

ASCORBIC ACID DERIVATIVE REQUIREMENT OF *PENAEUS MONODON*

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ABSTRACT

Two experiments were conducted to determine the Vitamin C requirements of juveniles of *P. monodon*. In experiment I, practical diet supplemented with different level of ascorbyl phosphate-Mg at 0, 30, 60 and 100 mg/kg of feed, equivalent to 0, 12.6, 25.2 and 42 ppm ascorbic acid, respectively, were fed to *P. monodon* for 10 weeks in 200 l aquarium with a population of 20 shrimps per aquarium. Shrimp fed diet with zero level of ascorbyl phosphate-Mg showed deficiency signs of black spot, erratic swimming, loss of appetite, incomplete molting, soft-shell, sluggishness, flipped gill cover and high mortality. Best growth result was obtained with ascorbyl phosphate-Mg level of 30 to 60 mg/kg. In experiment II, practical diets containing ascorbic acid-glucose at 0, 25, 50 and 100 mg/kg diet, which is equivalent to 0, 13, 26 and 52 mg ascorbic acid/kg diet, respectively were used. In shrimp fed diet without ascorbic acid glucose supplementation, mortality occurred in week 6 and total mortality recurred by the ninth week. The deficiency signs are soft shell, inactivity, opaque whitish muscle, big head with flipped gill cover, incomplete molting and total mortality. The ascorbic acid glucose required for normal growth and preventing deficiency signs was 25 ppm; 100 ppm was required for maximal feed efficiency.