Australian Sheep Breeding Value definitions

Most ASBVs are reported with an age stage, which refers to the expression for a trait at a certain age. Use the age stage that is most relevant to your breeding objective. For example, if you are growing out lambs to slaughter at 7 months of age, you may consider post weaning weight (PWT) in your breeding objective. Most traits are presented with the first letter representing the age stage. For example, birth weight is presented as BWT. The age stage codes can be found in the table below.

Age stage	Stage code	Definition
Birth	B	Birth to 24 hours of age.
Weaning	W	1 to 5 months (40 - 149 days)
Post weaning	P	5 to 10 months (150 – 299 days)
Yearling	Y	10 to 15 months (300 – 449 days)
Hogget	H	15 to 22 months (450 – 659 days)
Adult	A	22 months or older (>660 days)

GROWTH

Trait	Description	Units	Stages
Weight (WT)	Describes the genetic difference between animals in body weight.	kgs	B, W, P, Y, H and A
Maternal Weaning Weight (MWWT)	Describes the difference in maternal genetic effects on the progeny's weight. This includes the ewe's potential to provide a better maternal environment including milk production.	kgs	W

CARCASE & EATING QUALITY

Trait	Description	Units	Stages
Fat Depth (FAT)	Describes the genetic difference between animals in fat depth (FAT), at a standard liveweight.	mm	P, Y and H
Eye Muscle Depth (EMD)	Describes the genetic difference between animals in eye muscle depth, at a standard liveweight.	mm	P, Y and H
Intramuscular fat (IMF)	Describes the genetic difference between animals in intra-muscular fat which has the visual component known as marbling.	%	No stage code – refers to carcase trait.
Shear force (SHEARF5)	Describes the genetic difference between animals in shear force at 5 days of carcase aging.	nM	No stage code – refers to carcase trait.
Lean Meat Yield (LMY)	Describes the genetic difference between animals in lean meat yield.	%	No stage code – refers to carcase trait. H

Dress percentage (DRESS)	Describes the genetic difference between animals in dressing percentage.	%	No stage code – refers to carcase trait.
Carcase weight (CWT)	Describes the genetic difference between animals in carcase weight.	kg	No stage code – refers to carcase trait.
Carcase eye muscle depth (CEMD)	Describes the genetic difference between animals in carcase eye muscle depth.	mm	No stage code – refers to carcase trait.
Carcase fat depth (CFAT)	Describes the genetic differences between animals in tissue depth at the GR site.	mm	No stage code – refers to carcase trait.
C-site carcase fat depth (CCFAT)	Describes the genetic differences between animals in fat depth at the C-site.	mm	No stage code – refers to carcase trait.

WOOL

Trait	Description	Units	Stages
Clean Fleece Weight (CFW)	Describes the genetic difference between animals in clean fleece weight.	%	P, Y, H and A
Greasy Fleece Weight (GFW)	Describes the genetic difference between animals in greasy fleece weight.	%	P, Y, H and A
Fibre Diameter (FD)	Describes the genetic difference between animals for fibre diameter.	Micron (µm)	P, Y, H and A
Fibre Diameter Coefficient of Variation (DCV)	Describes the genetic difference between animals for fibre diameter coefficient of variation.	%	P, Y, H and A
Staple Strength (SS)	Describes the genetic difference between animals for staple strength.	Newtons per kilotex (N/Kt).	P, Y, H and A
Staple Length (SL)	Describes the genetic difference between animals for staple strength.	mm	P, Y, H and A
Curvature (CUR)	Describes the genetic difference between animals for fibre curvature.	Degrees per millimetre	P, Y, H and A

Late Wool Character (LCHAR)	Describes the genetic difference between animals in wool character (CHAR).	Visual score	Reported as 'Late' - recorded on animals over 6 months old
Late Wool Colour (LCOL)	Describes the genetic difference between animals for the amount of colour in the wool staple. LCOL is expressed as a score.	Visual score	Reported as 'Late' - recorded on animals over 6 months old
Late Fleece Rot (LFROT)	Describes the genetic difference between animals for the amount of fleece rot in the wool staple.	Visual score	Reported as 'Late' - recorded on animals over 6 months old

REPRODUCTION

Reproduction traits are reported as either Yearling (Y) or Adult. Yearling reproduction traits are for ewe lambs.

Trait	Description	Units
Weaning Rate (WR)	Describes the genetic difference between animals for the number of lambs weaned per ewe joined.	%
Yearling Weaning Rate (YWR)	Describes the genetic difference between animals for the number of lambs that are weaned per joining event, when joined as ewe lambs.	Number of lambs.
Conception (CON)	Describes the genetic difference between animals for conception. Did the ewe conceive? Sires with higher CON will produce daughters which have a higher conception rate.	Number of lambs.
Yearling Conception (YCON)	Describes the genetic difference between animals for conception when joined as ewe lambs Did the ewe conceive? Sires with higher YCON will produce daughters which have a higher conception rate when joined as ewe lambs.	Number of lambs.
Litter size (LS)	Describes the genetic difference between animals for litter size. How many lambs were born? Sires with higher LS will produce daughters that give birth to more lambs.	Number of lambs.
Yearling Litter Size (YLS)	Describes the genetic difference between animals for litter size when joined as ewe lambs. How many lambs were born? Sires with higher YLS will produce daughters that give birth to more lambs, when joined as a ewe lamb.	Number of lambs.

Ewe rearing ability (ERA)	Describes the genetic difference between animals for rearing ability. How successfully did the ewe rear her litter? Sires with higher ERA will produce daughters which rear more of their litter.	Number of lambs.
Yearling Ewe Rearing Ability (YERA)	Describes the genetic difference between animals for rearing ability when joined as ewe lambs. How successfully did the ewe rear her litter? Sires with higher YERA will produce daughters which rear more of their litter, when joined as a ewe lamb.	Number of lambs.
Maternal behaviour score (MBS)	Describes the genetic difference between animals for maternal behaviour. How far the ewe moves from the birth site when her lambs are being tagged? Sires with lower MBS will produce daughters that have better maternal behaviour, as they stay close to their lamb during the first 24 hours of life.	Number of lambs.
Number of Lambs Weaned (NLW)	Describes the genetic difference between animals for the number of lambs weaned at each lambing opportunity.	%
Scrotal Circumference (SC)	Describes the genetic difference between animals for scrotal circumference. This trait is measured at P, Y and H.	cm

HEALTH & WELFARE

Trait	Description	Units
Worm Egg Count (WEC)	Describes the genetic difference between animals in worm egg count. This trait is measured at P, Y, H and A.	%
Early Breech Wrinkle (EBWR)	Describes the genetic difference between animals in breech wrinkle.	Score
Late Dag (LDAG)	Describes the genetic difference between animals in dag.	Score
Early Breech Cover (EBCOV)	Describes the genetic difference between animals in breech cover.	Score
Lambing Ease Direct (LE_DIR)	Estimates the genetic difference between animals in lambing ease. Sires with a more positive ASBV for lambing ease (LE_DIR) will produce lambs that have a lower incidence of lambing difficulties. In a cross-breeding program where rams are being used as terminal sires and all progeny are being slaughtered, the LE DIR ASBV is the appropriate trait to use.	Percentage of unassisted lambing events (%).
Lambing Ease Daughters (LE_DTR)	Estimates the genetic difference between animals in the lambing ease of their daughters, for example the ability of a sire's daughters to lamb without assistance. Higher, more positive ASBVs for this trait are more favourable. Where rams are being used to breed replacement ewes, it is important to include both LE DIR and LE DTR in the selection process. As the LE DIR ASBV describes how easily his lambs will born and the LE DTR ASBV describes how easily his daughters will have lambs.	Percentage of unassisted lambing events (%).

Gestation length (GL_DIR)	Describes the genetic difference between animals in gestation length. A lower, more negative ASBV indicates a shorter gestation length, which is generally associated with improved lambing ease. It is important to note that this is a trait that needs to be optimised as extreme ASBVs at both ends of the scale can have a detrimental effect on lamb survival. Very long gestation lengths can cause additional dystocia problems as lambs gain weight very rapidly towards the end of pregnancy. Conversely, very short gestation lengths may result in small lambs that do not have the energy reserves to withstand adverse weather conditions.	Days
Condition score (CS)	The condition of the ewe at joining. It describes the genetic difference between animals for condition score as adults. This trait is current in its research phase, as more data is collected by industry, and the genetic parameters are finalised for this trait.	Score
Foot rot (FR)	Footrot (FR) describes the genetic difference between animals for their susceptibility to footrot. This trait is currently only available to New Zealand Merino breeders.	Score

OTHER

Trait	Description	Units
Poll-Horn Genomic Test (POLL)	Describes the genes the animal has for being polled or horned.	PP, PH or HH.
Breed Composition (BREED)	Describes the breed proportion of each animal.	Percent between 0 and 1.
Inbreeding (INBREEDING)	Describes the inbreeding percentage for each animal.	Percent between 0 and 1.