Sheep GENETICS

MEAT & LIVESTOCK AUSTRALIA

Understanding LAMBPLAN Terminal ASBVs

- Australian Sheep Breeding Values (ASBVs) allow you to compare the genetic differences between rams.
- Rams contribute half of a lamb's genetics. Rams have the largest impact on genetic progress, as they have more progeny throughout their lifetime.
- ASBVs are based around 0. It is important to compare ASBVs against current industry percentiles, which can be found on the Sheep Genetics website.
- ASBVs are reported with an accuracy figure. The higher the accuracy, the more information there is contributing to the ASBV, and the closer it is to the true breeding value of the animal.
- ASBVs are reported with an age stage, shown as a letter at the beginning of a trait e.g. weaning weight is WWT.
- Indexes combine traits into a single ranking value to describe an animal's suitability for a given production system.

How to interpret ASBVs

A selection index is an important tool to drive genetic improvement when there are a range of traits of economic or functional importance. Rams with higher indexes will produce lambs that are more suited to a particular production system.

Rams with a more positive ASBV for weight (WT) will produce lambs that grow faster and therefore reach target weights in a shorter period of time.

Rams with a positive ASBV for fat (FAT) will produce lambs that are fatter, at the same weight. This ram will produce lambs that are on average 0.5mm fatter at the GR site when compared with an ASBV of 0mm.

Intramuscular fat (IMF) is a measure of the chemical fat percentage in the loin muscle of a lamb and is often referred to as marbling. IMF has been shown to have a significant impact on the flavour, juiciness, tenderness and overall liking of lamb. Rams with more positive IMF ASBVs produce progeny with more intramuscular fat.

Shear force (SF5) is a measure of the force or energy required to cut through the loin muscle of lamb after 5 days of ageing, the ASBV is reported in deviations of kilograms of force. Rams with more negative SF5 ASBVs produce lambs with more tender meat.

INDEX	WT (kg)	EMD (mm)	FAT (mm)	LMY (%)	IMF (%)	SF5 (kg)	LE_DIR (%)	WEC (%)
199.46	9.5	1	1	2.4	-0.1	-0.5	3.0	-40
ACC. 58	*ACC. 70*	*ACC. 65*	*ACC. 63*	*ACC. 57*	*ACC. 55*	*ACC. 57*	*ACC. 55*	*ACC. 52*

Rams with a more positive ASBV for eye muscle depth (EMD) produce lambs that have more muscle. A ram with an ASBV of 1mm will breed lambs with 0.5mm more eye muscle than a ram with an ASBV of 0mm.

Rams with more positive lean meat yield (LMY) ASBVs produce lambs that have a higher lean meat yield percentage at slaughter. Lean meat yield is expressed as a percentage of the Hot Standard Carcase Weight, where all bone and salvage fat is removed. A ram with an ASBV of 2.4 will produce progeny that are 1.2 percent higher than progeny of a ram with an ASBV of 0.

Rams with a more positive ASBV for lambing ease (LE_DIR) will produce lambs that have a lower incidence of lambing difficulties. A ram with an LE_DIR of 3% will produce 1.5% fewer difficult lambing events than a ram with an ASBV of 0%.

Rams with a more negative worm egg count (WEC) ASBV will produce progeny that are more resistant to worm burdens. A ram with a WEC ASBV of –40% will produce progeny that have 10% less worms compared to a ram with an ASBV of –20%.

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