

## Vitamin C requirements in main marine finfish species in Korea

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This presentation reviewed the dietary vitamin C requirements in main marine finfish culture in Korea.

In experiment I, an 11-week feeding trial was conducted to study the effects of the different levels of dietary vitamin C on growth, tissue ascorbic acid concentrations and histopathological changes in parrot fish. Casein and gelatin based diets were formulated to contain 0, 60, 120, 240, 480 and 2000 mg L-ascorbic acid (AA)/kg diets on AA equivalent basis in the form of L-ascorbyl-2-monophosphate (AMP), 60 and 240 mg AA/kg diet as L-ascorbic acid. Broken line analysis of weight gain indicated that the dietary vitamin C requirement of parrot fish is  $118 \pm 12$  mg AA/kg diet in the form of L-ascorbyl-2-monophosphate for maximum growth. In experiment II, a 12-week experiment was conducted to compare L-ascorbyl-2-monophosphate-Ca (AMP-Ca) with L-ascorbyl-2-monophosphate-Na/Ca (AMP-Na/Ca) for supplying the dietary vitamin C for juvenile Korean rockfish *Sebastes schlegeli*. Fish were fed one of 11 semi-purified diets containing equivalent of 0, 50, 100, 200, 400, and 800 mg ascorbic acid (AA)/kg diet in the form of AMP-Ca or AMP-Na/Ca for 12 weeks. Broken line analysis of weight gain indicated that the dietary vitamin C requirement of Korean rockfish is 100 mg AA/kg diet in the form of AMP-Na/Ca, and 117 mg AA/kg diet in the form of AMP-Ca. In experiment III, a 12-week experiment was conducted to study the effects of different dietary levels of vitamin C, L-ascorbyl-2-polyphosphate (ASPP), on growth and tissue vitamin C concentrations in juvenile olive flounder. Fish were fed one of six semi-purified diets containing an equivalent of 0, 25, 50, 75, 150, or 1500 mg ascorbic acid (AA) kg 1 diet in the form of ASPP for 12 weeks. Based on broken line analyses for WG and PER, the optimum dietary levels of vitamin C were 91 and 93 mg AA/kg diet, respectively.

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