MEAT & LIVESTOCK AUSTRALIA

meatup FORUM

For the latest in red meat R&D

How to profit from pregnancy scanning

Dr Sue Hatcher

Sheep Reproduction Strategic Partnership (SRSP)

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

What is the end game?

Net reproduction rate (NRR) = $\frac{\text{Number of lambs weaned}}{\text{Number of ewes joined}}$

Management & Genetics

Breeding Ewe Management
nutrition, joining, lambing & weaning

Breeding Ewe Selection
passengers & performers

ASBVs
rams & ewes

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Ewe nutrition is the key driver

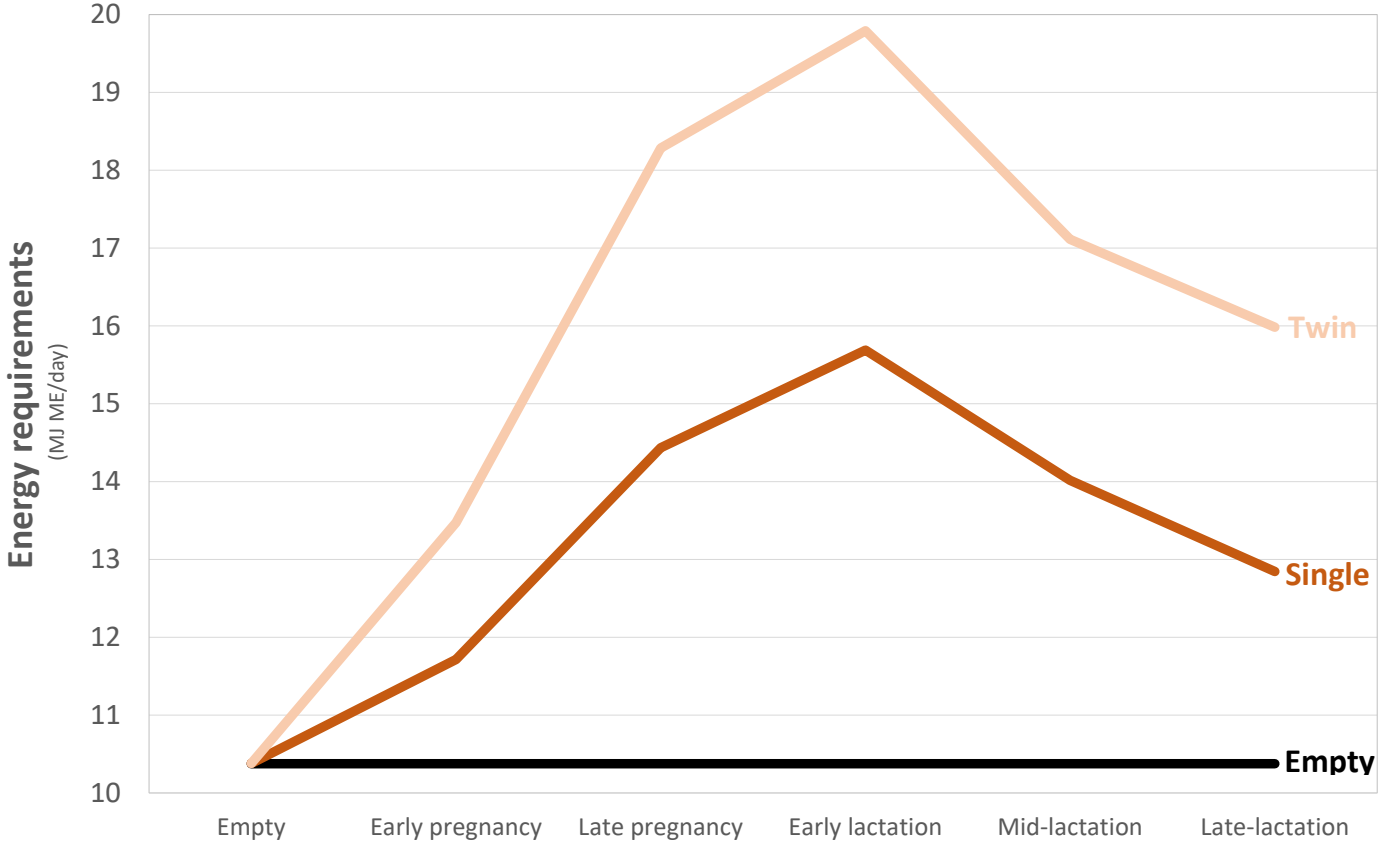
Breeding ewe nutrition

Ewes	Lambs	Weaners
Fertility Fecundity Embryo survival Foetal development Foetal growth Parturition Behaviour Lactation Post-weaning recovery	Birthweight Body reserves Behaviour Lamb growth	Weaning weight Weaner growth

