

**Effects of Water-Soluble Vitamins
on Growth, Body Compositions and
Histological Changes of Seabass,
Lates calcarifer (Bloch)**



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Effects of Water-Soluble Vitamins on Growth, Body Composition and Histological Changes of Sea Bass, Lates calcarifer (Bloch)

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Abstract

Seabass(Lates calcarifer(Bloch)) of weight range 1.12-1.69 gm. were experimentally maintained in 200 l glass aquaria fitted with a closed recirculating system. Fish were given 5 feed formulae: minced fish (Carang leptolepis), minced fish supplemented with complete vitamins and minerals; the other three formula were the same as that of formula 2 except that they were deficient in folic acid, niacin and vitaminC, respectively. After rearing for 12 weeks, results showed that fish in treatment 2 (with complete vitamins and minerals) had the best growth, FCR and survival whereas fish given minced fish only showed the worst growth, FCR and survival, and they also showed external abnormalities. Fish fed diets deficient in some water-soluble vitamins (treatments 3-5) showed poorer growth, FCR and survival when compared with those of treatment 2 but did not show distinct differences among them(treatments 3-5). Chemical analyses of fish flesh revealed a low flesh quality of fish from treatment 1 i.e. low protein content and other chemical compositions, high lipid content. Histological studies disclosed an abnormal structures of the liver

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cell and gill, abnormal liver glycogen content was also noted. A recovery study was carried out by giving diets supplemented with complete vitamins; to some replications, results of which showed a better growth, FCR and chemical compositions of flesh.