ABSTRACT

Noodles are a staple food in Asia. However, since it is made using wheat flour which is high in carbohydrate, protein enrichment by adding other ingredients like cricket powder and nutritional yeast can be done. This study aimed to increase the protein content in noodles by incorporating cricket powder and nutritional yeast with different substitution levels (10, 15, and 20%) towards the physicochemical properties (moisture, WAC, SI, CL, and color) and to be claimed as protein-source or high protein based on BPOM, EU, and FDA. The noodle was made through mixing all ingredients, sheeting, and a cutting process. The moisture content of noodles containing 10% nutritional yeast was higher than other treatments and similar to the control group. Moreover, the trend showed that noodles containing cricket powder exhibited similar WAC, SI, and CL to the control group, but lower than commercial noodle and other treatments. However, the noodles containing nutritional yeast showed lower WAC and SI but similar CL than commercial noodles, but higher than control noodles. Higher substitution level of cricket powder and nutritional yeast decreased the L* value. However, higher incorporation level of cricket powder increased a* and b* value. Meanwhile, in nutritional yeast, it increased the a* value while decreasing b* value. Moreover, based on BPOM regulation, CP20 and NY20 could be claimed as protein-source, but both could be claimed as high protein food based on EU and FDA. Therefore, cricket powder and nutritional yeast incorporation affected physicochemical properties, but proved to increase protein content in noodles.

Keywords: noodles, cricket powder, nutritional yeast, physicochemical properties, protein claim