



Evaluation of Product Quality of Low-Salt Pork Sausage Using Prerigor Pork Ham

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Objectives

The objective of this study was to develop pork sausages with reduced salt content using the pre-rigor pork ham to have similar product quality to regular-salt (1.5%) sausages.

Materials and Methods

Pork ham with pre-rigor (< 1 h after slaughter) and post-rigor (> 1 d after slaughter) were purchased at the local market. Sausages containing pre-rigor pork hams with various salt contents (0–1.5%) were manufactured and compared to the post-rigor sausages with regular salt (1.5%). To confirm the states of pre-rigor and post-rigor, pH and temperature of pork hams were measured. The pH, color, cooking loss (CL, %), expressible moisture (EM, %), textural properties, lipid oxidation (TBAR), protein oxidation (VBN) of the sausages were measured, while the protein solubility and sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) of meat batter were measured. The experiment design was one-way analysis of variance at a significant level of 0.05.

Results

The pre-rigor ham had higher pH and temperature than the post-rigor ham, as expected. Protein solubility of pre-rigor sausages was higher than those with reduced salt concentrations (< 1.0%). However, no differences in CIE color values (L*, a*, b*), CL, TBARS, and VBN were observed among treatments. The EM (%) of pre-rigor sausages with 0.5 and 1.0% salt were similar to those with pre-rigor sausages with 1.5% salt. Textural properties of sausages were not different between pre-rigor with various salt levels (0.5–1.5%) and post-rigor sausages with 1.5% salt. High intensity of myosin heavy chain band was shown in pre-rigor meat batters as compared to the post-rigor ones.

Conclusion

Pre-rigor sausages containing 1.0% salt had similar characteristics to those with post-rigor with 1.5% salt. This result indicated that the amount of salt on sausages could be reduced by approximately one-third of regular-salt (1.5%) level without detrimental effects.