

Improving dietary red seaweed *Kappaphycus alvarezii* (Doty) Doty ex. P. Silva meal utilization in Asian seabass *Lates calcarifer*

Abstract

The seaweed, *Kappaphycus alvarezii* (Doty) Doty ex. P. Silva, has a high potential to be one of the key ingredients in animal feeds based on its nutritional content and commercial availability. In a previous study, 6 % of raw seaweed meal was successfully included in the diets formulated for Asian seabass (*Lates calcarifer*). In the present study, diets were formulated to include cooked seaweed meal at elevated levels from 6 to 22 % to investigate the effect of cooking in improving the dietary seaweed utilization. Diets with 0 % (SW0) or 6 % raw seaweed (SW6R) served as the control (CTRL) treatments. Seven experimental diets were fed to juvenile Asian seabass for 10 weeks at apparent satiation level. Diet stability and digestibility were also determined. Cooked seaweed meal performed better in term of water stability than the uncooked seaweed and water stability improved with increasing level of seaweed in the diets. Fish fed 6 % cooked seaweed (SW6) showed significantly ($P < 0.05$) higher weight gain and specific growth rate than other treatments and yielded the best feed conversion ratio. Except fish fed 22 % seaweed (SW22), survival (%) of experimental fish was not affected by the dietary seaweed inclusion. Dry matter apparent digestibility coefficient (ADC) ranged from 59.03 to 73.65 %. Protein ADC of the diets decreased as seaweed inclusion level increased and ranged from 68.86 to 92.05 %. Lipid ADC was not significantly different ($P > 0.05$) among dietary treatments. In conclusion, cooked seaweed meal at 6 % dietary inclusion level is recommended for Asian seabass.