

Immunostimulant activity and growth performances of *Cyprinus carpio* fed with *Coriandrum sativum* through diet enrichment

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In most aquaculture systems, more than 50% of the total cost is being expended for feed. Hence, developing a nutritionally sound, low cost feed to minimize the aquaculture risks is a timely need. Occurrences of most diseases in fish fingerlings are found to be due to various pathogenic bacteria and majority was identified as *Aeromonas* sp. To overcome the loss due to pathogenic diseases, enhancement of the immunity of culture fish can be practiced. Considering those, an experiment to determine the growth performances and immune response to pathogenic *A. hydrophyla* of Koi carp (*Cyprinus carpio*) fingerlings, fed with Kottamalli (*Coriandrum sativum*) augmented prepared ration was carried out. Experimental set up included four treatments each with three replicates under completely randomized design. