Retardation Of Lipid Oxidation In Fish Oil-Enriched Fish Pâté- Combination Effects - DTU Orbit (13/12/2018)

Retardation Of Lipid Oxidation In Fish Oil-Enriched Fish Pâté- Combination Effects
The oxidative stability during storage of fish pâté made from cod and enriched with 5% oil was investigated. Pâtés were produced with neat fish oil, pre-emulsified fish oil, microencapsulated fish oil, inert medium chain triacylglycerol (MCT) oil or a fish/rapeseed oil mixture. Addition of fish oil decreased the oxidative stability. Fish pâté with microencapsulated fish oil or MCT oil did not oxidize, whereas oxidation was slower in fish pâté with pre-emulsified oil compared with fish pâté with neat oil. Packaging in vacuum did not decrease oxidation. Fish pâtés with emulsified oil stored at 2 or 10°C were equally stable. Mixing fish oil with rapeseed oil before emulsification slightly increased the stability of the fish pâtés. Addition of antimicrobial agents, sodium benzoate and potassium sorbate increased oxidative stability. It is recommended to produce enriched fish pâté by adding pre-emulsified fish oil or microencapsulated fish oil and store at preferentially 2-10°C. Practical Applications: The results from this study can directly be transferred to practical applications in the food industry. Thus, the study showed that fish oil-enriched fish pâté with an acceptable shelf life and good sensory properties can be produced if one or more of the following strategies are used: Use microencapsulated or pre-emulsified fish oil or pre-emulsified fish oil/rapeseed oil mixture as the fish oil delivery system and add antimicrobial agents to increase both microbial and oxidative stability. The fish pâté can be stored at temperatures up to 10°C. © 2011 Wiley Periodicals, Inc.

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