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Not all ewes are the same



Source: NRC (2007) Table 15.1

Pregnancy scanning is a key tool

- Benchmark current flock performance

  Marking & weaning percentages

- **Manage your ewes**

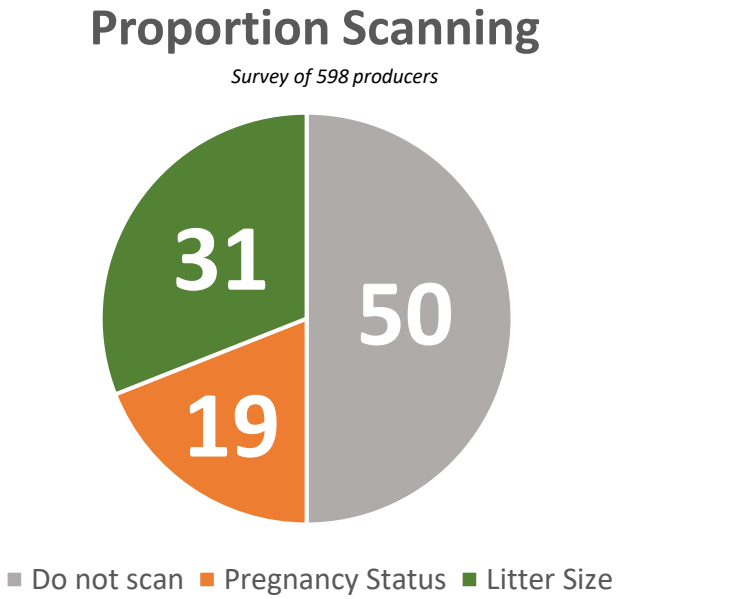
  Ewe nutrition, lambing management

- **Select your ewes**

  High performing replacements

- Breed your ewes

  Correct for birth type



Source: Beattie & Howard (2018)

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Quantifying the economic benefit of scanning

Production system

- > 600 mm grazing enterprise
  9-month growing season
- 500 - 600 mm mixed farming
  6-month growing season
- < 400 mm mixed farming
  4-month growing season

Genotype

- Merino
- Merino x Terminal
- Maternal

Lambing time

- Autumn
- Winter
- Spring

Sensitivity to NRR, prices & environment (chill)

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Quantifying the economic benefit of scanning

Production system

- > 600 mm grazing enterprise
  9-month growing season
- **500 - 600 mm mixed farming**
  6-month growing season
- < 400 mm mixed farming
  4-month growing season

Genotype

- **Merino**
- Merino x Terminal
- **Maternal**

Lambing time

- **Autumn**
- Winter
- Spring

Sensitivity to NRR, prices & environment (chill)

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Cost of scanning

		MULTIPLES
SCANNING CONTRACTOR		
Contract cost	$/ewe	$0.75
Throughput	ewes/day	2,000
Travel	$/ewe	$0.02
FARM PROVIDED LABOUR		
Yard work	labour units	2
Cost	$/ewe	$0.26
Mustering	$/ewe	$0.06
OTHER COSTS		
Repairs & maintenance*	$/ewe	$0.08
TOTAL COST	$/ewe	**$1.17**

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Merino enterprise - increase in farm profit

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	**7.80**					
Winter	2.80					
Spring	5.50					
AVERAGE	**5.37**					

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

You need to use the scanning data

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	7.80	Once-empty & performer				
Winter	2.80	Twice-empty				
Spring	5.50	Twice-empty				
AVERAGE	**5.37**					

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

You need to use the scanning data

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	**7.80**	Once-empty & performer	↑	↑	↑	↑
Winter	2.80	Twice-empty	**Removing empty ewes**	**Feed ewes according to pregnancy status**	**Multiples to best paddocks at 50% singles mob size**	**Lifetime CFW & FD**
Spring	5.50	Twice-empty				
AVERAGE	**5.37**					

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Autumn lambing Merino flocks

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	**7.80**	Once-empty & performer	**49**	15	21	15
Winter	2.80	Twice-empty	-19	24	**34**	23
Spring	5.50	Twice-empty	17	**51**	23	9
AVERAGE	**5.37**					

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Merino enterprise - increase in farm profit

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	**7.80**	Once-empty & performer	**49**	15	21	15
Winter	2.80	Twice-empty	-19	24	**34**	23
Spring	5.50	Twice-empty	17	**51**	23	9
AVERAGE	**5.37**					

meatup FORUM

awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Maternal enterprise – increase in farm profit

