PREDICTION OF YIELD OF SALEABLE MEAT IN BEEF CARCASES

R.J.W. GARTNER*, C.R. LUCKOCK** and G.W. BLIGHT*

The Australian Meat Board is developing a beef **carcase** classification scheme which includes the measurements of **carcase** weight (CW) and fat depth (F) over the rib-eye muscle. Using these two measurements it may be possible to derive a prediction equation for the yield of saleable meat (YSM) from a carcase.

The YSM was determined in 202 steers (primal cuts trimmed to about 6 mm fat) using the whole **carcase.** The cold CW included cod and channel fat and F was measured according to the Australian Meat Board (1971) scheme.

The cattle **originated** from nine experiments at the Animal Research Institute **(ARI)** and were finished either on roughage or high-grain diets. Although tests on pooling the nine equations showed significant differences ($P < 0.01$) in variances, slopes and intercepts, for practical purposes a combined equation was calculated:

$$YSM = 8.686 + .732 (\pm .010) CW - 1.57 (\pm .12)F \quad (R^2 = 0.966; RSD = 5.99)$$

To assess the performance of the prediction equation, YSM values determined in 183 **carcases** entered in the Royal National Association (RNA) **carcase** competition over six years were compared with values . predicted using the **ARI** equation (one side only used by RNA and CW was estimated as 97% hot weight).

The mean (range) for the two sets of data were:

	YSM (kg)	CW (kg)	F (mm)
ARI	173.21 (89.1–249.4)	245.52 (121.9–385.3)	9.64 (1–25.0)
RNA	165.45 (100.1–230.6)	234.11 (141.8–318.6)	6.60 (1–17.5)

When predicted values of YSM for the RNA data were plotted against the observed values, a tendency to overestimate was apparent. However, this was mainly attributed to the data from one of the six years.

The measure of performance used was the root mean squared difference. between the observed and predicted value (prediction standard deviation). It was calculated to be 7.93 (C.of V. 4.8%) compared with the value 5.99 (C. of V. 3.5%) found for the residual standard deviation (RSD) of the prediction equation.

Both the **ARI** and the RNA samples contained intensively finished young cattle. It is necessary to test the equation further, particularly in **carcases** from grass-finished cattle of both sexes.

Australian Meat Board (1971). "Australian Eeef **Carcase** Appraisal Systems". (Offset Alpine Pty. Ltd. Sydney).

* Queensland Department of Primary Industries, Animal Research Institute, Yeerongpilly, Queensland, 4105.'

** Australian Meat Board, Sydney, **N.S.W.**