

Guaranteed eating quality: making it work

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Abstract

CRC and Meat Standards Australia (MSA) research has addressed industry concerns regarding consumer dissatisfaction with beef eating quality. The research defined consumer standards for levels of satisfaction and developed a prediction tool which allowed a consumer score to be estimated for all major carcass muscles. Consumer concerns regarding purchasing reliable quality beef can be addressed using these findings but extensive adoption produces conflicts with many traditional description and pricing systems.

An integrated system from retail to farm was established and trialed with all description and pricing mechanisms directly related to eating quality outcomes. This created a transparent value based marketing structure and encouraged considerable innovation in each supply chain segment. The trial was successful, resulting in increasing sales over a five year period. Perhaps more critically all carcass portions were sold in balance, assisted by substantial value adding of conventional secondary cuts by conversion to pre cooked meals. Large differences in value between apparently similar carcasses were demonstrated, providing an indication of efficiency improvement which could be generated by adoption of transparent value based payment systems.

Introduction

Dissatisfaction with beef eating quality had been raised as a serious issue for the Australian beef Industry in both domestic and export markets in the early 1990's. (Bindon, 2001). McKinna (1995) also reported a perceived lack of convenience and confusion with cut use and cooking knowledge as factors inhibiting beef consumption. Both the Beef CRC and the Meat Standards Australia (MSA) programs arose as Industry responses to address the problem.

The dedicated focus on eating quality as measured by consumers and the body of applied research conducted within the CRC and MSA programs succeeded in both defining consumer satisfaction,

measured as an MQ4 (meat quality, 4 variable) score and in producing a working model which accurately predicted this score for major muscle by cooking method combinations within the carcass. An overview of the MSA program evolution is provided by Polkinghorne (2006), with Thompson (2002) detailing issues in managing beef tenderness and Watson (2006) reporting the model building process.

A core finding of the consumer research was that consumers exhibited a reasonable consensus regarding the eating quality of cooked beef. Without this no grading system could function effectively. The corollary of this was that quality sold would be accurately determined by consumers; no amount of advertising would change a poor experience. Consumers "knew their beef" - when they ate it. McKinna (1995) and others have reported that consumers could not confidently identify beef quality at the point of purchase and were frustrated and confused by this difficulty. CRC and MSA results provided an explanation for the difficulty of purchase. Traditional tools of raw beef appearance, cut description and price fell well short of describing eating quality and were often confusing (Polkinghorne, 2005). Meat and fat colour were found to have essentially no useful relationship to eating quality prediction (Watson, 2006).

A further inherent problem in traditional trading approaches is the assumption that cuts within a carcass have a common eating quality relationship, a fundamental tenet in carcass as opposed to cuts grading and to wholesale and retail pricing. In fact the relative eating quality and resultant consumer value of different cuts in a carcass varies widely between carcasses. This issue is reported in more detail by Polkinghorne (2005) who used MSA model outputs to demonstrate MQ4 score ratios between striploin (*m.longissimus lumborum*) and a range of other muscles. As an example *m.longissimus lumborum* to *m.gluteus medius* ratios ranged from 82 to 121 in an example group of 7 carcasses, demonstrating then problem.

The CRC and MSA results provided a means to address issues related to beef consumption by improving product quality, simplifying purchasing and defining alternative consumer value points by enabling known quality levels to be linked to purchase occasion. In doing so however many traditional industry practices were challenged and the author contended that significant change to trading systems at all levels would be required to make full use of the base science, thereby providing improved consumer value, the incentive for quality improvement and the opportunity for more stable long term industry returns.

A commercial system was developed and trialed to test these assertions incorporating an integrated chain from the breeding property to a retail store. This paper provides an overview of the principles involved and of the experience to date in applying them in a commercial environment.

Methodology

A fully integrated supply chain was implemented from retail product back to animal joining. This is further reported by Polkinghorne et.al (2006). A core principal of relating every possible facet to eating quality was adopted to encourage a dedicated consumer focus.

Retail products were described entirely on the basis of their predicted cooked result, with pricing on a grade by cooking method matrix. Retail description and display was reduced to a 3, 4 or 5 star quality level, based on the predicted MQ4 scores, within each cooking method. All product was presented fully prepared for cooking by the nominated method. It was agreed that any product which failed to reach MSA 3 star level would only be sold as mince. Substantial price differentials of between \$10 and \$15 per grade were applied resulting in 5 star product being at least double the price of 3 star.

A number of products developed to market beef muscles in unusual forms were trademarked to stimulate consumer interest and encourage trial and innovation. A wide array of beef based cooked meals were also developed and cooked in store to assist in marketing the entire carcass in balance. These meals provided an opportunity to increase sales of traditional secondary cuts in a value added form with most meals based on utilisation of trim, slow cooked cubes and thin sliced preparation. The retail store was strongly branded and provided with a quality fit out to convey a high quality and contemporary "food and meals" rather than "butcher" image.

A central boning, ageing and fabrication facility was established to process carcass beef into retail product. Novel description and pricing of the retail product was related to supply pricing

by basing all transactions between the two entities on a set percentage of retail basis. This provided a fixed retail margin while encouraging action to improve eating quality by fabrication. Processes encouraged by this incentive included tenderstretch carcass suspension, seam boning of individual muscles, conventionally combined in many traditional cuts, differential cut ageing in response to MSA ageing estimates and selection of muscles for retail preparation under cooking methods which provided the highest eating quality outcome. Software was developed to enable tracing of individual cuts and attached eating quality scores together with creation of detailed yield and pricing data.

The principal of pricing by eating quality was extended to farm level by extending the recorded quality and yield data from each carcass processed by a percentage of the fabrication return for muscles of the same grade thereby directly establishing carcass value from retail result. This provided a transparent value based pricing system able to be linked to on farm management and genetic data. The variation in return as eating quality varied stimulated on farm responses in feeding, handling and breeding strategies.

Detailed physical and financial records were maintained over a 5 year period recording progress as the base principles were applied throughout each sector.

Conclusions

While neither simple nor easy to establish and develop the experience to date has vindicated the original hypothesis that beef could be retailed on a cooked result description and pricing basis. Consumers have adapted to the novel description system and sales have increased at better than 12% compounded over five years without discounting or external advertising. While lamb, pork and poultry are offered within the store beef sales including eat in and cooked meal components exceed 70% of turnover. The store sales mix has evolved to where the carcass is sold in balance with secondary cuts predominantly retailed in highly value added form as pre cooked meals.

The translation and direct linkage of returns to ultimate consumer value via guaranteed eating quality has generated significant innovation throughout the supply system and resulted in a continuous refinement of practices to improve disposal of every carcass portion in its highest eating quality form and hence value. A significant investment in novel software has been necessary to efficiently adapt conventional practices. In particular the transition from tracking primal cuts in bulk post boning to tracing them as individual entities with attached eating quality values has

substantially modified procedures. A potentially useful byproduct of this is that of full individual cut traceability to the retail counter. It might be argued that the potential to charge more due to specific eating quality knowledge may provide a means to recoup the cost burden of traceability systems on a larger scale.

At farm level the adoption of a transparent value based payment in conjunction with detailed feedback has provided strong incentive for change and highlighted the large variation in true value of apparently similar carcasses. These differences are routinely in excess of \$200 at farm level and \$500 at retail reflecting a mix of quality and yield variation. This variation is obscured by conventional livestock marketing systems and represents a substantial opportunity for improved efficiency if extended to a broader industry base.

References

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