ABSTRACT

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EFFECT OF SORGHUM FLOUR AND RICE FLOUR RATIO AND KONJAC CONCENTRATION ON NOODLE ANALOGUE CHARACTERISTICS

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The high popularity of wheat-based food such as noodles in Indonesia has caused the large increase in wheat import. Sorghum and rice are two local ingredients found in Indonesia, however sorghum is not largely used as a main grain source. The aim of this research is to determine the effect of ratio between sorghum flour and rice flour, and konjac glucomannan concentration on noodle analogue characteristics. Konjac glucomannan were added with different concentrations (3%, 4% and 5%) to different ratios of sorghum-rice flours (50:50, 25:75, 0:100) in order to find the best noodle analogue formulation. Results showed that the best formulation was found to be 4% konjac glucomannan with 25:75 sorghum-rice flour ratio. Proximate analysis shows that the best formulation had a higher moisture content (13.35±0.38%), higher fat, higher carbohydrate (71.93±0.11%), lower protein and ash content than the commercial noodle. It also had a lower starch (60.43%) and dietary fibre content (10.34%) than the commercial noodle. The best formulation had a higher cooking loss (9.44±0.60%) and lower water absorption (176.45±4.86%), as well as a lower hardness, higher adhesiveness, lower springiness, lower cohesiveness, lower tensile strength and lower elongation when compared with the commercial noodle. However, the multiple comparison test showed that panelists perceived the best formulation having a starchier taste, while the aroma, chewiness, hardness and adhesiveness of the best formulation noodle analogue was comparable to commercial wheat-based noodle.

Keywords : sorghum, rice, konjac glucomannan, noodle, gluten free noodle
Reference : 58 (2001 – 2020)