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Consumer-driven shelf-life determination

During storage chicken filets develop unwanted odours caused by volatile compounds produced by spoilage bacteria present on the surface of the products. Spoilage bacteria are not harmful but may lead to rejection by consumers. The poultry industry therefore needs to optimise the shelf life to minimise the risk of rejection by consumers to reduce food waste.

Optimisation of the estimated shelf-life requires a deep understanding of the relation between consumers acceptance, the sensory properties of the chicken filet and the microbiota present on the products. In this presentation we will discuss statistical methods for connecting consumer evaluations, sensory and microbiological data based on a shelf-life experiment conducted in three countries (Portugal, Hungary, Norway). A reversed storage design was applied. Samples were evaluated by a (semi) trained panel, consumers (N~100 per country), in addition the microbiota were measured. In this presentation survival models for estimation of shelf life will be compared with cut-off point methodology and generalised linear models for linking consumer, sensory and microbiological data. The results will play an important role in the EU funded project MICROORC which aims to develop tools for dynamic shelf-life based on predictions of microbiota of chicken

Special/ Invited session

Classification

Mainly application

Keywords

survival analysis; sensory shelf life; consumer tests

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