



Grading

Making the Grade!

Lamb is different, and not just because of its unique taste. A lamb is smaller in size than either beef or pork and so must be fabricated and managed differently. The following tables provide you with valuable comparative data for evaluating the yield and quality of your carcasses of fresh Canadian lamb. (*n.b. All tables should used as guidelines as weights and percentages will vary by lot and individual animal carcass.*)

Comparative differences in market weight beef, pork and lamb

	Beef	Pork	Lamb
Average live weight (kg)	500	100	50
Age (months)	<24	<6	<12
Dressing percentage (carcass/live weight)	55	65	50
Carcass weight (kg)	275	65	25

Source: adapted from FAO, Animal Production & Health Paper – 91, 1991.

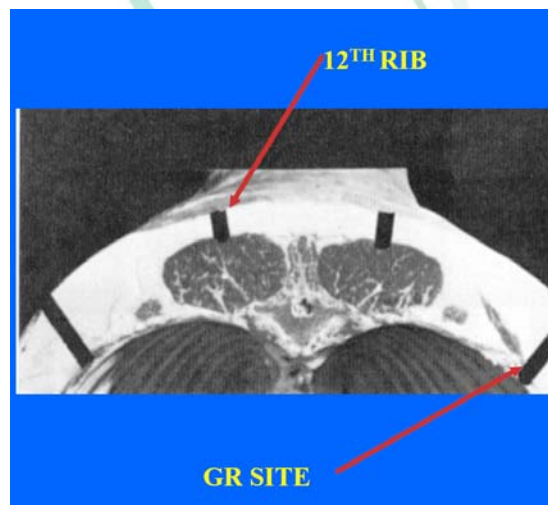
Canadian Categories of Lamb

Category	Light Lamb	Milk Lamb	Light-Heavy Lamb		Heavy Lamb	
			Eastern Canada	Western Canada	Eastern Canada	Western Canada
Region			Eastern Canada	Western Canada	Eastern Canada	Western Canada
Avg. live weight (kg)	20-29	29-35	35-40	35-45	40-55	45-60
Age (months)	< 2.5	5-12	< 12	< 12	< 12	< 12
Carcass weight (kg)	9-13	13-16	16-18	16-20	18-25	20-27

The Right Amount of Fat

Too much fat in a diet is not healthy, but just the right amount of fat can be beneficial not only from a health perspective but also regarding the quality of lamb. A minimal cover of fat (at least 2.5 mm) helps to prevent dehydration of the carcass and prolong shelf-life, as well as being an important part of lamb's unique taste.

Lamb fat is measured in Canada by the grade rule (GR) measurement which is determined by inserting a probe perpendicularly into the body wall of the carcass at a site 11 cm from the mid-line of the loin at the 12th rib.



Source; Directions for Utilizing Pie Medical Food Animal Ultrasound Technology, Gresham, University of Tennessee, undated.

The GR measurement (in millimeters) provides the carcass with a fat score of somewhere between 1 mm to 25 mm which is then combined with an assessment of maturity (age) and a muscle score (visual observation by the grader) to provide an overall quality grade as listed in the table below. It should be noted that for lamb there is only a "Canada AAA" grade, unlike beef where there are "Canada AA" and "Canada A" grades as well.

Canadian Grading Criteria for Lamb

Quality Grade	Maturity	Muscling	Fat Depth	Fat
Canada AAA Yield Grade Y1 Y2 Y3 Y4	Lamb	<ul style="list-style-type: none"> Individual muscle score of 2.0 or greater Average muscle score (all primals) of 2.6 or greater 	<ul style="list-style-type: none"> Less than 13 mm 13 to 18.9 mm 19 to 24.9 mm 25 mm or more 	<ul style="list-style-type: none"> GR is 4 mm or greater Trace fat streaking Firm
Canada C1	Lamb	<ul style="list-style-type: none"> Individual muscle score 1.0 or greater Average muscle score 2.6 or less 		<ul style="list-style-type: none"> GR is less than 4 mm
Canada C2	Lamb	<ul style="list-style-type: none"> Dark red meat 		<ul style="list-style-type: none"> Yellow fat
Canada D1	Mutton			<ul style="list-style-type: none"> GR is less than 13 mm
Canada D4	Mutton			<ul style="list-style-type: none"> GR is 13 mm or greater

Canada Gazette: Regulations Amending the Livestock and Poultry Carcass Grading Regulations, 1999.

The highest quality lambs are those that grade Canada AAA – Y1 and Y2 because it they classify as the best combination of fat and muscle score.

Fact: 95% of Canadian lambs grade Y1 and Y2

Correlation between Grade and Yield

A good muscle score combined with a low or medium fat thickness provides the best balance for a top grade of lamb.

A lamb that is graded Canada AAA – Y1 will normally provide the greatest percentage of lean meat. The higher the fat level and the lower the muscle score, the lower the percentage of lean meat in the carcass, or cut-out value.

The table below was formulated to calculate forward contract price settlements between lamb producers and processors. It can be used quite effectively, however, to provide an estimate of carcass value for costing purposes as there is a strong correlation between lamb quality (grade) and the yield of lean meat.

Index Score Percentages based on muscle and fat depth scores for Ontario

Grading Grid		Muscle Score					
		(subjective measurement taken visually)					
		5,5,5 5,5,4 A	5,4,4 4,4,4 B	4,4,3 4,3,3 C	3,3,3 3,3,2 D	3,2,2 2,2,2 E	2,2,1 Or less
Fat Depth Score (GR – objective measurement taken using a calibrated knife)	1-3 mm	95	95	90	90	75	70
	4-6 mm	105	100	95	85	85	75
	7-16 mm	115	110	105	100	95	80
	17-19 mm	105	100	95	90	80	75
	20+ mm	90	90	90	80	70	70

Source: Adapted from Ontario Sheep Marketing Agency, forward contract, 2005;

<http://www.ontariosheep.org/Sheep%20News/2005/05%20May%20Jun/Forward%20Contract%20Changes.html>

Example:

- A 45 kg heavy lamb that dresses at 55% results in a carcass of 25 kg.
- With a muscle score of 4,3,3 (C) and a GR measurement (fat score) of 15 mm, this lamb has an index score of 105%.
- The index score of 105% reflects the correlation between grade and yield, meaning that a lamb of this quality will, on average, yield 5% more lean meat for fabrication.
- If the percentage lean meat for this lamb carcass is also 55%, then an Index Score of 105 potentially represents an additional 0.69 kg of meat from the carcass.

This correlation between grade and lean meat yield is further demonstrated by the formulation composed by linking US carcass yields and lean meat estimates, and then correlating them with Canadian yield grades (which are measured and stated differently than the US standards).¹ The Animal Yield Grid Index was (again) formulated as an improved means for price settlements between producers and processors by emphasizing higher quality carcasses. It also proves useful not only for demonstrating the linkage between quality and lean meat

¹ George Morris Centre, AgraPoint International Inc., Value Chain Analysis for the Canadian Lamb Industry, Section 5.2.5, 2007.

