final report

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Flock Rebuilding - Pregnancy Scanning and Ewe Management

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MUTTON & LAMB

BUDGET $12,112.50

Aim:
For producers to learn more about the reproductive performance of their flock and management options by using pregnancy scanning to identity dry ewes, ewes with singles and ewes with twins.
To improve the producers understanding of the nutritional requirement of the ewe and how to condition score.
To determine if the pregnancy scanning management practice can increase productivity and is economically viable.
Rebuild the sheep flock in the Eyre Peninsula Fire Area.

Objectives:
Identify the percentage of dry/singles/twins/triplet ewes within the sheep flock and between flocks.
Increase lambing percentage from the average of 80% to 100% and reduce lamb wastage from scanning to marking.
Increase gross margin for a self-replacing merino flock stocked at 8 DSE per hectare from $195 per hectare to $223 per hectare by increasing weaning percentage from 80% to 100%.
Increase ewe survival by improving nutrition for ewes with multiple lambs.
Separate the dry/singles/twins ewes and feed accordingly to their nutritional requirements. Calculate the extra cost of the supplementary feed or feed saved.
Management options producers used after scanning. eg selling dry ewes
Condition score of ewes within flock and between flocks.
Past lambing percentage and reproductive management of the flock.
Analyse the economics of the different ewe management options.

Co-ordinator's Comments

21/2/2007	Great effort in many aspects of reproduction. Increased use of pregnancy testing in the district. Much better understanding of ewe nutrition, both during pregnancy and lactating. Up to 145% lambing in multiple mobs. Average of 90% lambing in group.
3/8/2006	12 members have scanned over 10,000 ewes and autumn lambing looks to be above average. Unfortunately the plan to leave a mob or two not scanned has not happened so have asked group to work on ways to find the MEASURES of success from scanning. Also to identify the benefits of separating twin bearing ewes.

PIRD 2006/S01
Lower Eyre Sheep Production Group

Final Report

Flock Rebuilding – "Pregnancy Scanning and Ewe Management

PRODUCER INITIATED RESEARCH DEVELOPMENT - PIRD Program

Contents

Acknowledgments

Farmers involved in the project for providing scanning results and lambing percentages.

Cousins Merino services for scanning the ewes

Project summary

- All producers indicated that their experience with pregnancy scanning was worth while and will scan again in 2007
- Farmers were able to get together and share results and experience's, which was valued highly by the participants

The results

- Ram joining percentage ranged from 0.5% to 2.75% averaging 1.93%
- Ewes were in condition score 3-4 from mating to lambing
- 13% of the ewes scanned were dry
- There was a 3% ewe death rate from scanning to marking
- The lambing percentage of the ewes mated was 89.6%
- The lambing percentage of the ewes scanned in lamb was 102 %
- Twin ewe mobs that were managed separately had an average lambing percentage of 145.4%
- The lambing percentage of ewes scanned in lamb, for Merino ewes mated to Merino rams was the same as Merino ewes mated to terminal sires.
- Improved understanding of the reproductive performance of the flock

Changes to implement

- Increase knowledge of nutritional requirements of pregnant and lactating ewes
- Improve feeding of pregnant and lactating ewes
- Set up enough paddocks so more mobs can be managed separately.
- Improve ewe management to reduce lamb wastage

Introduction

The project was initiated by the Sheep Production Group on the Lower Eyre Peninsula. The Sheep Production Group was started at the end of 2005 to support sheep producers in the area that was affected by the Bushfire in January 2005.

Aims

- For producers to learn more about the reproductive performance of their flock and their management options by using pregnancy scanning to identify dry ewes, ewes with singles and ewes with twins.
- To improve the producers understanding of the nutritional requirement of the ewe and how to condition score.
- To determine if the pregnancy scanning management practice can increase productivity and is economically viable.
- To enhance rebuilding of the sheep on farms flock in the Eyre Peninsula fire area

Method

- Producers in the group to arrange for their ewes to be scanned.
- Individual farmers chose to either wet/dry or scan for multiples depending on their management plans.
- Manage ewes according to pregnancy status
- Supplementary feeding to be given according to pregnancy status. (refer to appendix 7 for sheet used to calculate supplementary feed requirements).
- Condition score at scanning, before lambing and at marking
- Scanning results and ewe/ram management were reported to Daniel Schuppan
- Lambing percentages were reported to Daniel Schuppan
- Collation of results and discussion at Sheep Production Group Meeting

Project Activities

2006

- Scanning — February and April
- Sheep Group Meeting - Presentation on scanning and results — March
  Presentation of Lifetime Wool Project – Katrina Copping SARDI
  Condition scoring workshop
- Lamb Marking — June and August
- Sheep Group Meeting – Presentation of results and — October
  - Sheep weighing/ electronic drafting equipment demonstration
  - Individual farm reports

2007

- Final Report — January

Results

Summary

- Scanning was completed in the first week of February and April by Paul Cousins from Cousins Merino Services located at Burra
- 11 producers were involved with 10,640 ewes scanned

Ewes	*Rams*
5000 Merino	Merino
4500 Merino	Terminal meat sires
1000 Dorper cross	Dorper
115 Merino	Dohne

Table 1. Approximate breakdown of how many ewes were joined to different breeds of rams.

Ram Performance

- Ram joining percentage ranged from 0.5% to 2.75% with an average of 1.93%
- 1 producer used teasers'
- Some rams were given lupins prior to joining

Nutritional Requirements of the ewes

- Due to summer rains the stubbles and pastures provided enough feed for the sheep and minimal supplementary feed was required. The supplementary feed calculator was therefore not required.

