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Sustainable Aquaculture for a Secure Future

Title: Comparison of proximate composition, amino acid and fatty acid profiles in wild, pond- and cage-cultured longsnout catfish (*Leiocassis longirostris*)

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Abstract: The proximate composition, amino acid and fatty acid profiles in the fillets of wild, pond- and cage-cultured longsnout catfish (*Leiocassis longirostris*) were determined to identify nutritional differences. Wild fish showed higher ($P < 0.05$) moisture and viscerosomatic index (VSI), but lower ($P < 0.05$) protein, ash and gross energy than cage-cultured fish. Pond-cultured fish contained lower ($P < 0.05$) protein and ash contents, but higher VSI compared to cage-cultured fish. The amino acid of glycine content was higher ($P < 0.05$) in wild fish than in pond- and cage-cultured fish. Most of the fatty acids had a significant difference among all fish groups. The percentages of total polyunsaturated fatty acids (\sum PUFAs) were higher ($P < 0.05$) in wild and pond-cultured fish than in cage-cultured fish. Pond-cultured fish had higher ($P < 0.05$) \sum n-3 PUFAs, eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA) and \sum n-3/ \sum n-6 PUFAs ratio than wild and cage-cultured fish. The differences among the wild, pond- and cage-cultured fish may be attributed to dietary components and environmental conditions of the fish.

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