

Effect Of High Pressure And Salt Addition To Pork Meat Protein Electrophoresis Profile

**FONTOURA, L.M.¹, STEPHAN, M. P.², AZEVEDO, T. L.³, MELLINGER-SILVA, C.⁴
ROSENTHAL, A.⁵**

- 1) University Federal Rural of Rio de Janeiro, Rio de Janeiro, Brazil. fontoura.lm@gmail.com;
- 2) Embrapa Foods, Rio de Janeiro, Brazil. marilia.stephan@embrapa.br;
- 3) Embrapa Foods, Rio de Janeiro, Brazil. tatiana.azevedo@embrapa.br;
- 4) Embrapa Foods, Rio de Janeiro, Brazil. caroline.mellinger@embrapa.br;
- 5) Embrapa Foods, Rio de Janeiro, Brazil. amauri.rosenthal@embrapa.br.

High pressure and salt addition to meat are processes that may affect protein structure and characteristics. Sodium chloride is an important ingredient in processed meats due to sensory, technological and preservation aspects. However, excess salt is harmful to health, especially in the development of arterial hypertension. In this study the reduced salt addition associated with HPP have been applied to pork meat to preserve and improve quality. The process may affect proteins by leading to denaturation. In this way, electrophoresis was used to characterize the modification of proteins of sliced pork meat treated with HPP (81, 200, 319, 400 MPa) at different salt concentrations (0; 0,41; 1,00; 1,59; 2,00%) and processing time (5, 7, 10, 13; 15 minutes). Proteins were extracted to a buffer containing sodium dodecylsulphate (SDS) and mercaptoethanol. Electrophoresis was carried out by using polyacrilamide gels (SDS-PAGE) at the concentration of 12% to characterize the proteins at the molecular level. In both controls without pressure treatment and salt addition, 24 polypeptides chains were observed in the gels. No modifications were detected in samples pressure-treated at 81 and 200 Mpa or salted. However, pressure treatment at 319 and 400 MPa caused severe modifications in the protein profile. The heavy myosin (195 kDa) and light chains (29,00 to 16,53 kDa) were somehow degraded. Further studies are necessary to evaluate the functional, sensory and preservation effect of high pressure and salt addition to pork meat in addition to the effect on protein detected by electrophoresis.

Keywords: Pork meat, high hydrostatic pressure (HHP), sodium chloride.

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