

Larval rearing of an African catfish

With the aim of improving dry diets for first feeding of *Heterobranchus longifilis* larvae, the effect of dietary lipid sources on growth rate, survival rate and fatty acid composition of fry from 2 days up to 17 days of age was evaluated. Six feeding regimes were tested: *Artemia* nauplii which served as a reference, and 5 experimental dry diets differing only by the lipid source. The different oils used for the different experimental diets were the following: cod liver oil, palm oil, copra oil, peanut oil and cotton seed oil. Each diet was tested on duplicate groups of 400 larvae placed in the 40 l tanks of a recirculating system (27-29 °C) and fed to excess six times per day every 4 hours. Separation and identification of the fatty acids of diets, eggs and fry were carried out by gas-liquid chromatography. After 15 days of feeding, survival rates were high for all treatments (71-87%) and did not differ significantly. By contrast, growth rates were largely influenced by the feeding regime. Fry fed with *Artemia* were significantly bigger (289 mg) than those fed artificial dry diets (79-115 mg). However, it was found that the specific growth rate of fry fed *Artemia* was superior to that of fry receiving dry diets only for fish of less than 50 mg body weight, indicating that *Artemia* presents a nutritional advantage only for fry at their youngest stages of development (first 6 days of feeding). Among the artificial dry diets, the best results were obtained with diets containing palm or copra oil, the lowest growth rate being observed with the cod liver oil diet. Peanut and cotton seed oil diets led to intermediate results. The fatty acid composition of the whole fry reflected that of the experimental diets. All together, the results indicated the existence of an optimal ratio between n-3 and n-6 fatty acids for covering essential fatty acids requirement of the fry. Growth rates tended to be reduced by an excess of n-3 fatty acids (cod liver oil) or by an excess in n-6 fatty acids (cotton seed oil) as well. Evidence of the occurrence of HUFA (20:4n-6 and 22:6n-3) biosynthesis are given.

Auteurs du document : Marc Legendre, Nanthawat Kerdchuen, Geneviève Corraze, Pierre Bergot

Obtenir le document : EDP Sciences

Mots clés : compound diet, fatty acids, larval nutrition, *Artemia*, aliments composés, acides gras, nutrition larvaire

Date : 1995-10-15

Format : text/xml

Source : <https://doi.org/10.1051/alr:1995040>

Langue : Anglais

Télécharger les documents : <https://www.alr-journal.org/10.1051/alr:1995040/pdf>

Permalien : <https://www.documentation.eauetbiodiversite.fr/notice/larval-rearing-of-an-african-catfish0>

Evaluer cette notice: