Effects of lamb genotype, carcass weight and primal cut on baby soup sensory properties

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Lamb meat is often recommended as one of the first sources of animal protein to be included in babies' diets. This red meat has a high nutritional quality which is closely associated with the healthy diet of lambs based on sheep's milk. The aim of this study was to assess, through the evaluation of its sensory properties, the effects of lamb genotype, average carcass weight and less noble primal cuts embedding ratio on infant formula of carrot/lamb meat soups. Two groups of pure Merino Branco (MB) and two of crossbreed Ile-France x Merino Branco (IFxM), with 15 to 20 ram lambs each, grazed natural pastures together with their dams until weaning (three months of age) and were supplemented with commercial concentrate and hay. Two groups of different genotypes were slaughter at four months of age and the others two months later, to provide light (MB 12.5 kg; IFxM 13.5 kg) and heavy carcasses (MB 15.0 kg; IFxM 17.0 kg), respectively. Primal cuts were vacuum packed individually. Shoulder, breast, and neck were deep-frozen and sent to laboratory to be carefully separated into bone, fat and muscle tissues. The amount of lean meat in each soup was 10% (W/W) which varied between 40%, 50% and 60% from shoulder (S) and from breast + neck (BN) in equal proportion (40S/60BN; 50S/50BN; 60S/40BN). Twenty-four soups were prepared with a Thermomix Vorwerk and a standard formulation of vegetables, and subsequently sensory evaluation was made by an expert panel. The meat proportion from the various primal cuts (S or BN) did not influence any of the sensory characteristics evaluated. The weight of the carcasses significantly affected ($p<0.001$) the overall and meat odour, with the heavier carcasses providing soups with higher odour intensities. Genotype influenced ($p<0.001$) the acceptance of the meat flavour and was a determining factor in overall acceptability, with a preference for meat from crossbreed lambs. A positive interaction was found between crossbreed and weight with an increase in acceptability of less odour and less intense flavour soups, provided by meat from light carcass and from IFxM lambs.

Funding: Project: PDR2020-101-031690 Child Lamb