EFFECT OF HIGH PRESSURE TREATMENT ON PHYSICAL PROPERTIES OF RAW MEAT BATTER

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The product after the meat was chopped and adding the required additives is called meat batter. The qualities of the raw meat batter essentially determine the quality of the product. Based on the scientific literature, high hydrostatic pressure treatment (HHP or HPP) on raw meat batter has a positive effect on gelling, technofunctional properties and microbiological status. The moderate nature of the HPP offers a great opportunity to develop nutritional and sensory quality of innovative foods.

In this study the effect of 100, 200 and 300 MPa on physical properties of raw meat batter was examined. After the meat batter samples were prepared and pressurized color (CIELab), cooking loss (%), extrusion and adhesivity (N) were measured. Based on the color changes due to HHP treatment, the pressure applied affects the color of the meat batter. HHP treatment decreased the lightness (L*) of meat batters, while only the 300 MPa treatment resulted in significant difference. The pressure treatments significantly decreased redness (a*) of batters. Pressure had no significant effect to yellowness (b*).

From the results of the measurement of the cooking loss it can be concluded that the cooking loss is increased by the pressure treatment of the meat batters. By using a higher pressure the loss was 5 – 8% higher. Consequently as a result of pressure, a product releases some of the water during the heat treatment added during production.

Based on the results of extrusion it can be stated that in the case of pressure treated batters a much smaller force was required to compress the sample. It can be concluded that the pressure treatment results in a much softer batter than the control and the batter treated at 100 MPa. The HHP treatment significantly influences the adhesion of the samples. The treated meat batters were less sticky than the control samples. Its technological advantage is that the HHP treated samples make it easier to fill into casing.