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Effects of meat addition on pasta structure, nutrition and *in vitro* digestibility

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Abstract

In our study, semolina flour was substituted with beef emulsion (EM) at three different levels of 15, 30 and 45% (w/w) to develop a pasta with enhanced nutritional profile. The protein, fat, and water content significantly increased with addition of meat. The addition of meat enhanced the pasta gluten network. The redness and yellowness of cooked pasta increased with meat addition. Tensile strength increased from 0.018 N/mm² in the control sample to 0.046 N/mm² in 45EM sample. All meat-containing samples had significantly higher elasticity than control (0.039 N/mm²). GI significantly decreased and IVPD value increased in 45EM sample. Five essential amino acids (leucine, lysine, methionine, threonine, tryptophan) in pasta digesta increased significantly with increasing meat addition.

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