

## EFFECTS OF DIFFERENT ORGANIC FERTILIZERS ON PLANKTON PRODUCTION AND GROWTH OF INDIAN CARP (*Catla catla*) FRY

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Feed cost contributes approximately 60% of the production cost in aquaculture. Natural feed production can be greatly enhanced in ponds by fertilization and thereby cut down the feed cost. Objectives of the study were to assess the effects of different organic manures on plankton production and growth of Indian carp fry (*Catla catla*). Three treatments were included in the experiment viz. without fertilizer (control) (T<sub>1</sub>), cow dung (T<sub>2</sub>), and *Ipil ipil* leaves (*Leucana leucocephala*) (T<sub>3</sub>) and, replicated 3 times (3 treatments X 3 replicates) using nine mud ponds (20x20x1.5 m<sup>3</sup>). Cow dung was applied at a rate of 1 kg/m<sup>3</sup> and *Ipil-ipil* at a rate of 46.7g/m<sup>3</sup>. *Catla catla* fry with a mean body length of 2.5 cm and body weight of 0.47 g were stocked at a density of 75 fry/m<sup>2</sup>. Tropical fish feed No-01 was fed at a rate of 5% of body weight and three times per day. Plankton count in control, cow dung and *Ipil-ipil* were 14 x10<sup>4</sup>/ml, 75 x 10<sup>4</sup>/ml and 61 x10<sup>4</sup>/ml respectively. Total body length, wet body weight and specific growth rate (SGR) were significantly different (p<0.05). Highest wet body weight (5.3 g ± 1.74) and total body length (6.28 cm ± 0.67) were recorded in T<sub>2</sub>, whereas the lowest values for body weight (1.18 g ± 0.74) and total body length (3.06 g ± 0.59) were recorded in T<sub>1</sub>. Survival rate and water quality parameters were not significantly different (p>0.05). An allometric growth of fry was observed in all the treatments (b values; 1.43 - T<sub>1</sub>, 1.65- T<sub>3</sub> and 1.77 - T<sub>2</sub>). Application of cow dung increased growth of planktons and there by achieved a comparatively higher growth rate of *Catla catla* fries compared to other treatments. Despite the fact that, cow dung showed a significant influence on growth of fries, tested conditions need to be improved in order to obtain isometric growth.

**Key words:** Allometric growth, *Catla catla*, Cow dung, *Ipil-ipil*, Isometric growth