Sensory characteristics of different cod products

Sensory characteristics of cod products available to consumers were analyzed, and different ways to analyze sensory results were viewed. Ten cod samples of different origin (wild and farmed cod), storage time (short and extended) and storage method (stored fresh, frozen or packed in modified atmosphere) were evaluated with quantitative descriptive analysis by a trained sensory panel. Signal-to-noise analysis, p*MSE (discrimination and repeatability) and line plots proved to be very useful in studying panelists’ performance. Most sensory attributes described significant differences between the products, and principal component analysis provided an overview of the differences and similarities between the products with regard to sensory characteristics. Farmed cod had different sensory characteristics compared with wild cod, such as more meat flavor, and rubbery and meaty texture. Different storage methods had minor influence on sensory characteristics of cod fillets after short storage time, but after extended storage, the groups were different with regard to most attributes. PRACTICAL APPLICATIONS This paper presents different ways of analyzing sensory data. The process of analysis of sensory results with focus on the panelists using a free program (PanelCheck) and signal-to-noise analysis was studied. The results showed that PanelCheck is a very user-friendly tool to monitor the performance of panelists and the study results of short-term projects. Signal-to-noise analysis proved to be more applicable for studying results of extensive data sets by handling missing values and estimating the significance of sensory attributes. The practical use of the paper is also a quantitative descriptive analysis vocabulary, which may be used as a basis for other studies with cod. It may also be a basis for sensory schemes for the fish industry in quality control and product development.

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