

# Bristol University Beef trial



**By Jeremy Hunt**

Finishers of traditional breeds of beef cattle who graze their stock on natural pastures could be producing some of the healthiest beef in the UK – and it could earn them a significant market share if they capitalise on the findings of a five-year trial undertaken by Bristol University.

The trial has shown that traditional breeds reared on pastures that have a rich bio-diversity of plants and grasses have lower levels of saturated fat and contain more anti-oxidants than beef produced by cattle reared intensively. It investigated the performance of traditional breeds reared on “unimproved” pastures to assess the quality of the beef produced – including taste - compared with that from intensively reared Charolais crosses.

Ian Richardson, a senior research fellow at Bristol University, said the trial had found that traditional breeds reared on unimproved pasture produced beef of a “high nutritional value”.

“In the “blind” tasting trial involving 17 families it was found there was a clear preference for the beef produced from traditional breeds reared on bio-diverse pasture compared beef from younger, continental crosses reared intensively,” said Ian Richardson.

“But in addition to the taste preference, the trial enabled us to assess levels of fat deposition in the traditional breeds and to investigate the type of fat produced by cattle reared under this type of system.”

The trial - undertaken on sites of unimproved pasture in Somerset, Wiltshire and North Yorkshire – showed that traditional breeds produced higher levels of poly-unsaturated fat.

“Consumers know the adverse health risks of eating saturated fat, but we found that the Traditional Hereford cattle, Longhorn, Beef Shorthorn and Belted Galloway studied in the trial all put down fat depositions that were high in poly-unsaturates which are actually good for human health.

“The higher levels of poly-unsaturated fats also

increased the shelf-life of beef because of the presence of naturally occurring anti-oxidants which stop oxidation. We also found this beef contained the highest levels of Vitamin E compared with the intensively reared cattle.”

The trial - supported by the Rare Breeds Survival Trust, Traditional Breeds Meat Marketing and Natural England - was undertaken on unimproved pastures containing 40-60 plant species compared with 14-30 species usually found in improved grazing. There were 157 cattle involved and 100 carcasses were used in the final analysis.

“Beef produced on biodiverse pastures has low levels of fat because the pastures don’t allow rapid growth of the cattle which leads to excessive fat deposition. The low fat content allows the long-chain omega-3 fatty acids to reach higher concentrations compared to beef produced intensively.”

The contribution to eating quality was also assessed by comparing post-slaughter processing of the carcasses. Beef that was hung for 20-28 days compared with beef matured for just 10-days - and hung on-the-bone rather than “aged” in vacuum bags – achieved higher tasting scores for tenderness, juiciness and flavour.

“The trial showed that traditional beef breeds, biodiverse pastures and traditional processing methods combine to produce beef with higher levels of nutritional value and good eating quality – both of which would be attractive to consumers and could form the basis of future marketing for specialist groups of farmer producing beef from traditional breeds,” said Mr Richardson.



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