



THERMAL AND MICROSCOPIC PROPERTIES AND QUALITY CHARACTERISTICS OF LOW-FAT FRANKFURTERS AND EMULSIONS PRODUCED WITH CARBOXYMETHYL CELLULOSE, METHYL CELLULOSE AND PECTIN

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ABSTRACT

This study involves the effect of different concentrations of carboxymethyl cellulose (CMC), methyl cellulose (MC) and pectin (PEC) as fat replacers on thermal, microscopic and quality characteristics of low-fat frankfurters. Thermal analysis showed three peaks at 58.4, 66.6 and 81.9 for ground meat which were attributed to myosin, sarcoplasmic proteins and actin respectively. Addition of NaCl lowered the thermal denaturation temperature of myosin and actin. It was not possible to differentiate the second and third when phosphates and hydrocolloid were added to low-fat emulsion. The emulsion stability of the samples containing 0.5% MC, 0.5% and 1% PEC were significantly lower than control. The SEM result of the sample containing 1% PEC resembles most to that of the control. The sensory evaluations showed that addition of CMC decreased the acceptability of low-fat frankfurters, on the other hand MC and PEC at a concentration of 0.5% were acceptable.