

**EFFECT OF *Coriandrum sativum* (KOTTHAMALLI)
ENRICHED FEED ON IMMUNITY ENHANCEMENT AND GROWTH
PERFORMANCE IN KOI CARP FINGERLINGS**

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ABSTRACT

In most aquaculture systems, more than 50% of total cost is being expended for feed. Hence, developing a nutritionally sound, low cost feed to minimize the aquaculture risks is a timely need. Occurrence of bacterial diseases in fish fingerlings is found due to various pathogenic bacteria and majorities were identified as *Aeromonas sp.* The enhancement of the immunity of culture fish can be practiced to overcome the loss due to pathogenic diseases. The use of preparations and infusions of herbal plants to treat diseases and improve their immunological response against many pathogens has been practiced worldwide for centuries. *Coriandrum sativum* (Kothtamalli) is a medicinal plant that has antibacterial property. Hence, an experiment was conducted to determine the growth performances and immune response to pathogenic *A. hydrophyla* of koi carp (*Cyprinus carpio*) fingerlings, fed with Kottamalli augmented prepared ration. Average weight (3.8942 ± 0.27 g) koi carp fingerlings were used to determine the performance of the four feed types. Complete Randomized Block Design was used for the eight weeks feeding trial with four treatments which contained three replicates. Fishes were stocked in similar numbers in glass tanks and fed twice a day with commercial feed (Diet 1), prepared ration enriched with 5 g infusion of *C. sativum* (Diet 2), prepared ration enriched with 10 g infusion (Diet 3), and un-enriched prepared ration (Diet 4). Body weight was measured bi-weekly. At the end of the feeding trial bacteria artificially challenge to each fish through intraperitoneal injection of 0.8 ppm cell concentration and mortalities of each experiment were recorded. Highest SGR level (0.500 ± 0.023) was in diet 1 followed by diet 2 (0.479 ± 0.013). The lowest SGR was in diet 4 (0.423 ± 0.016). There was no significant difference ($p < 0.05$) among SGR and weight gain of four different diets. Artificial challenge results indicated that the lowest mortality percentage (32.73%) which is relevant to highest immunity enhancement was from diet 3. Diet 1 and diet 4 fed fishes showed the highest mortality (99.53%).

Key words: Immunity, Enrichment, *Aeromonas hydrophyla*, *Coriandrum sativum*