Sensory, Physicochemical, and Cooking Qualities of Instant Noodles Incorporated with Red Seaweed (*Eucheuma denticulatum*)

ABSTRACT

Instant noodles are consumed worldwide, but instant noodles are often unhealthy. Therefore, in the current study, instant noodles were produced with composite flour (a blend of wheat flour and potato starch at weight ratios of 9:1, 8:2, and 7:3) incorporated with red seaweed powder (*Eucheuma denticulatum*) in proportions of 0, 5, 7.5, 10, 12.5, and 15%. The noodles' sensory, physicochemical, and cooking properties were then determined. The incorporation of 7.5–15% of seaweed powder significantly ($p < 0.05$) increased the cooking yield, reduced the cooking loss, lengthened the cooking time, and decreased the pH values and water activity. The addition of seaweed powder weakened the tensile strength and softened the noodles. Seaweed noodles were denser and greener than control noodles. Among the three seaweed noodles (F2, F5, and F12) selected through the ranking test, panelists preferred F2 and F5 (both scoring 4.63 on a 7-point hedonic scale for overall acceptability) more than F12. Overall, F5 (at a wheat flour: potato starch ratio of 9:1; 15% seaweed powder) is the best-formulated seaweed noodle in this study, owing to its highest cooking yield and lowest cooking loss even with prolonged cooking, lowest water activity, and acceptable sensory qualities.