

## Sensory Characterization of High Pressure Treated Low Salted Cooked Ham Using the Check-All-That-Apply (CATA) Methodology

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High Hydrostatic Pressure (HHP) is a nonthermal process that is able to inactivate microorganisms in foods, extending the shelf-life, and retains food quality and natural freshness. Thus, HHP has been suggested as an alternative to thermal processes to be employed in processing of various products. Recently, there has been a move for product developers to try to develop/optimize products by using only consumer trials. Pressurized cooked ham with reduced salt content involves the use of two innovations (an innovative technology and salt reduction), which need to be investigated regarding the consumer point of view. The check-all-that-apply (CATA) methodology emerged due to the interest in developing rapid and reliable methods for food products characterization considering that it is difficult for the industry to apply routinely descriptive sensory analysis in the product development and alteration processes. The objective of this study was to investigate the applicability of CATA for the cooked ham characterization. The samples were processed by varying the technology (pressurized: HHP, and control: non pressurized) and the level of salt (normal and reduced) yielding four experimental cooked ham: control (normal and reduced) and pressurized (normal and reduced). The four samples were evaluated by 102 ham consumers in two conditions: *blind* (usual sensory evaluation data collection), and *informed* (tasting the product along with the label). Samples were presented to participants coded with three digit numbers, and evaluated using structured nine-point hedonic scales ranging from: 1 - dislike extremely to 9 – liked extremely. Furthermore, consumers were asked to complete a check-all-that-apply (CATA) question, comprising 20 hedonic and descriptive terms. The results showed that the terms most frequently used for the sample characterization were characteristic ham appearance, characteristic aroma and characteristic cooked ham flavor, low pink color, firm, slightly salty, delicious, pale, and rubbery. Results have shown that samples were well characterized in terms of sensory and hedonic properties, suggesting that consumers were able to perceive differences between the investigated samples, confirming the CATA questionnaire as an appropriate tool to describe cooked ham.

**Keywords:** cooked ham, check-all-that-apply (CATA), high hydrostatic pressure, consumer.

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