YIELD RELATIONSHIPS FOR LAMB CARCASSES

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Across Australia, marketing of lamb is still based largely on subjective systems. These do little to aid the relay of consumer preferences to producers. The potential of an objective marketing system based on specification to enhance communication through the marketing chain has been previously discussed by Harris (1982). Work underway in Tasmania is designed to develop a functional price schedule for the purchase of carcasses on specification.

Carcass weight and GR have been obtained for 147 carcasses, where GR is the total tissue thickness at the 12th rib 110 mm from the midline of the carcass. These carcasses ranged in weight and GR fatness from 9.5 to 25.0 kg and 3 to 28 mm respectively, with a similar distribution as reported by Lee et al. (1984).

The carcasses were butchered in a commercial butcher's shop and the percentage yield of retail cuts (Yield 1) determined. To overcome the differential trimming of retail lamb cuts and the resultant wide variation of lean meat (Harris 1982) the yield (Yield 2) of muscle from cuts trimmed to a selvedge equivalent to a score 2 carcass has been determined. Fat scores are based on the GR measurement and fat score 2 = GR 5-10 mm. Yield 2 was calculated after dissecting into fat, muscle and bone trimmed retail cuts from 64 of these carcasses.

Regression equations based on data collected in the first year of the project were developed using the commercially applicable GR and carcass weight parameters.

\[
\text{Yield 1} = 88.7 - 0.41 \text{ GR} + 0.02 \text{ Carcass Weight}, \quad r = -0.66 \quad \text{SE} = 2.18 \quad P<0.001
\]

\[
\text{Yield 2} = 90.7 - 1.02 \text{ GR} + 0.72 \text{ Carcass Weight}, \quad r = -0.74 \quad \text{SE} = 2.85 \quad P<0.001
\]

The magnitude of the change in yields of increasing carcass fatness at a constant carcass weight can be demonstrated from these relationships. For example a 16.5 kg carcass with a GR of 5 mm would yield 67% and 90% respectively for Yields 2 and 1 and at GR 25 mm, 47% and 82%.

Yield 2 decreases faster than Yield 1 with increasing fatness showing that as carcass fatness increases an increasing proportion of fat remains within retail cuts despite trimming of subcutaneous fat. This in turn means consumers who purchase cuts from fat carcasses must buy a larger quantity of meat to take home the same amount of (muscle) protein as those who purchase cuts from leaner carcasses. Given that consumers wish to purchase lean meat and receive value for money, price schedules should be based on the relationship for Yield 2. Such a marketing system would also discourage wasteful production of fat, a low value product.


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