Ewe Condition score

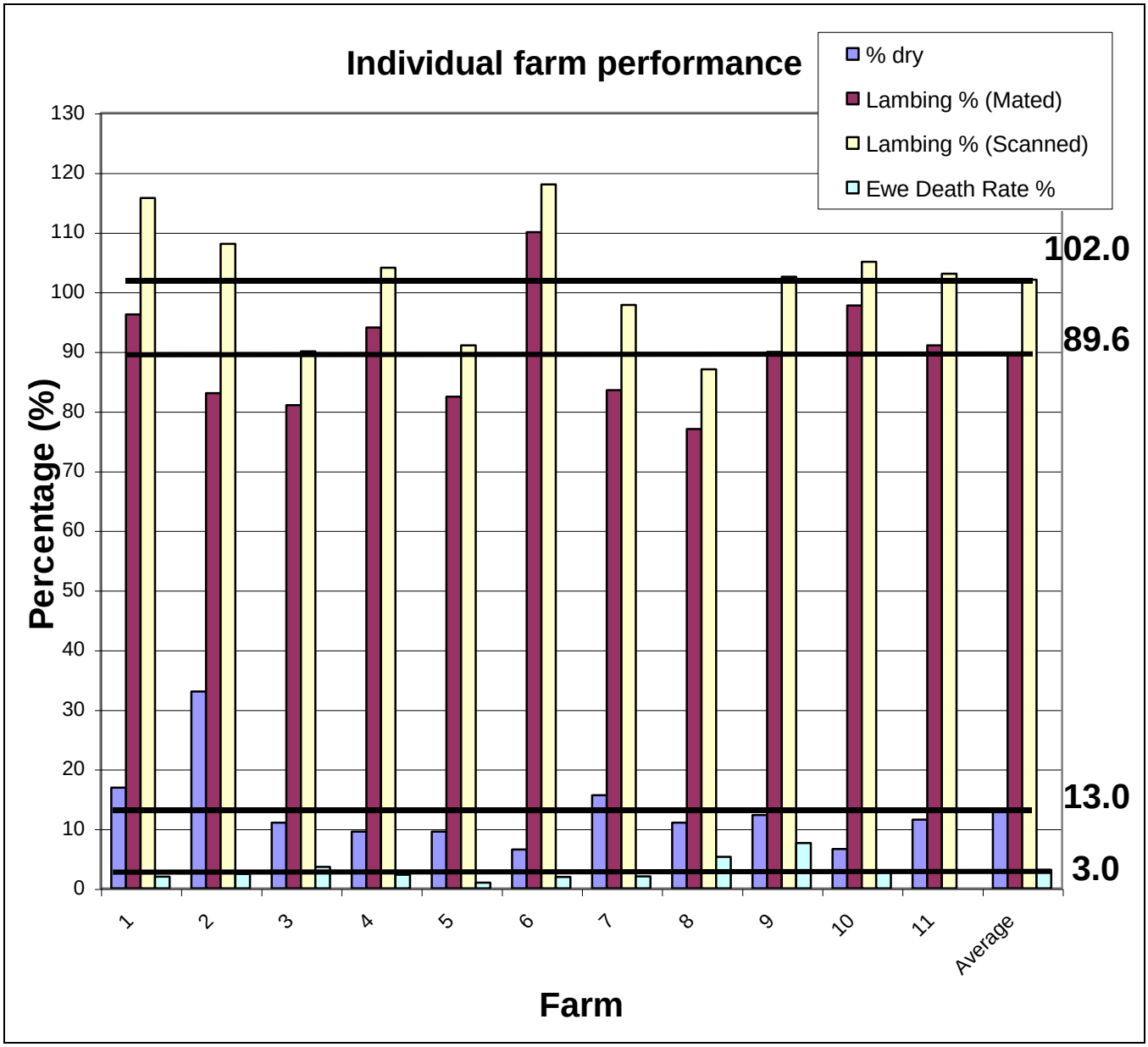
- 95% of the ewes scanned were in condition score 3-4 at scanning and through to lambing.

Paddock conditions

- Majority of the participants fox baited and had shelter in their paddocks.
- Pastures were good early in the season due to the early break.

Terminology

Lambing percentage (mated/joined)= number of lambs at marking divided by number of ewes joined.
Lambing percentage (scanned) = number of lambs at marking divided by number of ewes scanned in lamb
Scanning percentage = number of ewes scanned in lamb, divided by ewes joined or (100 - % of dry ewes)
Lambs scanned percentage = number of lambs scanned, divided by ewes joined.



Graph 1. Summary of individual farm performance for all ewes on the farm (Scanning percentage is 100% less percentage of dry ewes)

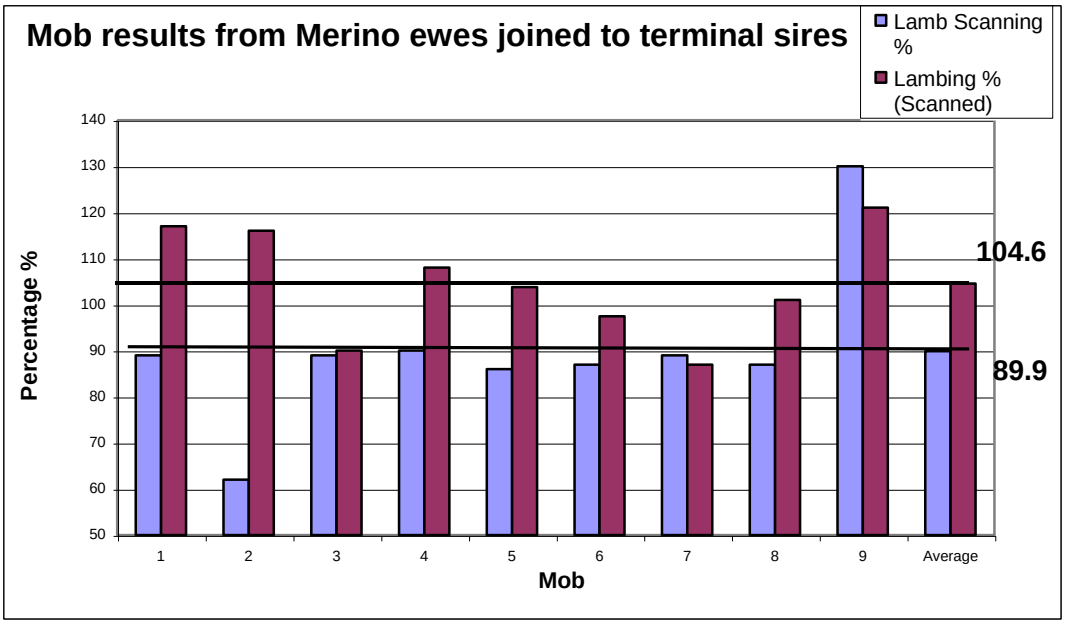
The results in table 2 show that across the 11 farms that on average

- 13% of the ewes scanned were dry
- There was a 3% ewe death rate from scanning to marking
- The lambing percentage of the ewes mated was 89.6%
- The lambing percentage of the ewes scanned in lamb was 102 %

Lambing time

Farm 1 Split lambing Autumn and Winter
Farm 2,3,4,5,6,7 Winter
Farm 8,9,10,11 Autumn

Farm 1 – Had a high dry percentage due to a majority of dry ewes re-mated from autumn lambing were dry again at winter lambing.
Farm 2 – Had a high dry percentage due to lambs being weaned and rams being put in within the same week to get lambing time back to normal.

