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Sustainable Aquaculture for a Secure Future

Title: Development of a Squid-hydrolysate-based Larval Diet and its Feeding Performance on Summer Flounder, *Paralichthys dentatus*, Larvae

Author(s): Peizhi Lian and Chong M. Lee
Department of Nutrition and Food Sciences, University of Rhode Island, 530 Liberty Lane,
West Kingston, RI 02892, USA

David A. Bengtson
Department of Fisheries, Animal and Veterinary Science, University of Rhode Island, Kingston,
RI02881, USA

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Abstract: Locally generated squid-processing byproduct was processed into concentrated hydrolysate (22% solids, 17.3% protein, and 3.0% lipid, primarily phospholipids-11.6% eicosapentaenoic acid / 24.5% docosahexaenoic acid on a lipid weight basis). Two microparticulate diets (65% protein, 19% lipid, 7.5% carbohydrate, and 19.12 MJ/kg energy, on a dry weight basis) were prepared using squid hydrolysate (SH) and squid-herring hydrolysate as sole protein sources (73.3 and 78.65% of the whole diet, respectively). A 22-d feeding trial with summer flounder, *Paralichthys dentatus*, larvae of 17 d after hatch showed that the survival rate (92%) of larvae fed SH was significantly ($P < 0.05$) higher than those of larvae fed live *Artemia* nauplii (81%) and a commercial diet, Proton (65%), while specific growth rates (SGR) were comparable (2.23% / d for SH and 2.86% / d for *Artemia*) with the lowest for Proton (1.39% / d). After switching from commercial and *Artemia* diets to a SH diet for 17 d following the 22-d feeding, significant improvements were seen in survival rates of postweaning larvae fed previously commercial (65.28-76.57%) and *Artemia* diets (81.25-89.07%).

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