



Research Report

Ascophyllum nodosum enriched bread reduces subsequent energy intake with no effect on post-prandial glucose and cholesterol in healthy, overweight males. A pilot study[☆]

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ABSTRACT

It is well recognised that the consumption of seaweed isolates (such as alginate) successfully reduce energy intake and modulate glycaemic and cholesterolaemic responses. However, to date, the effect of adding whole seaweed to bread has not been widely investigated. Hence, this study aims to investigate the acceptability of *Ascophyllum nodosum* enriched bread as part of a meal, and measure its effect on energy intake and nutrient absorption in overweight, healthy males to see if it has a similar impact. Results from the acceptability study, (79 untrained sensory panellists) indicated that it is acceptable to incorporate seaweed (*A. nodosum*) into a staple food such as bread at concentrations of up to 4% per 400 g wholemeal loaf. A single blind cross over trial ($n = 12$ males, aged 40.1 ± 12.5 years; BMI 30.8 ± 4.4 kg/m²) was used to compare energy intake and nutrient uptake after a breakfast meal using the enriched bread (4% *A. nodosum*) against the control bread (0% *A. nodosum*). Consumption of the enriched bread at breakfast led to a significant reduction (16.4%) in energy intake at a test meal 4 h later. Differences between treatment arms for area under the curve, peak values, and time of peak for blood glucose and cholesterol were not significant. Further investigation of potential mechanisms of action is warranted.

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