

13) Please indicate if you pregnancy scan your ewes. Tick the appropriate box..

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.	

14) Please rate your willingness to try the following approaches to ewe or pasture management on a scale of 1 to 5, with 1 indicating you are not at all willing , 5 indicating you are very willing and already doing indicating you are already using the approach. Tick the appropriate box.

	1	2	3	4	5	Already doing
How willing are you to try formal pasture assessment systems to calculate feed on offer, pasture growth rate and pasture quality?						
How willing are you to try formal systems of condition scoring, fat scoring or weighing of ewes to monitor their condition?						
How willing are you to separate ewes into lighter and heavier mobs and manage the mobs according to their different nutritional needs?						
How willing are you to try a formal feed pasture budgeting program to manage ewes to a target body weight or condition score?						
How willing are you try pregnancy scanning to separate twin bearing ewes to manage them as separate mobs?						

15) Please rate your agreement with each of the statements from 1 to 5, with 1 indicating you strongly disagree and 5 meaning you strongly agree. Tick the appropriate box.

	1	2	3	4	5
Ewes higher in condition score at joining conceive more lambs					
These effects are permanent for the lifetime of the progeny and are independent of birth type and sire source					
Production from ewes and their progeny can be predicted from knowledge of the ewe condition score profile					
Ewes with higher condition score at lambing will have less mortality than ewes with lower condition score					
Condition score can be managed to achieve predictable ewe fleece weight, fibre diameter and staple strength outcomes					
Managing twin bearing ewes better will increase production					
Condition scoring is a quick and reliable tool for managing ewes to targets					
Improved ewe condition during pregnancy increases the progeny CFW by up to 0.2 kg and decreases the FD by up to 0.4 $\mu\text{m}$ .					
Whole farm profit is sensitive to the changes in condition of ewes during the year					
Lamb survival at 48 hr can be predicted from changes in condition score between joining and lambing; however, the response is modified by environmental conditions at lambing					

15) Do you belong to any sheep or wool producer groups? Yes/No (*tick boxes, add names of other groups mentioned*)

- Edge network
- Grain and Graze
- Pastures from Space

16) Do you get information and advice about ewe nutrition and management from private consultants? Yes No

Can **lifetime**wool contact you to learn more about the type of information you would like from **lifetime**wool? Yes No

If yes what are your details

Name

Phone number

Thankyou for taking the time to complete this survey.

## Pre Course Survey All Group Summary

### Lifetime Ewe Management Yr 1 (RIST)

Main Farming Enterprise	
CFA Map Location (if known)	
Property size	
Position held on the farm	
Years of experience in farming	

### Section 3. Background Information

#### 3.1. Farming Operation

1. How many adult sheep did you run on your property last year?
2. Of these sheep how many were joined to wool sires and how many to meat sires?  
Merino x Merino  
Merino x TS  
X-Bred
3. Approximately how many bales of wool do you produce in a normal year?
4. If you have Merino's, what was the micron of your main fleece line for the last wool clip in a normal year?
5. In what month(s) do you normally join your ewes?
6. What number of lambs would you expect to wean / 100 ewes joined in an average year?  
Merino ewes  
X-Bred Ewes
7. What number of lambs did you wean / 100 ewes joined this year?  
Merino lambs  
X-Bred lambs

### 3.2. Farm Management Practices

1. In the table below please tick the approaches that most resemble your current practice in relation to monitoring pastures

Monitoring Pastures	Current Practice (responses)
a) Eyeball your paddocks from the ute whenever you are driving through.	
b) Visually estimate/guess the amount of feed on offer (Kg DM/Ha) particularly during important periods.	
c) Regular assessments of feed on offer and pasture growth rate using formal assessment techniques e.g. from training, field days and books etc.	
d) Formal assessment of feed on offer, pasture growth rate and pasture quality, specifically for calculation of a formal feed budget.	

2. In the table below please tick the approaches that most resemble your current practice in relation to monitoring ewes

Monitoring Ewes	Current Practice (responses)
a) Regular visual assessment in the paddock.	
b) Visually estimate in the paddock and occasionally fat score, condition score or weigh a sample of the ewes when they are in the yards.	
c) You normally fat score, condition score or weigh a sample of each mob and manage to average mob targets for joining/lambing/weaning.	
d) You condition score, fat score or weigh and draft all ewes, manage mobs according to condition to meet set targets for joining/lambing/weaning.	

3. In the table below please tick the approaches that most resemble your current practice in relation to supplementary feeding of ewes.

Supplementary Feeding of Ewes	Current Practice (responses)
a) Only supplementary feed if absolutely necessary.	
b) Start hand feeding when ewes look like they have lost too much weight or condition.	
c) Hand feed if ewe's fat score, condition score or body weight fall below your target condition score/weight.	
d) You adjust hand feeding after measuring pastures and assessing the condition or weight of ewes.	
e) Use pasture budgeting calculations or software to calculate the feed requirements of ewes.	

4. In the table below please tick the approaches that most resemble your current practice in relation to scanning of pregnant ewes.

Pregnancy Scanning of Ewes	Current Practice (responses)
a) No use of ultrasound scanning.	
b) Scan all ewes and remove non pregnant ewes from the mob.	
c) Scan ewes to detect pregnancy and litter size and manage single and twin ewes separately and according to their different energy requirements.	

5. In the table below please rate the 5 questions listed according to their current relationship to your on farm management practices:

**Rating Scale**

**1 = you are not prepared to try this approach**

**3 = you are prepared to try this approach with some hesitation**

**5 = you are very prepared to adopt this type of approach and operations.**

Questions relating to your farm management practices	1	2	3	4	5	Already doing (responses)
Are you prepared to try formal pasture assessment systems to calculate feed on offer, pasture growth rate and pasture quality?						
Are you prepared to try formal systems of condition scoring, fat scoring or weighing of ewes to monitor their condition?						
Are you prepared to separate ewes into lighter and heavier mobs and manage the mobs according to their different nutritional needs?						
Are you prepared to try a formal feed pasture budgeting program to manage ewes to a target body weight or condition score?						
Are you prepared to try pregnancy scanning to separate twin bearing ewes to manage them as separate mobs?						

6. In the table below please rate each of the 10 statements according to your level of agreement with each of the statements:

**Rating Scale**

1= Strongly disagree with the statement

5= Strongly agree with statement.

Statements relating to your farm management practices	Don't Know	1	2	3	4	5
Ewes higher in condition score at joining conceive more lambs						
Production from ewes and their progeny can be predicted from knowledge of the ewe condition score profile						
Ewes with higher condition score at lambing will have less mortality than ewes with lower condition score						
Condition score can be managed to achieve predictable ewe fleece weight, fibre diameter and staple strength outcomes						
Managing twin bearing ewes better will increase production						
Condition scoring is a quick and reliable tool for managing ewes to targets						
Improved ewe condition during pregnancy increases the progeny CFW by up to 0.2 kg and decreases the FD by up to 0.4 $\mu\text{m}$ .						
These effects are permanent for the lifetime of the progeny and are independent of birth type and sire source						
Whole farm profit is sensitive to the changes in condition of ewes during the year						
Lamb survival at 48 hr can be predicted from changes in condition score between joining and lambing; however, the response is modified by environmental conditions at lambing						

7. Do you belong to any sheep or wool producer groups?

Yes / No

*If yes which of the following groups/organizations or (of the following please tick the appropriate boxes and add names of any other groups/organizations that you are involved with.)*

Bestwool

FM 500

Bestlamb

Other

LambCheque, Prograze etc

Grain and Graze

PPP

- **Do you source information and advice about ewe nutrition and management from the following?**

**Yes / No**

**If yes, please tick appropriate boxes;**

**private farm consultant**

**government extension officer**

**agribusiness agronomist**

**agribusiness stock agent**

**Other**

- 9. Are there any specific issues that you would like addressed in the Lifetime Ewe Management course?**

**YES**

**NO**