TIME OF LAMBING	INCREASE IN FARM PROFIT ($/ewe)	EWE SELECTION DECISIONS	CONTRIBUTION OF THE COMPONENT# (%)			
			Pregnancy status	Ewe nutrition	Paddock allocation	Progeny performance
Autumn	**5.80**	Once-empty & performer	35	14	**42**	9
Winter	4.00	Twice-empty	-25	**36**	9	29
Spring	4.20	Twice-empty	3	**35**	28	**34**
AVERAGE	**4.67**					

meatup FORUM

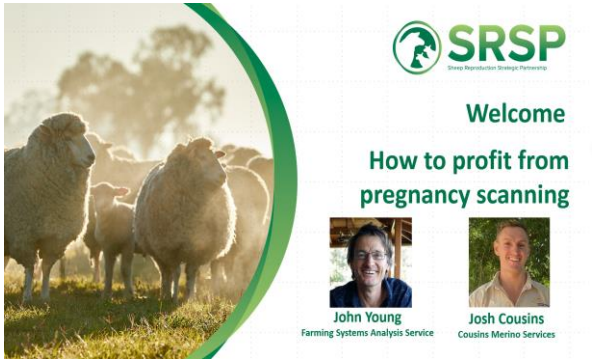
awi Australian Wool Innovation Limited

mla MEAT & LIVESTOCK AUSTRALIA

Sheep Reproduction Strategic Partnership (SRSP)

- **Profitably and sustainably increase lamb production** by increasing weaning rates and decreasing mortality
- Drive collaboration to develop larger, long-term programs of RD&A to **deliver greater benefits and impact** for the sheep industry

mla.com.au/srsp



meatup FORUM

SRSP Sheep Reproduction Strategic Partnership

mla MEAT & LIVESTOCK AUSTRALIA

Working across the whole reproduction cycle

Weaning to joining

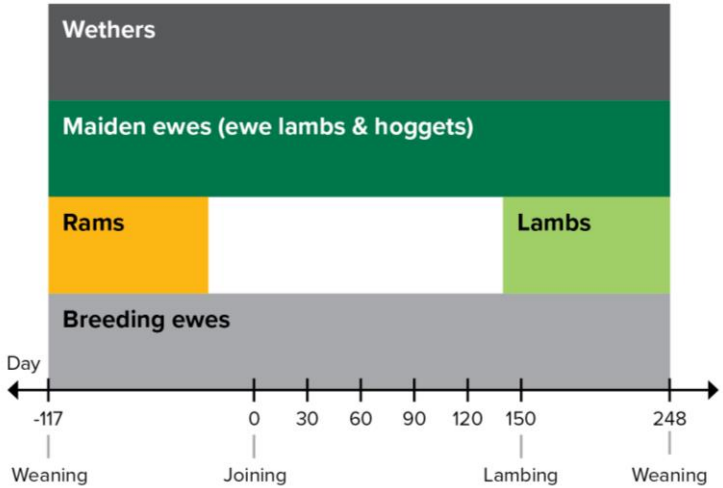
Fit to join
More lambs from ewe lambs
Joining ewe lambs DST
Oestrogenic clovers
Merino weaners

Mid-pregnancy

Pregnancy scanning
Foetal loss
Twin lamb survival

Lambing to weaning

Fit to lamb
Mob size
Supplementary feeding
Triplet ewes



Whole cycle

Shade & shelter

Flock rebuild strategies, EID, Containment feeding, Sheep remote monitoring

Cumulative sustainable increases in farm profit

$5.37/ewe

Increasing lambing percentages through better use of pregnancy scanning technology

↓

Improved ewe management & ewe selection decisions

$5.57/ewe

Fit to join
Ewe Assessment Tools

↓

Improved ewe selection decisions

$4.12/ewe

Maximising the value of existing technology for sheep producers

↓

Improved breeding & ewe selection decisions

meatup FORUM

SRSP Sheep Reproduction Strategic Partnership

mla MEAT & LIVESTOCK AUSTRALIA

Take home messages

- Pregnancy scanning for multiples is profitable in all agricultural regions and flock types
- The average increase in profit for:
  - Merino flocks was $5.37/ewe scanned → 460% ROI
  - Maternal flocks was $4.67/ewe scanned → 400% ROI

You must act on the scanning information to capture the extra profit

meatup FORUM

SRSP Sheep Reproduction Strategic Partnership

mla MEAT & LIVESTOCK AUSTRALIA

Tools and resources

- mla.com.au/srsp
- Towards90.com.au
- genetics.mla.com.au

meatup FORUM

SRSP Sheep Reproduction Strategic Partnership

mla MEAT & LIVESTOCK AUSTRALIA