What is carcase meat yield?

Mark Young

Meat yield is of interest to sheep farmers and breeders. In recent years, some meat companies have begun to report back carcase meat yield information. Breeders have been quick to see the potential value of yield information for individual animals, and some have begun collecting this.

“Yield” has a variety of definitions which can cause confusion. We will put to one side dressing out %, sometimes called killing out % or “carcase yield”. This is the body proportion that is carcase (in sheep this percentage is in the low to mid-forties). Carcase meat yield is not dressing out %.

When two 18kg carcases are processed and one produces more saleable meat, it is “higher yielding”. Yield can be expressed as an absolute amount (kilograms) or a proportion (e.g. lean %). Proportions are better than absolute yield because tissue weight is a function of size (or carcase) and proportion. Separating size from proportions shows why an animal has high absolute yield - because it is big, because it has excellent tissue proportions, or both.

Sheep meat cuts may contain bone and some fat, not just muscle. Carcase meat yield may also consider the value of different cuts.

Progressive Meats Ltd has a 100% average scale of carcase value at a given carcase weight based on weights of different cuts and cut values. Better animals are above average e.g. 105%.

Alliance Group report on lean tissue yields in three carcase regions with typical values of 19-25% (shoulder), 12-17% (loin) and 14-20% (hind leg). These are from VIAscan, a video image analysis system calibrated with cutting room data.

Silver Fern Farms rate animals for percentage of carcase that is shoulder, middle or leg (hindquarter), so these figures total 100%. SFF found that half the variation in carcase value is due to variation in relative size of these regions. X-ray information is used to determine where to separate carcases into these sections. The next development of their system will consider variation within these regions.

SIL indexes for meat yield use eBVs adjusted to constant carcase weight, equivalent to proportions. SIL genetic evaluations are primarily based on ultrasound scan data, with some CT and VIAscan data being used as well.

Different definitions and scales prevent us making simple comparisons of figures between systems. I have heard farmers say they get higher “yields” if they send sheep to one meat company rather than another. The sheep aren’t different, just the definitions used for carcase meat yield.

A useful analogy is a car speedometer. Being marked in kilometres an hour doesn’t make it faster than one marked in miles an hour. They are just different scales for speed.

Carcase returns are dominated by carcase size. “Carcase meat yield” is most valuable when it tells us something beyond size. Superior carcase tissue yield should tell us about relative returns from carcases of the same size. Carcases are “better” if they have a greater proportion of lean tissue, more tissue in higher valued regions, or greater total value in key cuts. Some of the anatomical reasons animals have “better” yield are common to different definitions. So animals rated highly on one system will be more likely to rate highly on another.

Do we need a common scale of merit for describing carcase tissue yield? While meat companies can justify different scales to valuing carcases in different ways for different markets, ram breeding will be most effective when there is a set of common traits with their relationships defined.

To use information on carcase meat yield from different systems we need to know how they relate to a common set of variables for describing carcase merit. While we have some of this information, we do not have it all. Further work is needed to understand the relationships between different systems used to rate animals for carcase meat yield in the live animal and by meat companies.

Beef + Lamb New Zealand is committed to providing better access to better information. Refocusing SIL indexes on carcase meat yield in 2010 is an example of this. To send feedback, you can email silhelp@sil.co.nz or telephone 0800 silhelp (0800-745-435).

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