

Measurement of the texture of cooked ham and the effect of texture on perceived saltiness

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Cooked hams are popular meat products that contain a little fat. Meat cut, brine containing salt, nitrite, phosphate, and sometimes also carrageenan and starches are used in making cooked hams. In cooked sausages and in cheeses, it has been shown that the texture of the product effects on perceived saltiness. Therefore, this study investigated if it is possible to effect on perceived saltiness by modifying the texture of cooked ham. The texture was modified by varying the carrageenan and phosphate content and also the amount of meat and added water in the formulations. The cooked hams were made four times in meat technology pilot plant including the preliminary experiment. Experiments 1 and 2 were made with similar formulation. In experiments 1 and 2, the texture was influenced by varying the carrageenan content in the formulations and in experiment 3, the texture was influenced by varying both carrageenan and phosphate content in formulations. In experiment 1 and 2, three cooked hams with varying percentage of carrageenan (0, 0.3 and 0.6%) were made. In experiment 3, two types of cooked hams were prepared, one without carrageenan + 0.15% P₂O₅ and the other containing 0.6% of carrageenan + 0.40% P₂O₅. The amount of meat cut was higher and the amount of added water was lower in experiments 1 and 2 than in experiment 3. Shear force, firmness and fractuability of the cooked hams were not significantly different in the experiments 1 and 2 when the three cooked hams were compared ($p > 0.05$). The same was also found in experiment 3. But the mean shear force values of the cooked hams had, however, small differences within the experiments. In experiment 1 and 2 as well as in experiment 3, cooking loss of cooked hams made without carrageenan was higher ($p < 0.05$) than in those products made with carrageenan. The water binding capacity measured with filter paper method was the lowest in those products made without carrageenan and with those products made with lower phosphate ($p < 0.05$). No significant correlations were found between the sensory chewiness and the perceived saltiness but still there were small differences in the mean values. It was concluded that the changes made in the formulations of cooked hams were not possible to influence perceived saltiness. Cooked hams with thicker width had lower shear force values.

Biography

Abraham Habte Seyoum is graduated from University of Asmara in Eritrea in 2007 at age of 22. He is currently studying in the program, Erasmus Mundus Food of Life (EMFOL). Last year, he was in Sweden at Swedish University of Agricultural Sciences (SLU).

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