

## Culling Poor Performing Ewes

Information from AWI shows that lifetime ewe performance matters. In a typical self-replacing merino sheep flock there is a huge difference in the income generated between the bottom 25% and top 25%, often almost double. Characteristics include:

- Top performers rear at least 1 lamb each year, succeeding at their first 2 attempts.
- Poor performers fail to produce a lamb from their first 2 attempts. They learn and repeat poor maternal behaviour.
- Poor performers are hard to detect visually as maidens, and are best identified and culled after their 2<sup>nd</sup> failed lambing attempt.

See Table 1 and 2.

**Table 1:** Characteristics of Top and Bottom performers as hoggets

Trait	Bottom 25%	Top 25%	Difference
Clean Fleece Weight	3.05	3.08	same
Fibre Diameter	19.4	19.5	same
Body Weight	41.4	43.2	+ 1.8 kgs

As adults the top performers often cut less wool and have a lower body weight and could be wrongly culled. This is because they are putting more energy into raising lambs.

**Table 2:** Performance of Older Ewes

Trait	Bottom 25%	Top 25%	Difference
Clean Fleece Weight	4.39	4.09	300gms/year less
Fibre Diameter	20.8	20.7	same
Body Weight	64.2	62.6	1.6 kgs lighter
Life Time Income	\$718	\$1,132	

Merino ewes reach their reproductive peak later in life (6 – 7 years old). In average and better seasons their mortality is similar, however in poor/drought seasons mortality of old ewes increases.

The heritability of reproduction is low (5 – 15%) and is mostly environmental and learned behaviour.

By identifying and culling the bottom 25% of ewes, lamb mortality can be reduced by 6%, weaning rate per ewe increased by 15%, and lifetime value increased by over 10%.

### Potential Management Options

Pregnancy scan ewes and separate dry ewes. Depending on the season the dry ewes can either be re-mated or sold.

At lamb marking, wet and dry ewes, and ear notch those who have not raised a lamb. Next year when they are wet and dried at lamb marking, any dry ewes with an ear notch should be culled (i.e. have not raised a lamb for two consecutive years).

This means that additional ewe hoggets would be kept, increasing total ewe number for the next 18 months. There would be an additional cost to keep these ewes, but once the less productive ewes have been culled, numbers would stabilise. At current prices this would equate to an additional \$14,000 profit per annum per 1,000 ewes. See Table 3.

**Table 3:** The value of culling on performance

Option 1			Option 2	
	Sell cull ewe hoggets after shearing		Cull ewes on performance	
<b>Benefits</b>				
<b>Additional Income</b>				
Wool			Ewe wool discounted by 2% for 2021 value	\$7,077
Cull ewe hoggets	52% of ewe hoggets sold @ \$200/hd	\$49,400	10% ewe hoggets culled @ \$190/hd	\$9,025
Additional lambs			Wether lambs @ 95% weaning @ \$90/hd	\$17,057
CFA ewes	197 hd @ \$130/hd	\$25,610	30 hd @ \$130/hd	\$3,900
Cull poor performing ewes			Bottom 25% discounted by 5% for 2023 value	\$44,558
Increased weaning rate			15% additional lambs from older ewes (50% of flock) after two years	\$10,875
<b>Reduced Costs</b>				
Less ewe losses				
Labour savings				
<b>Total benefits</b>		\$75,010		\$92,493
<b>Costs</b>				
<b>New variable costs</b>				
Shearing			Shearing costs	\$1,696
Animal health				\$419
Lamb marking			Additional lambs	\$455
Wool selling costs				\$415
Sheep selling costs		\$7,018		\$6,678
Wool freight				\$95
Lamb Freight				\$978
Ewe Freight		\$1,756		\$593
Water				\$350
Vehicle Fuel & R&M		\$0		\$350
<b>Total Costs</b>		\$8,774		\$12,028
<b>GROSS MARGIN</b>		<b>\$66,236</b>		<b>\$80,465</b>

**Assumptions:** 1,000 ewe flock; 95% weaning rate; wool price 1,000 c/kg clean

Article prepared by Michael Wurst, Rural Solutions SA. For further information talk to your Livestock Consultant.