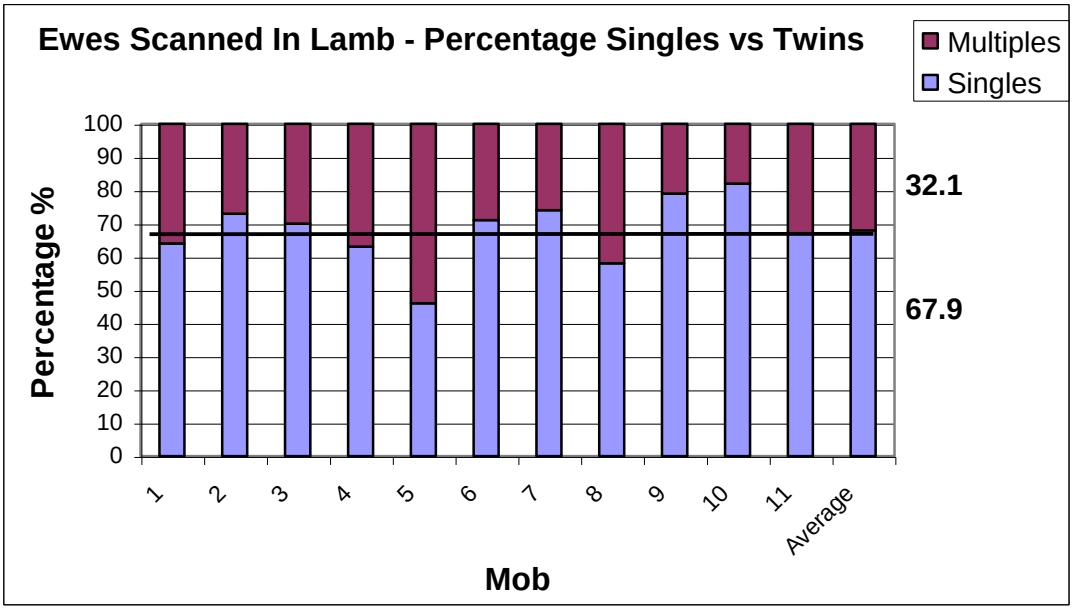


Graph 2. Lamb scanning percentage and lambing percentage on ewes scanned in lamb for Merino ewes joined to terminal sires.

Graph 2 shows that on average the lamb scanning percentage for Merino ewes joined to terminal sires was 89.9%. The lamb scanning percentage was high in mob 9 as the mob was scanned for multiples. The average lambing percentage on scanned in lamb Merino ewes joined to terminal sires was 104.6 %.

Graph 3. Lamb scanning percentage and lambing percentage on ewes scanned in lamb for Merino ewes joined to Merino sires.

Graph 3 shows that on average the lamb scanning percentage for Merino ewes mated to Merino sires was, 107.5%. The lamb scanning percentage is high in mobs 1,4,5,7 as they were scanned for multiples. The average lambing percentage on scanned in lamb Merino ewes joined to Merino sires was 104.9 %.



Graph 4. Percentage of ewes with singles and twins in all individual mobs scanned for multiples.

Graph 4 shows that for the mobs scanned for multiples that on average 67.9% of the ewes scanned in lamb had a single lamb and 32.1% of ewes scanned in lamb were having twins.

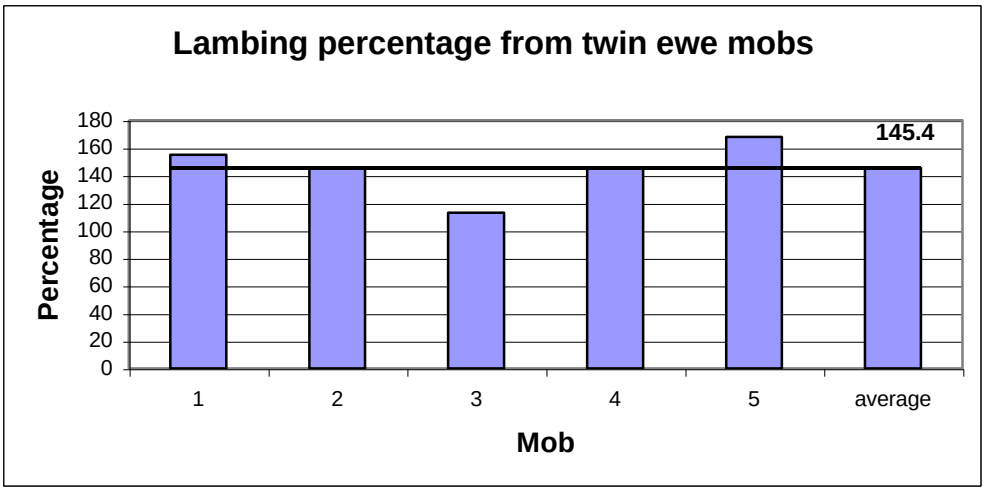
Mob 5 had the highest scanning of twin ewes with 53% of the ewes scanned in lamb having twins. The mob had 11 dry ewes, 109 scanned to singles and 123 scanned for twins. If all of the lamb were to survive 70% of the lambs would have been a twin lamb.

March - May lambing		
Mob	**Singles %**	**Twins %**
4	63	37
6	71	29
7	74	26
8	58	42
9	79	21
10	82	18
11	67	33
Average	70.5	29.4

June- July lambing		
Mob	**Singles %**	**Twins %**
1	64	36
2	73	27
3	70	30
5	46	54
Average	63.2	36.7

Table 2 & 3. Lambing times for different mobs scanned for multiples.

Table 2 and 3 show that for the mobs in graph 4 that there is a higher percentage of twins in the later lambing mobs. Although this is a small sample of mobs Paul Cousin's observation that across South Australia this was the trend.



Graph 5. Lambing percentage for twin ewe mobs kept separate

Graph 5 shows that the twin ewe mobs that were managed separately had an average lambing percentage of 145.4%

Lamb wastage from farm X (refer to appendix for full results)

Lambs	Lambing (Scanning)	Number %lambs dead	Lamb Deaths %
Merino Singles	86.5	45	13.5
Merino Twins	113.3	111	43.4
Merino X White Suffolk Singles	100	0	0
Merino X White Suffolk Twins	145	83	27.5
Total	**105**	**239**	**21.7**

Table 4. Summary of lamb wastage from scanning to marking for farm X

Farm X scanned all their ewes for multiples and managed them separately. The mobs did not include any dry ewes. The ewes mated to White Suffolk were the older ewes and the culls from the Merino flock. The Merino flock included maidens. The wastage includes lambs lost from ewe deaths.

The Merino single mob had a lambing percentage of 86.5% therefore 13.5% of the lambs were lost between scanning and marking. The Merino single mob joined to White Suffolk had 100% lambing this may have been due to some twins missed at scanning.

The Merino twins had a lambing percentage of 113% compared to the Merino x White Suffolk of 145%. The wastage was 43% and 27 % respectively. Overall from scanning to marking 21.7% of the lambs were wasted which in numbers was 239 lambs for this producer.

By feeding the twinning ewes and managing them separately this producer increased his lambing percentage from a historical average of 95% to 105% a 10% increase. His plans are to improve his management of lambing ewes even more in 2007.

Discussion

The group set out to implement pregnancy scanning into their sheep management with support from livestock consultant Daniel Schuppan. None of the group members currently scanned although some had done it in the past when it was more labour intensive. The producers in the Sheep Production Group that implemented the technology for the first time all have had a good experience and will use it again in 2007.

The main result of the project was that farmers were able to get together and share their results and experience of pregnancy scanning. This sharing of information along with discussion on sheep management was a great benefit to all producers. The information gathered provides a starting point for producers to work with and then implement changes to make improvements.

