The effects of fish hydrolysate in the diet on growth, optimal utilization and healthy of marine fish
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Abstract: The opportunity to upgrade plant ingredients through fish hydrolysates supplements was highlighted considering that fish industry is a relevant product opportunity for utilization of this protein source as feed ingredients, either as silage or as enzymatically treated hydrolysate. Processing of fish hydrolysate and silage from the by-products is applicable. Attractive effects of experimental attractants on shrimps (Penaeus chinensis) was analyzed. The attractant rate of fish hydrolysate was 58.6%. Incorporation of fish hydrolysates into fish larval diets may have particularly beneficial effects on larval survival, growth and development. Fish larval have a poorly developed digestive tract and have difficulty assimilating intact protein. In exchange of fish meal, fish hydrolysate generally shows a beneficial effect on growth performance and feed utilization at low inclusion levels, but decreased performance when exceeding a specific dietary level. Effect of different FPH on growth of tongue sole post-larvae showed that the highest SGR was obtained in the group fed FPH-20 (2.84±0.06)%/d. Effect of different FPH on survival of tongue sole post-larvae showed that the highest survival was obtained in the group fed FPH-20 (78.88±0.96)%. The tongue sole larvae showed a tendency: FPH-20 > FPH-40 > control > FPH-60 in survival. Effects of FPH on digestive enzymes relative activities in tongue sole post-larvae illustrated that dietary FPH can affect digestive relative activities in tongue sole post-larvae. Effects of different levels of fish protein hydrolysate in the diet on the growth of Japanese sea bass, Lateolabrax japonicas Japanese flounder (Paralichthys olivaceus) turbot all showed positive results.