

Sensory, physicochemical, and cooking qualities of instant noodles fortified with red seaweed, *eucheuma denticulatum*

ABSTRACT

Instant noodles are widely consumed worldwide, but frequent consumption of instant noodles is unhealthy. Therefore, in the present study, instant noodles were produced with composite flour (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 cooking qualities, physicochemical (textural properties, pH, color, water activity), and sensory properties of the noodles were then determined. The incorporation of 7.5 - 15% of seaweed powder had significantly ($p < 0.05$) increased the cooking yield and reduced the cooking loss but lengthened the optimum cooking time of noodles. The pH values and water activity of noodles had been significantly ($p < 0.05$) reduced by adding 7.5 - 15% seaweed powder. The addition of seaweed powder had also weakened the tensile strength and softened the noodles. Seaweed noodles were darker, denser greenish, and less yellowish than control noodles. Among the three seaweed noodles (F2, F5, F12) selected through the ranking test, panelists preferred F2 and F5 (both scored 4.63 on a 7-point hedonic scale for overall acceptability) more than F12. Overall, noodles sample F5 (at a wheat flour: potato starch ratio of 9: 1; 15% seaweed powder) is the best-formulated seaweed noodles in this study, owing to its highest cooking yield and lowest cooking loss even with prolonged cooking, lowest water activity, and acceptable sensory qualities.