By scanning producers were able to get a better understanding of the reproductive status of their flock in 2006 and this is what was set out to be achieved along with increasing stock numbers. Although some producers had as low as 6.5% dry ewes in their mob at scanning it had little influence on lambing percentage. Eight of the eleven farmers achieved above 100% lambing on the ewes scanned while only 1 producer achieved above 100% lambing on the number of ewes joined. Scanning allowed the producers flexibility in their management and increase their flock numbers due to better management. Either by selling the dry ewes or re-mating the dry ewes to get some later lambs, which can be an advantage or disadvantage depending on how you look at it.

It was identified that the major influences on lambing percentage occurred between scanning and marking. Paying more attention to the ewes in this period greatly increases lambing percentage and reduced wastage. By scanning for multiples lamb wastage can be identified. Farmer X had 21.7% lamb wastage, which potentially can be reduced by identifying the time when most losses occur. Nutrition is a key factor that producers agreed they needed to pay closer attention to achieved increased lambing percentages. Increasing lambing percentage also means more feed required for the extra lambs.

There was no difference observed between the lambing percentage of first cross lambs and Merino lambs which indicates above 100% lambing for Merino's is achievable if managed correctly.

Mobs scanned for multiples showed that on average 32% of the ewes scanned in lamb had multiples. This did vary and the results show that the ewes joined in January/February had a higher percentage of ewes with multiples. The twinning mobs that were managed separately were provided with the best pasture paddocks and achieved 145.4% lambing. At this percentage there is still a high wastage rate and some producers where not happy with the result and feel they can get a higher percentage from their twinning ewes.

Most of the producers identified that their farms in regards to number of paddocks were not suitable for managing twin and single mobs separately. Also their understanding of the nutritional requirements of lambing ewes was poor. The main

change that producers will undertake is improving their feeding of pregnant ewes and setting up their paddocks so this can be done.

It is hard to place a dollar figure on whether scanning is worthwhile as every farm is different and there is many factors that need to be considered especially commodity and seasonal conditions at the time. Some of the economic considerations are listed below.

- In a dry season with high feed input cost it may be beneficial to remove the dry ewes and concentrate on feeding the ewes in lamb.
- Premiums payed for ewes scanned in lamb or not in lamb
- Managing twinning ewes
- Price of feed, wool and meat and numbers of extra lambs
- Lifetime production benefits in the progeny

At a stocking rate of 8DSE per ha for a self-replacing Merino flock a 10 to 20% increase in lambing percentage could improve the gross margin by $20 – $30 per ha. This does not take into account extra feed required for the extra lambs.

Key Points

- ❖ Reproductive performance of sheep flocks is very complex
- ❖ Potential to improve lambing percentage by 10-20%
- ❖ Potential lambing percentage is known and allows for better management
- ❖ Management influences lamb wastage
- ❖ Be careful when purchasing old ewes they may be a mob of dry scanned ewes

Advantages of pregnancy scanning

- ❖ Pregnancy scanning allows you to predict more accurately potential lambing percentage 2-3 months earlier and forward plan / feed budget
- ❖ Better manage the nutritional requirements of twining ewes
- ❖ Can identify lamb wastage
- ❖ Ability to sell or rejoin dry ewes
- ❖ Utilising supplementary feed for the productive ewes not the dry ewes
- ❖ Can identify management decisions that influence lambing percentage.

Disadvantages of pregnancy scanning

- ❖ Requires more paddocks to manage twinning ewes, single ewes and dry ewes
- ❖ Labour/ time required to get all ewes in the yards for scanning

PIRD Process

This is the first time the group has been involved with a PIRD program and they have been satisfied with the program and its outcomes. It has allowed the farmers in the group to assess the new technology and work out ways of best implementing the practice by sharing of management ideas among the groups. Discussing the results has also been a valuable learning exercise and producers have been able to benchmark their results with other producers in their district. It has been good to see what lambing percentages can be achieved.

In this PIRD Daniel Schuppan Rural Solutions Livestock Consultant has been the main driver and coordinator of the collation of information and results. The farmers

organised the scanning and kept records. Without somebody driving a PIRD it would not happen.

Producers liked the PIRD as it was conducted on farm and in their district so the results are relevant to the area. The group would be interested in doing another PIRD and would recommend it to other producer groups.

Appendix 1 – Promotion of work

Sheep Production Group meetings

Five meetings were held through out the year. Topics covered:

- Lifetime Wool Project Results– by Katrina Copping SARDI
- Condition scoring
- Pregnancy scanning
- Overview from sheep CRC Wool Meets Meat Conference
- Managing Internal Parasites – Ian Carmichael SARDI
- Pastures – Lucerne Establishment & Management – Tim Prance RSSA
- Dorper field day
- Pregnancy Scanning Results and sheep weighing equipment demonstration.

At two meetings the results from the pregnancy scanning project where discussed. At the final meeting for 2006 the final results were discussed and farmers individual performance summaries handed out. About 25 farmers and agents attended and this was combined with a sheep weighing equipment demonstration and auto drafting with Electronic Identification tags.

Brian Ashton and Daniel Schuppan have referred to the project during field day presentations across the Eyre Peninsula.

General increase in awareness of the technology in the community due to group members talking to neighbours.

Paul Cousins has made reference to the PIRD when speaking to producers at his presentation at the Minnipa Grain and Graze Field Day.

Article for Eyre Peninsula Farming Systems 2006 Summary

Copies mailed out to over 400 members

Pregnancy Scanning of Ewes on the Lower EP

By Daniel Schuppan

Information On Pregnancy scanning

Pregnancy scanning of ewes has been done for many years in Australia and overseas. Changes in technology have made the process quicker and with the use of portable real time ultrasound machines, ewes can be scanned standing up in a crate at the end of a race. Scanning can be done at a rate of 400 ewes per hour for wet drying. The scanning operator supplies the scanning crate and all the producer needs is a standard race and two people to assist in pushing the sheep up.

The best time to scan for wet/dry ewes is from 35 to 40 days after the removal of rams up until lambing. For multiples the optimal time is between 80 to 100 days from commencement of joining.

The cost in 2006 varied between 50 cents & 60 cents per ewe plus travel depending on mob size and if ewes are scanned for multiples.

Key Messages

- Lambing percentage can be improved by 10-20% to consistently achieve 100-110% lambing.
- Many factors influence lambing percentages and scanning is a practice, which can help improve management.
- Pregnancy scanning allows you to know your potential and identity how much lamb wastage is occurring.
- Ewes can be separated according to pregnancy status and fed accordingly to their nutritional requirements.
- Splitting mobs requires more paddocks and management.

Why do the trial

A group of farmers in the bushfire affected area established a sheep production group to meet regularly and discuss different sheep management topics. Producers were aiming to quickly rebuild their sheep numbers by trying to improve their lambing percentage. Pregnancy scanning was one of the tools they identified to help in the process by improving their understanding of their flock reproductive performance.

A Producer Initiated Research Development (PIRD) application was developed for Meat and Livestock Australia (MLA) to obtain funding to complete the trial. The PIRD funded technical support from Rural Solutions SA staff plus covered some of the scanning operators travel cost.

