Effects of carrageenan gum added to batters of talang queenfish (*Scomberoides Commersonnianus*) (Lacepede, 1801) nuggets on the amount of oil uptake and physical parameters

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Abstract:

Batter ingredient is one of the effective factors in oil uptake in battered and breaded products and in this regard, led to decrease obesity risks and cardiovascular diseases with producing low fat products. In this research the effect of concentration of 0.5, 1, 1.5 and 2 percent of carrageenan gum added to the batter of talang queenfish (*Scomberoides commersonnianus*) nugget on the oil uptake and its physical atributes was investigated. The produced fish nuggets evaluated for approximate analysis, physical parameters and sensory analysis. According to the results, treatment A with 0.5% of carrageen in the batter showed the highest moisture ($p<0.05$). The highest amount of protein and batter pick-up were observed in treatment D with 2% of carrageen in the batter ($p<0.05$). There were no significant difference in terms of reduction of oil uptake, batter pick-up, breaded pick-up, fat and moisture content between C and D treatments. The amounts of shrinkage, product yield and sensory analysis didn't show any significant difference among different treatments ($p>0.05$). In conclusion, the applying carrageenan in batter formulation of battered and breaded products is led to reduction of oil uptake. Treatments with 1.5 and 2% carrageenan in the batter formulation showed the highest reducing oil uptake, therefor using 1.5% carrageenan in batter formulation of talang queenfish nuggets is recommended.

Keywords: Carrageenan gum, Fish nugget, Talang queenfish (*Scomberoides commersonnianus*), Physical parameters