A SIMPLE YIELD-BASED PRICING GRID FOR BEEF CARCASES

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The beef industry needs a simple and effective yield payment system, which producers can understand and smaller processors can use as a cheap alternative to VIAscan. A price grid based on carcase weight (HSCW), rib fat and eye-muscle area (EMA) can fit this need. Producers can relate these to live cattle assessment, and could therefore respond to incentives to lift carcase yield, improve returns for their cattle and reduce wastage in the industry. It would be cheap and easy to implement, especially where Meat Standards Australia (MSA) grading is already practised, and could be used to develop yield improvement training. Fatness is the major cause of yield variation in beef carcases, but at similar weight and fatness, such as with most domestic carcases, muscling becomes a much more important factor (McKiernan 2000). The commonly used weight/P8 fat payment grid does not reflect these yield differences. Payment based on VIAscan-estimated yield is potentially more accurate, but is expensive, and will not give producers the assessment indicators they need to improve yield in their cattle.

As part of the 2001 Gympie Carcase Classic, cattle of many breeds and crosses were finished together in a feedlot, and 133 of them met the market age/weight targets (0 teeth, 200-280kg). Each right side was quartered (12/13th rib) after chilling, and graded by a MSA grader, including measurement of EMA and rib fat depth. All cuts, bones and trim were weighed and a saleable meat yield percentage calculated for each carcase, with yields ranging from 68 to over 80%.

Total payments to producers for all 133 carcases were equivalent to paying an average of $4.48 per kg for all the saleable meat produced. Using this average value, the “real” value of each carcase was calculated from its actual weight and yield percentage. Alternative payment grids for the carcases were then derived from this data, using HSCW and rib fat depth, with or without EMA, and compared for their ability to pay for yield. To aid interpretation, the grids used the same rib fat price adjustment across all weights, and a 10 cm^2 EMA (medium muscling) par price band, set 5 cm^2 higher with each 20kg weight class. Table 1 shows this for the first 20kg weight class.

Table 1. Key price adjustments in proposed price grid (example section for 200.1-220kg carcases)

Rib fat depth (all wts)		EMA*		Equivalent Live Muscle Score
2-6mm	0c	Up to 68 sq cm	-10c	Moderate (D/ low C)
7-9mm	-5c	69 –78sq cm	0c	Medium (C/C+)
10-13mm	-10c	over 78 sq cm	10c	Heavy (B)

* The 10 cm^2 -wide par price band moves up by about 5cm^2 for the next 20kg weight class, etc.

Table 2 shows variations from the overall average value of $3.30/kg HSCW. The top 10 yielding carcases are really worth 25c/kg more, but applying the fat adjustment in Table 1 only reward them 1c/kg above average for the extra yield. Adjusting for both fat and EMA rewards them an extra 12c/kg. The bottom 10 yielding carcases are worth 14c/kg less than average, but the fat adjustment only discounts them 2c/kg, while fat+EMA discounts them by 10c/kg. In this population, an average over/underpayment of $22, $21 or $17 would result from paying on a flat price, or with fat adjustment, or fat+EMA respectively. Compared to a flat price, fat+EMA increased the proportion valued to within $10 of “true” value from 28% to 34%, and reduced all 40 of the biggest over/underpayments.

Table 2. Relative values per kg HSCW, for carcase payment (all 200 – 280kg carcases, average $3.30/kg)

% Yield group	Average yield %	Relative “real” value c/kg HSCW	Av. grid price paid c/kg, Rib fat adjustment only	Av. grid price paid c/kg, Rib fat/EMA adjustment
Highest 10	79.2	+25	+1	+12
Lowest 10	69.1	-14	-2	-10
All 133	73.7	0	0	0

MCKIERNAN, W.A. (2000). *Anim. Prod. Aust.* **23**, 151.

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