How was the trial done

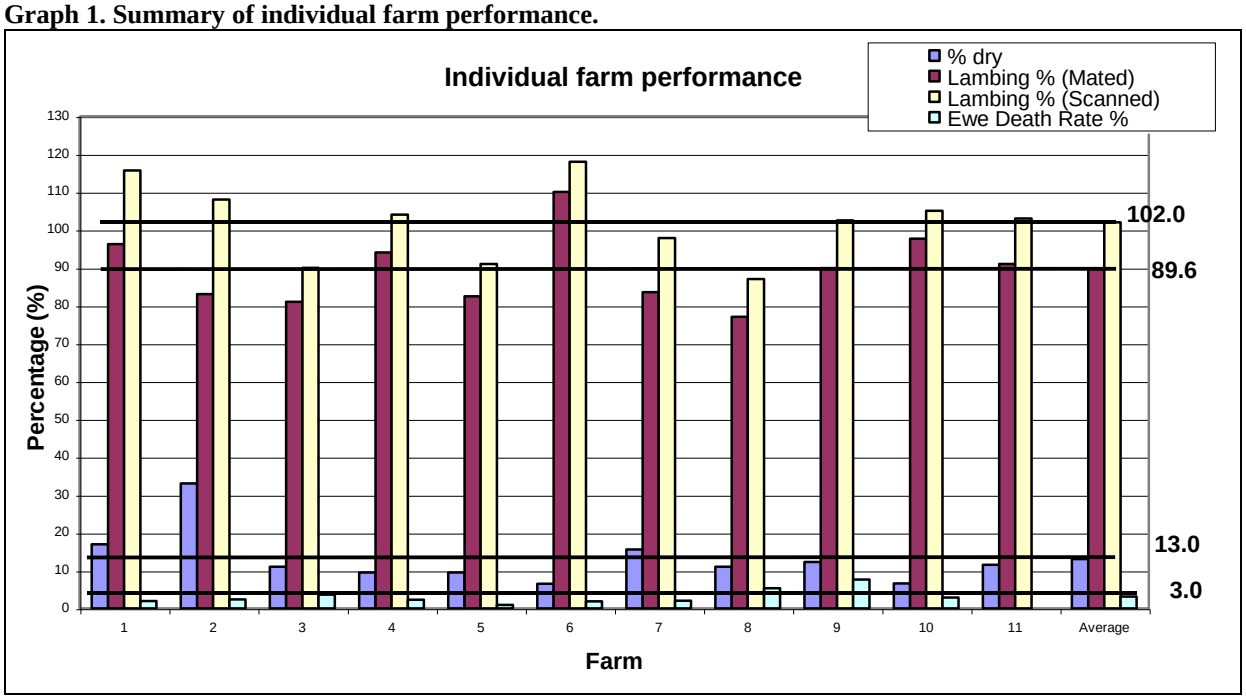
Eleven farmers were interested in scanning and organised for their ewes to be scanned within two main scanning times in February and April depending on joining time.

The farmers made decisions on how to manage their dry ewes such as sell, keep or re-mate. The farmers that made the decision to scanned for multiples were aiming to manage the twining ewes separate to the single ewes. This was so the higher energy and protein demand of twinning ewes could be managed by providing higher supplementary feeding rates and giving them preference to the best pasture.

Each farmer recorded their scanning and lambing results plus additional information such as condition score of the ewes and rams, weather conditions at lambing, shelter in paddocks and if foxes were baited.

What happened

Graph 1. Summary of individual farm performance.



Graph 1 provides an average across all mobs on an individual farm. The percentage dry ewes is the total number of dry ewes scanned divided by the total of ewes scanned on the farm. Some individual mobs on farms had higher scanning percentages than others. On the graph each farm is shown with two different lambing percentages. The lambing percentage (mated), which is the number of lambs marked divided by the number of ewes joined and the lambing percentage (scanned), which is the number of lambs, marked divided by the number of ewes scanned in lamb. When comparing lambing percentages it is important that the same comparison is being made. The ewe death rate is from scanning to marking.

In total 10,600 merino ewes were scanned which were joined to approximately half merino sires and half terminal meat sires. There was no difference in the average lambing percentage of the merinos compared to the average lambing percentage of first cross lambs across all farms. On average 13% of the ewes scanned were dry with some farmers achieving as low as 6.5% dry ewes. The average lambing percentage across all farms on ewes scanned was 102% and on ewes mated was 89.6%. Only one farmer achieved above 100% lambing on the number of ewes joined so this indicates that it can be done and that some farmers can realistically improve their lambing percentage by 10 to 20%. At a stocking rate of 8DSE per ha for a self-replacing merino flock this could improve the gross margin by $20 – $30 per ha but this does not take into account extra feed required for the extra lambs.

The time of lambing was split equally between autumn and winter but the lambing percentages were not compared. The observation was made that generally the ewes lambing later had a higher percentage of ewes in the mob with twins but this was not always the case.

Due to the season very little supplementary feeding was required as all the ewes were in optimal condition score of 3-3.5 at mating through to lambing. This effected the trial as the single ewes and multiples were going to be feed according to their nutritional requirements. A supplementary feeding calculator (worksheet) was going to be used to identify how much energy and protein was being supplied from the pasture and then how much grain or hay needed to be given so the energy and protein levels were optimum for the pregnant ewes.

On farms that multiples were scanned for lamb wastage could be accurately identified. The results showed that there was lamb wastage of between 20-30% across the whole flock on a number of farms. The twinning ewes mobs that were managed separately had an average of 145% lambing, which helped, increase the overall lambing percentage on individual farms.

The economics of pregnancy scanning needs to be worked out and will depend on what purpose / benefits it would serve to your individual farm. Advantages include identifying dry ewes that could be sold when feed gets low, re-mating the dry ewes, managing the nutritional twinning ewes differently, use as a marketing tool to sell ewes in lamb or to improve your understanding of your flock's reproductive potential.

It was identified that there is potential to increase lambing percentages by paying more attention to managing the ewes from scanning to marking. There was not much difference in the number of ewes scanned in lamb between farms. The main difference was in lambing percentage between farms, which is a result of management.

Appendix 2 – Farmer X Individual farm Summary

Pregnancy Scanning Summary 2006
Farmer X

Background Information

Scanning Date 7/2/2006	Mob 1	Mob 2	Mob 3
Ewes	Merino 3.5-6.5	Merino maidens	Merino mixed age
Rams	Merino	Merino	Terminal
Ewe condition score	3.5 3	3.5 3	3.5 3
Scanning / lambing			
Mating time	01/11/05 – 22/12/05 (8 weeks)	01/11/05 – 22/12/05 (8 weeks)	01/11/05 – 22/12/05 (8 weeks)
Ram Percentage	2.3%	2.8%	2%
Lambing Time	April - May	April - May	April - May
Comments	Ewes run on stubbles over summer. Rams feed lupins.	Ewes run on stubbles over summer. Rams feed lupins.	Ewes run on stubbles over summer. Rams feed lupins.

