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Czech J. Food Sci.

Stangierski J., Rezler R., Baranowska H.M.,

Effect of enzymatic modification on frozen chicken surimi

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The effects were assessed of the addition of microbial origin transglutaminase (MTG) and modification time of proteins in frozen chicken surimi on its texture, rheological attributes, molecular dynamics of water, water activity, and thermal properties of proteins. Surimi was produced from mechanically separated poultry meat. The amount of 3 g/kg MTG were added to samples of fresh, frozen (stored at -22°C for 30 days), and defrosted surimi which were incubated for a max. 9 h at 15°C . The highest values of the analysed texture attributes and rheological modules were recorded in the case of the sample enzymatically modified before freezing. The values of spin-lattice relaxation time were significantly higher in the control system. In comparison to non-modified surimi, the samples treated with MTG were

characterised by a considerable increase in the equilibrium water activity. After 7 h modification, the value of enthalpy for surimi protein was by approx. 30% lower in comparison to the control sample.

Keywords:

transglutaminase; texture; rheological; NMR; water activity; DSC

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