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Title: Growth performance, survival, feed utilization and nutrient utilization of African catfish (*Clarias gariepinus*) larvae co-fed *Artemia* and a micro-diet containing freshwater atyid shrimp (*Caridina nilotica*) during weaning

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Abstract:

Problems of limited number of dry feeds as supplement or replacement of live feeds have led to poor larval nutrition in many species of fish. Therefore, the suitability of co-feeding 8-day-old African catfish (*Clarias gariepinus*) posthatch larvae using live feed (*Artemia salina*) and formulated dry diet containing freshwater atyid shrimp (*Caridina nilotica*) during weaning was investigated. The experiment ended after 21 days of culture and respective groups compared on the basis of growth performance, survival, feed utilization and nutrient utilization. Larvae co-fed using 50% *Artemia* and 50% formulated dry diet resulted in significantly ($P < 0.05$) better growth performance, food gain ratio (FGR), protein efficiency ratio (PER) and productive protein values (PPV) than other treatments. The lowest growth performance occurred in larvae weaned using 100% formulated and commercial dry diets. Better survival of over 90% was obtained in larvae weaned using 50% *Artemia* and 50% dry diet, while abrupt weaning using 100% dry diets resulted in lower survival (<75%). These results support a recommendation of co-feeding *C. gariepinus* larvae using a formulated dry diet containing *C. nilotica* and 50% live feed when weaning is performed after 8 days posthatching period.

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