Ewe Mating Performance

Ewes Scanned

	Dry Ewes		Singles		Multiples		Total Ewes	Total Lambs Scanned	Scanning Percentage
	No.	%	No.	%	No.	%			
Mob 1	18	5	235	68	94	27	347	423	122
Mob 2	9	6	99	70	34	24	142	167	118
Mob 3	32	8	211	54	151	38	394	513	130

Summarised Results

Total	2006
Ewes Scanned	883
Ewes in Lamb	824 – 93.3% 66% singles / 34% multiples
Lambs Scanned	1103 – 49.5 % singles / 50.5 % multiples
Dry Ewes	90 – 6.6 %
Potential Lambing %	Of ewes mated 125%
	Of ewes scanned in lamb 133%

Summary of lamb wastage from scanning to marking

(note – different mob reference to first page due to management)

	No. Ewes at Marking	Number of Lambs	Ewe deaths -scanning to marking	Lambs wasted – scanning to marking	Lambs wasted due to ewe deaths
Mob 1 – Merino singles	325	288	8	45	8
Mob 2 – merino twins	121	145	7	111	14
Mob 3 – White Suffolk x singles	208	211	3	0	3
Mob 4 – White Suffolk x twins	145	219	6	83	12
Total	799	863	24	239	37

Lambing Performance

	Scanning Lambing %	Lamb wastage %	Ewe deaths %
Mob 1	86.5	13.5	2.4
Mob 2	113.3	43.4	5.4
Mob 3	100	0	1.4
Mob 4	145	27.5	3.9

Summarised Results

	2006
Lambing % of ewes mated	97.7
Lambing % of ewes scanned in lamb	105
Lamb wastage %	21.7
% Ewe deaths from scanning to marking	2.9

Comments

- Dry ewes were re-mated to terminal sire and ewes that do not get in lamb will be sold. 44 (71%) of the ewes re-mated appear to be in lamb
- Twining ewe's were split from the singles and feed oats before lambing
- All sheep fed oats during lambing
- 2006 Lambing percentage is higher than average by 10% for Merino's and 28% higher for first cross lambs
- Ewes were in much better condition at shearing with twining ewes in similar condition to single ewe mothers with less of a tail in the mob.
- Single lambs were visually larger than twin lambs.

Appendix 3 – Cousins Merino Services Information on Pregnancy Scanning

cousins merino services

SHEEP PREGNANCY SCANNING

We are pleased to offer this new service to our clients. Pregnancy scanning has become more popular as its value as a management tool of ewe flocks is recognised.

Benefits of scanning are:

- Ability to separate dry ewes.
- Determination of foetal numbers.
- Simpler and more efficient management of stock. Allowing the nutritional requirements of pregnant ewes to be met, increasing lambing percentage and dry ewes to be stocked at higher rates, sold or re-joined in the spring.
- Marketing tool when selling ewes.

When is the best time to scan?

Wet/Dry ewes – can be scanned from 35 - 40 days after the removal of rams, up until lambing (based on 42 day joining).

Multiples – the optimal time is between 80 to 100 days from commencement of joining, identification is not possible following 100 days as it becomes more difficult to determine numbers accurately.

Accuracy

The following factors have been known to affect the accuracy of pregnancy scanning. To ensure that you get the maximum benefit from scanning your sheep you need to be aware of these.

- Ewes not kept off feed night prior to testing (full rumen).
- Extended joining period.
- Inadequate staff.
- Fat animals

In order to ensure that these factors are minimized it is important to know the date of ram entry & removal and to take sheep off feed.

To minimize your travel costs and to ensure that scanning can be done at the optimum time it is important to book as early as possible.

What do I need?

We will supply all equipment needed, including a pregnancy scanning crate. All the grower needs is a standard race setup and 2 people to assist with the operation.

Depending on individual setups it is possible to achieve a throughput of up to 400 ewes an hour. (less when scanning for multiples)

What is the cost?

500 and under:	60c per ewe
500 to 1500:	50c per ewe
1500 and over:	45c per ewe
Multiples:	60c per ewe

Minimum Charge of $100 applies.

Plus travel: $1 per km.
(we aim to co-ordinate our work to keep travel costs to a minimum.)

Prices are subject to change.

COUSINS MERINO SERVICES
6 Hill Street, Burra S.A. 5417
Telephone/Fax: 08 88922 108
Mobile- Paul: 0427 922 108
Michelle: 0407 607 899
Email: pcousins@rbe.net.au

Providing: OFDA2000 on-farm wool testing; pregnancy resting; sheep classing; ram selections; electronic tag requirements, including software and hardware needs; data management.

Appendix 4 – Pre-lambing Checklist

Lower Eyre Peninsula
Bushfire Re-establishment Program

Pre-lambing—Checklist

Fact Sheet

Ewe Condition Score

- Ewes should be in condition score 3 up to lambing and at the point of lambing. If above score 3.5 graze ewes on pastures below 1000 kg/DM per ha. This allows other paddocks to reach pasture targets for lambing.

Shelter

- Make sure ewes have access to shelter
- Give twinning ewes priority

Mob size recommended for lambing

- Multiples bearing < 250
- Single bearing 400 – 500
- Maiden 250 –400

Pasture Targets

- Select lambing paddocks and prepare early
- Set up paddocks to have:
  - High quality feed above 75% digestibility (green feed)
  - Ewes with singles 1000 kg /DM/ha minimum
  - Ewes with multiples 1200 kg /DM/ha minimum
- Target 1200 kg to 1400 kg DM/ha for peak lactation (Does not have to be higher than 1400 kg DM/ha)
- Put ewes in lambing paddock 1-2 weeks before lambing

Vaccination

- Annual booster 4-6 weeks before lambing

Predator Control

- For fox baiting contact Peter Sheriden 8682 6741

Tip

If entering a lambing paddock enter the paddock between 2 pm & 4 pm (I would like to know your thoughts if this makes any difference ??)

Australian Government

Daniel Schuppan, Livestock Consultant Phone 8688 3010

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Government of South Australia

Appendix 5 – Condition scoring chart

(Laminated and handed out to farmers)

SARDI SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE

Victoria The Place To Be — DEPARTMENT OF PRIMARY INDUSTRIES

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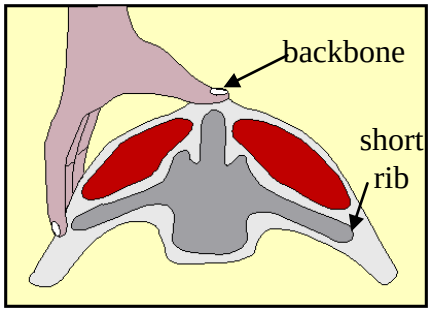
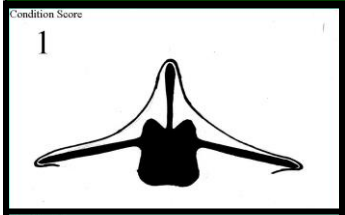
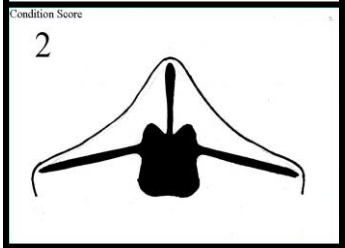
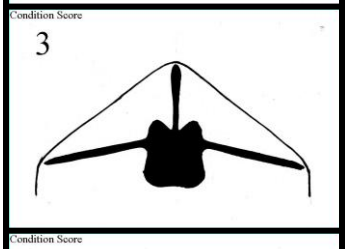
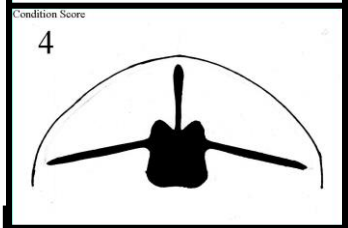
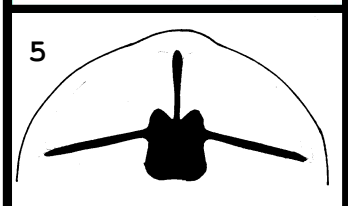
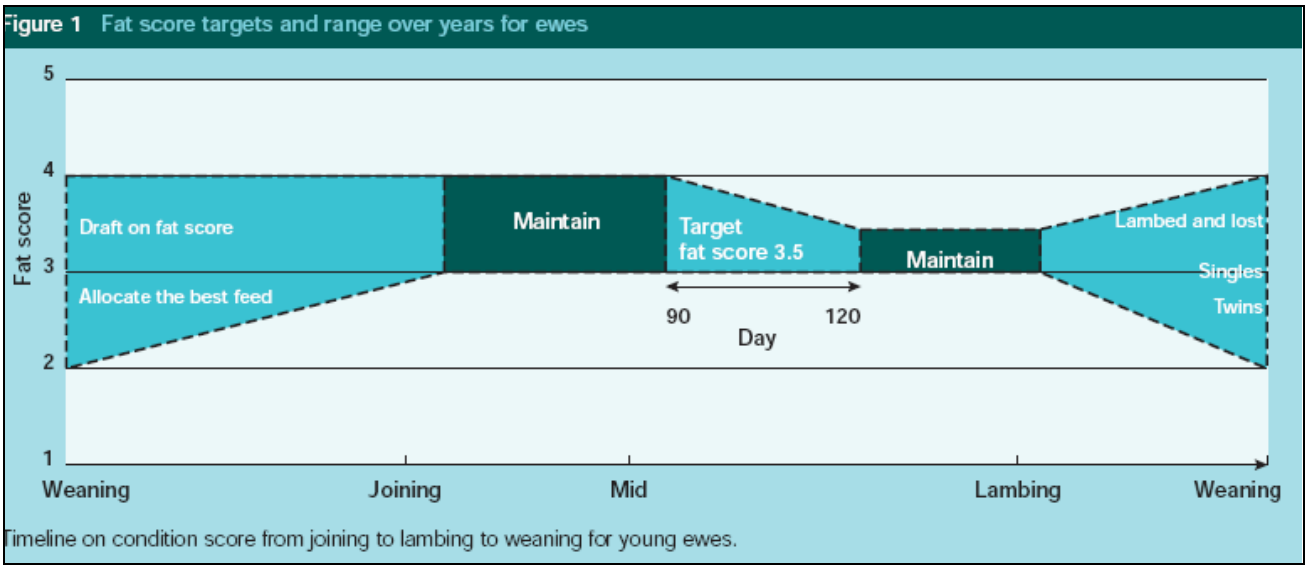
Condition Scoring

The animal should be standing in a relaxed position. It should not be tense, crushed by other animals or held in a crush. If the animal is tense it is not possible to feel the short ribs and get an accurate condition score.



	**Backbone** The bones form a sharp narrow ridge. Each vertebra can be easily felt as a bone under the skin . There is only a very small eye muscle. The sheep is quite thin (virtually unsaleable)	**Short Ribs** The ends of the short ribs are very obvious. It is easy to feel the squarish shape of the ends. Using fingers spread 1cm apart, it feels like the fingernail under the skin with practically no covering
	**Backbone** The bones form a narrow ridge but the points are rounded with muscle. It is easy to press between each bone. There is a reasonable eye muscle. Store condition- ideal for wethers and lean meat.	**Short Ribs** The ends of the short ribs are rounded but it is easy to press between them. Using fingers spread 0.5cms apart, the ends feel rounded like finger ends. They are covered with flesh but it is easy to press under and between them.
	**Backbone** The vertebrae are only slightly elevated above a full eye muscle. It is possible to feel each rounded bone but not to press between them. (Forward store condition ideal for most lamb markets now. No excess fat).	**Short Ribs** The ends of short ribs are well rounded and filled in with muscle. Using 4 fingers pressed tightly together, it is possible to feel the rounded ends but not between them. They are well covered and filled in with muscle.
	**Backbone** It is possible to feel most vertebrae with pressure. The back bone is a smooth slightly raised ridge above full eye muscles and the skin floats over it.	**Short Ribs** It is only possible to feel or sense one or two short ribs and only possible to press under them with difficulty. It feels like the side of the palm, where maybe one end can just be sensed.
	**Backbone** The spine may only be felt (if at all) by pressing down firmly between the fat covered eye muscles. A bustle of fat may appear over the tail (wasteful and uneconomic).	**Short Ribs** It is virtually impossible to feel under the ends as the triangle formed by the long ribs and hip bone is filled with meat and fat. The short rib ends cannot be felt.

Ewe Condition Score Timeline



Condition scoring is used as a way to manage the nutrition of a flock. It is done on the short ribs.

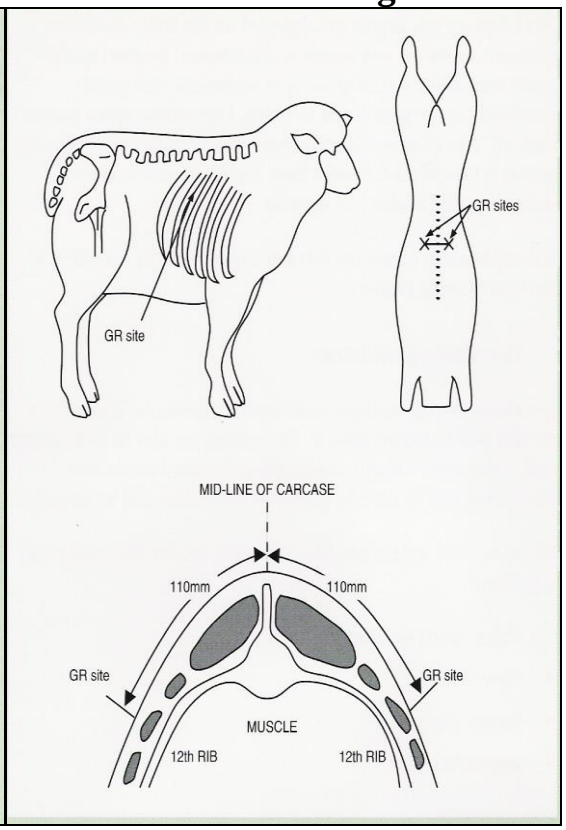
Fat Scoring – Prime Lamb Producers

Fat scoring is used to judge the fat depth at the GR site – to be used when marketing animals. It is done at the GR site – on the last long ribs 110 mm from the backbone.

