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Original Article

Effect of predigested protein on growth and survival of Atlantic halibut larvae (*Hippoglossus hippoglossus* L.)

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Abstract

In this study Atlantic halibut (*Hippoglossus hippoglossus* L.) larvae (0.12 ± 0.04 g) were, from day 40 post first feeding, offered six diets in which 10% or 30% of the dietary protein was hydrolysed with (a) pepsin (P), (b) pepsin + trypsin (PT) or (c) pepsin + trypsin + chymotrypsin (PTC). In addition, a diet without hydrolysed protein was offered, and enriched *Artemia* was fed as control. The amount of soluble protein increased progressively with the enzyme treatments P, PT and PTC and with higher inclusion levels of hydrolysed protein. Survival was highest among the larvae offered *Artemia* ($83 \pm 0\%$) or the diet 10P (10% pepsin hydrolysed protein; $67 \pm 4\%$). The diet 10P supported survival significantly better than the more hydrolysed diets 10PTC, 30P, 30PT and 30PTC, but not significantly better than the non-hydrolysed diet and 10PT. Specific growth rate (SGR) was 1.76 ± 0.20 in average for all groups of larvae and was not significantly affected by the diets. Still, the larvae offered pepsin hydrolysed diets tended to have better growth (2.10 ± 0.05 SGR; $P < 0.06$) than the larvae offered the other hydrolysed diets. The larvae offered the formulated diets did not differ in chemical composition.

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