

Linseed oil gelled emulsion: A successful fat replacer in dry fermented sausages

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Abstract

Different levels of animal fat replacement by a high omega-3 content carrageenan gelled emulsion in dry fermented sausages were studied in order to improve their fatty acid composition. Percentages of fat replacement were 26.3% (SUB1), 32.8% (SUB2) and 39.5% (SUB3). α -linolenic acid (ALA) content increased up to 1.81, 2.19 and 2.39 g/100 g (SUB1, SUB2, and SUB3 products) as compared to the Control (0.35 g/100 g), implying an increment in polyunsaturated fatty acids (PUFA) supply (up to 10.3%) and reductions in omega-6/omega-3 ratio (75, 82 and 84%, respectively). Peroxides and TBARs values were not affected ($P > 0.05$) by the fat modification and a slight low formation of volatile aldehydes derived from lipid oxidation was detected. Fat replacement did not cause relevant modifications on the instrumental color properties and no sensory differences ($P > 0.05$) were found between Control and SUB2 products (32.8%) for taste and juiciness, pointing out the viability of this formulation for human consumption.