Description of fat scores

Description	Score	GR fat (mm)	Fist description
Individual ribs are easily felt and no tissue can be felt (sliding) over the ribs. Depressions are quite obvious between the ribs.	1	Less than 5	End of fingers – open hand.
Individual ribs are felt with some tissue able to be felt over the ribs. Depressions between ribs are obvious.	2	6-10	Knuckles – clenched fist.
Individual ribs can still be felt but they are more rounded, with tissue movement being felt over the ribs. The depression between ribs is less obvious.	3	11-15	Fingers between knuckles and first finger joint – open hand.
The ribs are less obvious to feel, with only some depression between the ribs. Tissue movement over the ribs is apparent.	4	16-20	Fingers between knuckles and first finger joint – clenched fist.
It is difficult to feel the ribs, or any depression between ribs. Sliding over the ribs is easy.	5	Greater than 20	Back of hand – clenched fist.

Site for fat scoring



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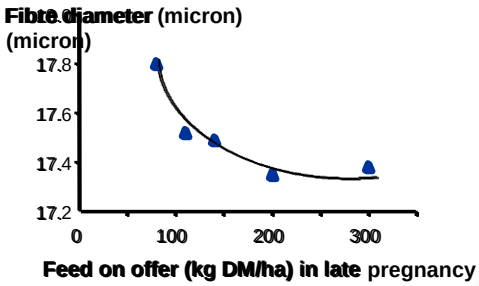
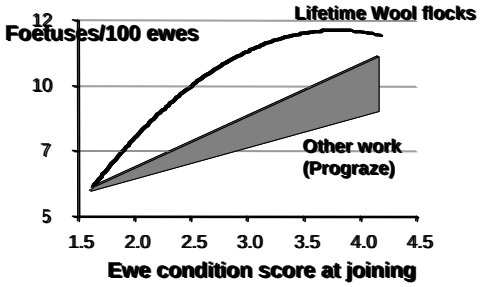
Appendix 6 – Lifetime Wool Project Summary

Optimise ewe nutrition and produce more lambs that grow more and finer wool throughout their lifetime

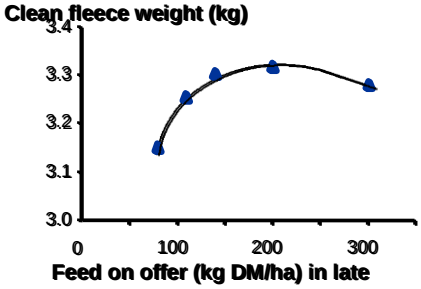
Progeny Fibre



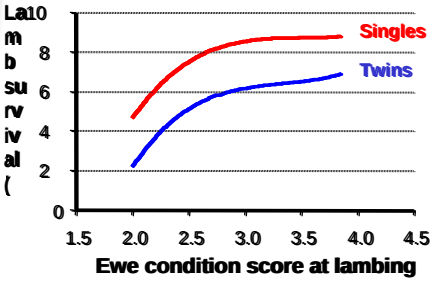
Ewe



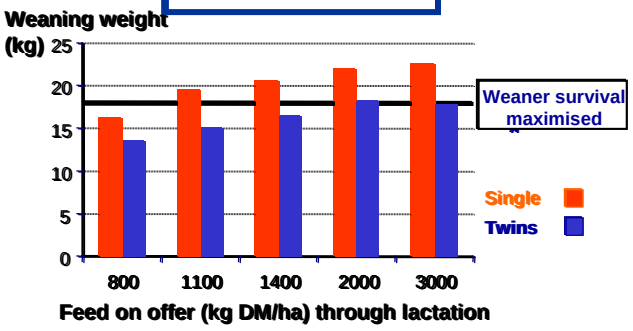
Progeny Fleece



Lamb Survival



Weaning



Department of Primary Industries | Department of Agriculture | CSIRO | SARDI South Australian Research and Development Institute | NSW Agriculture | Tasmania | Department of Primary Industries, Water and Environment

Key contacts:
Andrew Thompson , DPI Hamilton Victoria (03-5573 0900) Janelle Hocking Edwards, SARDI (08-87629 186)

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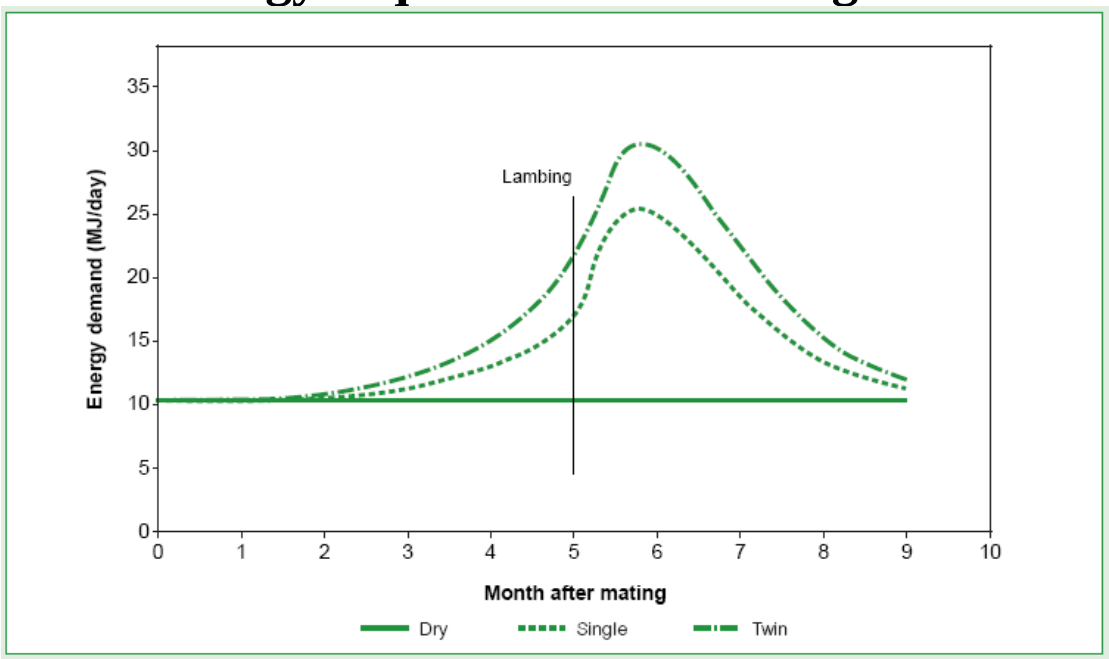
Appendix 7 – Supplementary Feed calculator

Energy requirements of a 60kg ewe



Source: ProGraze Manual