Protocols for performing shelf life studies in cooling experiments

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Abstract
Performing shelf life studies of food is a complicated task where numerous factors must be kept in mind. This presentation deals with the problems often met during the performance of shelf life studies and possible responses to meet the necessary criteria to perform a good and valid shelf life study.

Results from storage studies on fresh chilled and superchilled Atlantic cod (Gadus morhua) performed at Matis in Iceland showed that the shelf life of a product was not only affected by the characteristics of the product itself, such as the freshness of the raw material at packaging, handling and processing of the product. Type of cooling method used after catch, at processing and ambient temperatures during processing, transport and storage, as well as the type of packaging chosen showed significant impact on the shelf life of the product as well. Predicting the shelf life of a product is therefore a difficult task and calls for more precise and accessible traceability within the supply chain than is generally used today. This also indicates that new customer friendly technologies for assessing the freshness of a product, such as Time-Temperature Indicators (TTIs), are only valid if they are calibrated and set for each type of product, the freshness of the product at packaging, each type of packaging and cooling history through the whole supply chain.