

Abstract

Use of fish meal in aquaculture is gradually becoming unsustainable due to competition, cost and ecological challenges hence the need to expand the alternative protein sources. The earthworm, *Eisenia fetida* is among the non-conventional protein sources, which have been tested with relatively promising results, thanks to its high protein levels, proper amino acid profile, high reproduction rate, low mortalities, fast growth and ease of production. The feasibility of using *E. fetida* for commercial fish feed production depends on the fundamental knowledge of its growth and reproductive biology, as well as the production methods. On the other hand, the nutritional suitability of *E. fetida* is determined by its amino acid composition and meal processing methods. Therefore, this study reviews the biological, biochemical composition as well as production and processing methods, as critical aspects for sustainable production and utilization of the earthworm in commercial fish feed production. Further, the study provides some recommendations and options to provide nutritionally complete and economically viable fish feed for efficient and sustainable aquaculture production systems.