

## **Effect of Yellowstripe scad (*Selaroides leptolepis*) protein hydrolysate in the reduction of oil uptake in deep-fried squid**

### **ABSTRACT**

Although the fried products are delicious with a tenderizing effect on the crust due to the presence of fat, over-consumption of fried products causes health problems, especially coronary diseases. The tendency of proteins in film formation and thermal gelation to reduce the absorption of oil in fried products is emphasized. The purpose of this study was to determine the reduction of oil in deep-fried squid by the incorporation of protein hydrolysate and to discuss its effect. Yellowstripe scad protein hydrolysate was produced using Alcalase® enzyme. Fat content was determined using the Soxhlet method, subsequently substituted into a formulation for oil uptake calculation. The viscosity of batter was determined using a rheometer. The viscosity of the batter and batter pick-up was found to be directly proportional, showing a significantly reduced pattern from 0 to 20%. Incorporating 10% of fish protein hydrolysate successfully decreased oil absorption by  $17.35 \pm 0.73\%$  with a good water retention rate of 38.46%. The addition of the Yellowstripe scad fish protein hydrolysate modified the size and shape of the pore. Sensory acceptance portrayed no significant difference among the three samples (0%, 5% and 10% of incorporation), indicating that panellists were able to accept samples incorporated with fish protein hydrolysate. The findings of this study showed that Yellowstripe scad protein hydrolysate can minimize the uptake of oil in fried seafood products and thus could increase the economic value of the Yellowstripe scad fish.

**Keyword:** Fish protein hydrolysate; Reducing oil uptake; Yellowstripe scad; Deep-fried squid