



Fact sheet – Lamb Carcass Composition

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Carcass components

Lean meat yield is a key profit driver within lamb supply chains, driving on-farm efficiency, reducing wastage and new product development at processing.

Lean meat yield percentage (LMY%) is the amount of lean meat that can be boned out from a carcass and is represented as a percentage of carcass weight.

Lamb carcasses with more lean, less bone and less fat will have a higher LMY%.

Effect of weight on carcass composition and dressing percentage

As lambs get heavier in weight their proportion of lean decreases and their fat proportion increases. This can be seen in the Computed Tomography (CT) scan measurements of fat, lean meat and bone percentage (Table 1). As lambs get heavier their dressing percentage increases.

Table 1 Carcass component weights for progeny from a terminal sire over merino dam.

	Sire Carcass Plus Index Value = 171			
	18	20	24	28
Hot Carcass Weight (kg)				
CT Lean %	60.7	59.8	58.2	56.9
CT Fat %	22.0	23.3	25.5	27.5
CT Bone %	17.4	16.9	16.2	15.6
C-site Eye Muscle Area (mm ²)	13	14	15	17
GR Tissue Depth (mm)	9	11	14	17
Dressing Percentage	45.6	45.8	46.2	46.7
Pre-Slaughter Live Weight (kg)	39.5	43.7	51.9	60.0

Effect of the Carcass Plus Index on composition and dressing percentage

Carcass Plus Index is a desired gains index, that selects for rapid growth, increased eye muscle depth and reduced back-fat depth.

Indexes can be used to assist in balanced selection using a range of Australian Sheep Breeding Values (ASBVs).

Using the Carcass Plus Index when selecting breeding stock, will focus on animals with high weaning weight (WWT), post-weaning growth (PWWT) and eye muscle depth (EMD), leading to faster lamb turnover. It also puts a small emphasis on fat depth (PFAT) to maintain the level of leanness (Table 2).

Table 2 Carcass Plus Index Effects

Carcass Plus Trait Name	ASBV	Relative emphasis	Contribution to economic gain	Predicted 10 year response
Weaning Weight	WWT	30%	15%	2.2 kg
Post Weaning Weight	PWW T	35%	38%	3.4 kg
Fat Depth	PFAT	5%	-2%	0.2mm
Muscle Eye Depth	PEMD	30%	45%	1.2mm

As the Carcass Plus Index increases, CT lean% increases. This effect is reflected through increased weights of the shortloin, the topside and the round, when compared at the same carcass weight (Table 3, over page).

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As the Carcase Plus Index increases, dressing percentage increases, CT fat% decreases as does the GR tissue depth when compared at the same carcass weight.

Table 3 Carcase components for 20kg progeny of Terminal Sire x Merino Dam, with different sire Carcase Plus index values.

Sire Carcase Plus Index Value	130	171	210
CT Lean %	58.7	59.8	60.8
CT Fat %	24.2	23.3	22.4
CT Bone %	17.1	16.9	16.8
Eye of Shortloin Weight (g)	291	317	341
Topside Weight (g)	535	543	551
Round Weight (g)	398	415	413
C-site Eye Muscle Area (mm ²)	13	14	15
GR Tissue Depth (mm)	11	11	11
Dressing Percentage	44.9	45.8	46.6
Pre-Slaughter Weight (kg)	44.5	43.7	42.9

Key Messages

LMY% can be increased by altering carcass composition towards more lean, less bone and less fat.

The Carcase Plus Index is a useful tool to identify animals with high growth and muscularity, while maintaining carcass leanness.

Selecting stock with Carcase Plus Index Data can provide higher yielding, more valuable carcasses.

Further Information

Fact Sheet: New Breeding Values for Yield and Eating Quality

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