

Effect of Dietary L-tryptophan on Cannibalism, Growth and Survival of Pabda, *Ompok bimaculatus* (Bloch, 1794) Fry

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Abstract—Four iso-energetic purified diets with different doses of L-tryptophan (TRP) viz. Control (D1), 1% (D2), 2% (D3) and 4% (D4) diet were fed to 15 day old Pabda, *Ompok bimaculatus* fry (average weight, 0.114 ± 0.01 g; average length, 2.45 ± 0.13 cm) in triplicate groups for a period of 30 days to evaluate the effect of tryptophan on cannibalism, growth and survival of the fish. The fries were reared in twelve numbers of glass aquaria (30.0 x 15.0 x 15.0 cm) provided with aerated freshwater. The water level maintained in each aquarium was 16 L of static water, and the stocking density was 3 nos. fry L^{-1} . All treatments were fed twice a day up to satiation and excess feed was siphoned, during the length of feeding trials. Results of the present study showed that L-tryptophan supplementation from 1 to 4% in diet significantly ($p < 0.05$) reduced cannibalism compared to control diet and significantly higher survival ($52.66 \pm 1.7\%$) was observed in 2% (D3) diet than others. Moreover, fish fed with 2% (D3) tryptophan showed significantly ($p < 0.05$) higher specific growth rate ($6.1 \pm 0.003\%$ day⁻¹), body weight gain ($200.8 \pm 1.01\%$) and performance index (0.40 ± 0.01) than other groups. Hence, the study may recommend to supplement 2% of TRP in diet for improving growth and reducing cannibalism of Pabda fry. The results of the study will help in formulating a cost-effective supplementary diet which could be a promising aquaculture management approach for carnivorous fish.

Keywords: *Ompok bimaculatus* *Fry* L-tryptophan* Survival* Cannibalism.