



Costing Lamb

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 below provide valuable comparative data for managing and costing your fresh Canadian lamb. (*n.b. All tables should be used as guidelines, as weights and percentages will vary by lot and individual animal carcasses.*)

Canadian Categories of Lamb

	Milk Lamb	Light Lamb	Light-Heavy Lamb		Heavy Lamb	
			Eastern Canada	Western Canada	Eastern Canada	Western Canada
Ave. 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

Size isn't everything!

A big carcass is not necessarily the best when it comes to profitability – the proportion of saleable meat to trim and bone is what counts. The higher the percentage of lean meat yield, the more profit potential the carcass has.

In general:

Higher muscle score x Lower fat score = Higher lean meat yield

- A 5% difference in lean meat yield can represent 1.5 kg of additional product to sell profitably.
- A lamb with a lower lean meat yield leaves more trimmed fat and bone
- More trim takes more time

Yield grade refers to the percentage of closely trimmed, semi-boneless and boneless retail cuts from a carcass; this represents the percentage cutability, or lean meat yield.

Cut-ability Test

You can calculate the yield grade from an individual lamb (as representative of a group of similar lambs) by carrying out a cut-out test in the following manner:

- Weigh the carcass before fabrication to obtain a cold carcass weight.
- Separate the carcass into its primal cuts – front (foreshank, breast, and shoulder), whole loin (loin and rack), leg, and flank:
 1. Cut between the 12th and 13th rib to separate the front from the hind quarter
 2. Separate the shoulder from the rib with a perpendicular cut between the 4th and 5th ribs
 3. The breastplate, shank and neck should be removed from the shoulder, with the neck and breast separated into bone, lean, and fat.
 4. Remove the rib tails from the rib so that tails measure no more than 10.16 cm from the longissimus muscle, then remove rib bones and cartilage from the tail portion.
 5. Separate the loin and leg perpendicularly at a point immediately in front of the sirloin/loin juncture.
- All cuts should be trimmed of fat to meet individual cut specifications and appearance.
- Fat, lean, and bone trimmings should be piled separately and weighed.
- Weigh the paired cuts from each carcass
- Record the weights.

Not all cuts are equal!

Remember to calculate the time it takes to carry out the cut-out test, not only the total time but also the time involved for each primal cut as each one will take a different length of time.

Useful points to remember:

A lamb carcass breaks down into the following approximate proportions:

Legs	33%	Rack	10%
Shoulders	20%	Foreshank	06%
Loin	12%	Neck	03%
Breast	12%		

Calculating Costs

Dress weight % = Carcass weight ÷ Live weight

A 45 kg heavy lamb divided by a 25 kg carcass weight equals a dress weight percentage of 55%

Lean meat yield % = Yield weight ÷ Carcass weight

A 25 kg carcass weight divided by a yield weight of 14 kg equals a lean meat percentage of 56%

Meat cost per kg = (Cost of carcass ÷ Lean meat %) ÷ carcass weight

A 25 kg carcass purchased for \$225 divided by a lean meat percentage of 56% equals a meat cost of \$16.07 per kg.

Don't let it go to waste!

A good portion of the carcass and primal cut trimmings (meat and fat) can be used to make ground lamb, sausages and sauces. To make ground lamb, some amount of leaner meat must be added to the trimmed meat and fat to provide the appropriate ratio of lean to fat. Given that lamb is a smaller carcass size than beef, and depending on how the primal cuts are butchered into a selection of more profitable choice cuts, the availability of lean meat may be limited. In this situation, maximize the use of the lamb trimmings by mixing with other lean meat such as beef which is usually more available and costs less. The mix helps to give left-overs additional value and creates a unique taste for burgers and sausages.

The following is a formula using the Pearson Square method to help calculate the proportion and costing of mixed meat products.¹ You can use the sample cost calculation sheets or download the simple excel spreadsheet file to calculate various combinations quickly.

Meats

(1) boneless beef (10% fat @ \$2.00/kg)

(2) lamb trimmings (25% fat @ \$4.00/kg)

Desired final fat content: 20%

Batch size: 100 kg

(continued)

¹ Adapted from Illinois Association of Vocational Agriculture Teachers, Meats Evaluation and Technology Career Development Event, www.aces.uiuc.edu/itcs/im, 2006.

The Pearson Square

(A) Fat content of meat 1		(D) The difference between (B) and (C)
	(C) Desired fat content of finished batch	
(B) Fat content of meat 2		(E) The difference between (A) and (C) Sum of (D) and (E)

Therefore:

(A) = 10		(D) 25% - 20% = 5
	(C) = 20	
(B) = 25		(E) (C) - (A) = 10 ÷ (D) + (E) = 15

Proportions:

Proportion of ingredient (A) = (D) / (Sum)

$$5 \div 15 = 0.33 \text{ (X 100 kg = 33 kg)}$$

Proportion of ingredient (B) = (E) / (Sum)

$$10 \div 15 = 0.67 \text{ (X 100 kg = 67 kg)}$$

Verify final fat content:

$$33 \text{ kg X } 0.10 \text{ (fat) = } 3.3 \text{ kg}$$

$$67 \text{ kg X } 0.25 \text{ (fat) = } 16.75 \text{ kg}$$

$$= 20.05 \text{ kg}$$

Cost per pound:

$$\text{Boneless beef } 0.33 \text{ X } \$2.00/\text{kg} = 0.66$$

$$\text{Lamb trimmings } 0.67 \text{ X } \$4.00/\text{kg} = 2.68$$

$$= 3.34 \text{ or } \$3.34/\text{kg}$$