**Production of healthier burgers using linseed oil and pea protein**

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ABSTRACT

Hydrogelled emulsions (HEs) produced with linseed oil and different levels of pea protein (PP) (0, 5, 10, 15, and 20%) were used to replace 50% of animal fat in burgers. The effect of this lipid reformulation on the nutritional, technological, oxidative, microbiological, and sensory quality of the burgers was evaluated during their refrigerated storage (4 ºC for 12 days). The reformulated burgers displayed a reduction of more than 40% in fat and an increase of up to 10% in protein contents. Lipid reformulation also increased the PUFA/SFA ratio and reduced the n-6/n-3 PUFAs ratio and the atherogenicity and thrombogenicity indices of the lipid fraction of the burgers. Including PP in the HEs made it possible to obtain burgers of high technological quality and with a sensory quality similar to full-fat products. PP was also efficient in reducing the increase in the lipid oxidation caused by the enrichment with n-3 PUFAs.

Keywords: Lipid reformulation; Saturated fatty acids; Omega 3; Lipid oxidation; Oil restructuration.