ABSTRACT

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EFFECT OF CARBOXYMETHYL CELLULOSE (CMC) AND EGG CONCENTRATION ON NOODLE ANALOGUE CHARACTERISTICS
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Noodle analogue made with rice flour is a non-gluten-based noodle. Noodle analogue has physical characteristics that is less preferred because of its adhesiveness and hardness. The objective of this research was to determine the effect of addition of carboxymethyl cellulose (CMC) and egg characteristics of noodle analogue made from rice flour. Several concentrations of CMC (1%, 1.5%, 2%, and 2.5%) and egg (3%, 5%, and 7%) were used in this research. The best formulation noodle analogue was added with 2.5% of CMC and 5% of egg. The addition of 2.5% of CMC decreased the cooking loss, hardness, and adhesiveness, and increased the water absorption. Meanwhile, the addition of 5% of egg increased the cohesiveness of the noodle analogue. The hedonic test results of the noodle analogue resulted in acceptable scores which were 3.30±1.15 to 4.30±1.32 out of 7.00 scale for the overall acceptance. Best formulation noodle analogue was further compared to the commercial wheat-based noodle. Best formulation noodle analogue has better cohesiveness and tensile strength compared to commercial wheat-based noodle. The sensory test results through paired comparison test resulted in sensory properties of noodle analogue that has slightly more eggy taste, slightly more strange or eggy aroma, less chewy, slightly harder, and slightly less adhesive than the commercial wheat-based noodle. The best formulated noodle analogue has moisture content of protein content of 10.83±0.16%, total fat content of 0.24±0.03%, ash content of 2.21±0.01%, and total carbohydrate content of 75.88±0.19%.

Keywords : carboxymethyl cellulose (CMC), egg, non-gluten-based noodle, noodle analogue, rice flour

References : 75 (1996-2020)