

## Foreword

'Marbling' is the most emotive word in the vocabulary of beef producers, beef processors, feedlotter and meat scientists. Ask for a comment on marbling from anyone in these sectors in Australia and you will receive a point of view that either extols the virtues of this trait or, alternately tries to discount totally the idea that marbling is linked to beef quality.

Forty-five years ago my Meat Science mentor (the late) Professor Neil Yeates at the University of New England quoted research of that time to prove that intramuscular fat percentage (IMF%), or marbling, had no significant effect on the tenderness (shear value) of either raw or cooked meat. He had further evidence to say that beef flavour was contained in the water-soluble component of muscle, thus excluding marbling (a fat depot) from having an influence on this attribute.

Not everyone agreed with these conclusions. By that time marbling was already an established component of the USA beef grading scheme and premiums were paid for marbled beef achieved by grain feeding. American beef consumers were evidently satisfied that marbling had a significant influence on beef quality.

In the Australian domestic beef market, marbling has not yet achieved prominence. The growth of the premium B3/B4 market in Japan since 1993 however, has elevated marbling to a position of importance in our major export market. This is driven by the fascination that Japanese beef consumers have for marbling in their beef products, cooked by traditional methods that have no parallel in Australian cuisine.

In the modern Australian beef sector, marbling is of unquestioned significance. In 2003, turn-off from

commercial feedlots was 2 million animals. This means that 25% of all slaughter cattle, including close to half the steers, were finished in feedlots. About 60% of Australian grain-fed cattle are destined for Japan or Korea where marbling is a key market specification.

The CRC for Cattle and Beef Quality is committed to marbling research. In 2001 we could not find examples of a forum that specialised solely on marbling. There was an urgent need to do this to focus the Australian beef sector on the problems associated with marbling: What breeds have the genes for the trait? Can we develop gene markers to identify seedstock for marbling? How is marbling measured? What is the link between marbling and eating quality? Is it important in MSA grading? Can we improve marbling by nutritional manipulation? Are there other environment factors important for expression of marbling? Is marbling a component of human health considerations of beef consumption?

The CRC's Marbling Symposium in 2001 addressed these questions and more. In this Special Edition of AJEA some of the papers from that Symposium have been refined and updated. Some new manuscripts have been added to produce an edition of great value to meat scientists, beef industry educators and to industry practitioners committed to improving profitability of that sector where marbling is a significant component of their business.

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