

## Sodium reduction in fish products

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Sodium intake in the EU largely exceeds the recommendation of the World Health Organization of a maximum salt intake of 5 g per day, which corresponds to 2 g sodium. A high salt consumption has been linked to elevated blood pressure which in turn is considered a major risk factor for cardiovascular diseases. Therefore, the aim of this project is to reduce the sodium content of two salted fish products that are popular on the German market (Matjes nordic art and cold smoked salmon) and that exhibit high salt contents (approx. 5–6 % and 2–4 %) by 30–60 %. 13 salt replacements (commercial salt replacers as well as combinations of sodium chloride, potassium chloride, and potassium lactate) were screened for their sensory and microbiological acceptability in the fish products and the best five of them were selected to be used in comprehensive storage trials. The storage trials served to monitor the quality and safety of the fish products under standard storage conditions throughout the required shelf life. In this context, various chemical, physical, sensory, and microbiological parameters were measured periodically. Moreover, microbiological growth curves of mixed bacteria isolated from the respective fish products as well as potential protective cultures were measured in standard nutrient broth spiked with the different salt replacers. Also, challenge tests were carried out with the non-pathogenic bacteria *Listeria marthii* and *Staphylococcus xylosus* in order to draw conclusions with regard to a possible proliferation of their pathogenic relatives *Listeria monocytogenes* and *Staphylococcus aureus*. Finally, the sodium-reduced fish products were assessed in a consumer test.

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