Physical Properties and Cooking Quality of Noodles Incorporated with Green Seaweed, *Caulerpa lentillifera*

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Abstract: *Caulerpa lentillifera* consumption as fresh vegetables has long been practiced by those living in coastal areas, particularly during the lean season where income and food sources are scarce. They are typically consumed fresh due to their appetising taste and nutritional properties. Although, *C. lentillifera* has gained popularity over the recent years among consumers, not many food products derived from it has been made. In this study, the effects of incorporation of *C. lentillifera* powder (CLP) on its physical properties (hardness, adhesiveness, springiness, cohesiveness, gumminess, chewiness, and resilience) and cooking quality (optimum cooking time, cooking yield, and cooking loss) were investigated. Five noodle formulations with different levels of percentages of *C. lentillifera* powder, F1 (CLP 0%) as the control, F2 (CLP 2.5%), F3 (CLP 5.0%), F4 (CLP 7.5%), and F5 (CLP 9.0%) were prepared. As the percentage of CLP added to the noodles increased, the optimum cooking time of the noodles was longer as compared to the control noodle, F1. The cooking loss of the noodles was seen to increase with a higher amount of CLP added as well. In terms of its texture profile, the results showed a decreasing trend. This trend could be due to the negative effects that the CLP has on the gluten development which obstructed the protein-starch matrix of the noodles. In conclusion, the noodles added with higher CLP have poor physical and cooking characteristics compared to control noodles.

Keywords: *Caulerpa lentillifera*, seaweed, noodles, physical properties, cooking quality