Efforts to Increase The Nutritional Value and Performance of Catfish Meatballs (Pangasius Sp.) with The Addition of Carrageenan and Moringa Flour

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Abstract. In the Indonesian culinary world, meatballs have gained immense popularity and get a local name as "bakso". Bakso comes in various dishes, such as meatball noodles or chicken noodles, and is often used as a mixed ingredient. Bakso is a meatball-shaped product made from animal protein, such as beef, chicken, fish, and shrimp. Bakso as food that is well kown in the community is a tool to solve the problem of stunting. Stunting is one of the serious problem that occurs in condition of growth failure in children under five due to chronic malnutrition. Stunting causes children to be shorter than they should be for their age, which is caused by malnutrition. Fish and fishery products have the potential to solve the stunting problem, one of which is fresh water fish. One of the freshwater fish that this research focuses on is Patin Fish (*Pangasius sp.*). This study uses two additional ingredients: carrageenan flour and moringa leaves in order to increase the nutritional value and appearance of the product . This study aimed to investigate whether adding carrageenan flour and moringa leaves affects Patin fish meatball's nutritional content and organoleptic characteristics. This study used the experimental method of making Patin fish meatballs fortified with various levels of carrageenan flour and moringa leaves. The parameters tested included carbohydrate, protein, fat, water, ash, and multiple tests of appearance, aroma, taste, and texture. The ANOVA, Tukey, and Kruskal Wallis test results showed that the parameters were tested in fish meatballs with carrageenan flour and moringa leaves *(Moringa oleifera L.*). The panelists most liked were in the K1D1 treatment with the treatment of adding 2.5% carrageenan flour and 2% moringa leaf flour with a total product value (NP) of 0.89 which resulted in a carbohydrate content of 22.87%, protein content of 9.73%, fat content of 3.39%, water content of 61.99%, and ash content of 2.02. And the average organoleptic test results are appearance 4.90 (neutral), aroma 5.07 (somewhat like), taste 4.92 (neutral), and texture 5.10 (somewhat like).

Keywords: Moringa Leaves, Catfish, Stunting, Bakso, Catfish, High Nutrition, Carrageenan.