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Amino acid profiles of meagre (*Argyrosomus regius*) larvae: towards the formulation of an amino acid balanced diet

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Abstract

The indispensable amino acid (AA) profile of fish carcass has been commonly used to estimate the AA requirements of fish. In this study the AA composition of whole body tissue of meagre, *Argyrosomus regius*, was determined at 0, 3, 6, 8, 12, 17, 20, 24, 30 and 39 days after hatching (DAH). Several differences were observed during meagre larval ontogeny with the AA profile at 0 DAH being different from the remaining larval ages and with a change occurring around 12 and 17 DAH which was reflected in some AA such as arginine, valine and tyrosine. Meagre and diet AA profiles were compared and several AA were found to be in apparent deficiency in the diets. In rotifers a lower number of AA were apparently in deficiency but the correlation between larval and diet AA profiles were low (R^2 lower than 0.7). Although a higher number of AA were apparently in deficiency in *Artemia* and dry feed, the correlations obtained were high (R^2 above 0.75). Histidine appeared to be the limiting AA in all diets. These results suggest that the higher nutritional imbalances in meagre larval ontogeny occur during the first 10 days of feeding when larvae are fed on rotifers. To solve these apparent nutritional imbalances, an alternative to rotifers should be found or at least a reduction of the period when larvae are fed on rotifers alone. Given the potential of meagre to