



SHEEP GENETICS CARCASE



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Carcase muscling (EMD)

What to look for?

Carcase muscling is reflected by eye muscle depth (EMD), it is generally quoted at one of four ages:

1. Weaning (WEMD)
2. Post-weaning (PEMD)
3. Yearling (YEMD)
4. Hogget (HEMD)

EMD
(mm)



How is it measured?

The depth of the eye muscle or backstrap is measured between the 12th and 13th long ribs. The measurement is on live animals using an ultrasound. Accredited scanners undertake the work at one of the ages listed above.

What do the numbers mean?

Muscling ASBVs are measured and quoted in millimetres. As with all ASBVs, they are deviations from the average of animals in the database in 1990. So an animal with a PEMD of +1.2 will genetically have an eye muscle 1.2mm deeper than the average in 1990. A ram with an ASBV of +1.2mm for EMD will pass half of this benefit onto his lamb, that is +0.6mm.



Can I see or feel it?

You can see and feel differences in the muscularity between animals, but the changes associated with the EMD ASBVs are subtle and very difficult to detect. Importantly, both management and nutrition change EMD but EMD ASBVs tell you the genetic propensity of an animal for muscling.

What's in it for me?

The main reason to select for improved muscling is to improve the value of the carcase through increasing the amount of lean meat it contains. But there are other benefits in terminal, maternal and Merino breeding.



Higher muscling is favourably related to reproductive rate, however the response is variable between flocks and seasons.



More lean meat across entire carcase



More weight in the high value loin area



Less weight in the low value forequarter

What else changes if I just selected for muscling?

These are what we call correlations, generally if eye muscle depth goes up:

THE FREE LUNCHES

Lean meat yield increases

Shifts lean meat from the fore quarter to the loin

Increases dressing percentage

Higher reproductive rate in ewes

Higher worm resistance

THINGS TO WATCH

Can result in lower growth

When extreme and combined with low fat can reduce eating quality

BUT remember you can manage these correlations by selecting animals based on indexes or a balance of traits that you are interested in.

Carcase fatness (FAT)

What to look for?

Carcase fatness is reflected by the depth of fat between the eye muscle and the skin, it is generally quoted at one of three ages:

1. Post-weaning (PFAT)
2. Yearling (YFAT)
3. Hogget (HFAT)

FAT(mm)



How is it measured?

Fat depth is measured at the same time as eye muscle, between the 12th and 13th long ribs. The measurement is on live animals using an ultrasound. Accredited scanners undertake the work at one of the ages listed above.

What do the numbers mean?

Fatness ASBVs are measured and quoted in millimetres. As with all ASBVs they are deviations from the average of animals in the database in the 1990 drop. So, an animal with a PFAT of +0.6 will genetically have 0.6mm more subcutaneous fat than the average in 1990. A ram with an ASBV of +0.6 for PFAT will pass half of this benefit onto his lambs, that is +0.3mm.

Can I see or feel it?

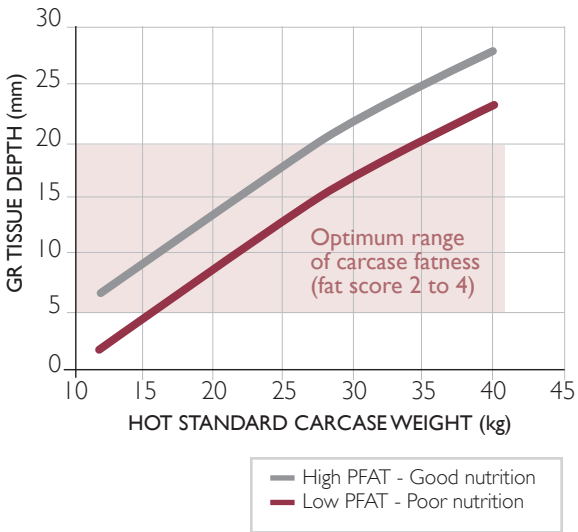
You can feel differences in the fatness between animals, but the changes associated with the FAT ASBVs are subtle and very difficult to detect. Importantly, management and nutrition changes FAT considerably – ASBVs tell you the genetic propensity of an animal for fatness.



What's in it for me?

FOR PRIME LAMBS

Fatness is one of the few traits that has an intermediate optimum. It is possible for carcasses to be either too lean and too fat for efficient processing, and different markets have different requirements.



What's in it for me? cont ...

FOR BREEDING EWES

Fat increases the ability of breeding ewes to maintain weight and condition in "tough" times. Is is also favourably related to reproductive rate but the response is variable between flocks and seasons.

What else changes if I just selected for fatness?

These are what we call correlations, generally if fat depth goes up:

THE FREE LUNCHES

Related to improved reproductive rate

CV of fibre diameter goes down

Intramuscular fat (marbling) improves

Eating quality improves

THINGS TO WATCH

Carcase fatness goes up

Fleece weight goes down

BUT remember, you can manage these correlations by selecting animals based on indexes or a combination of traits that you are interested in.

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Disclaimer:

This brochure is intended as a guide only. Every effort has been made to ensure the information contained within is factual but this cannot be guaranteed.

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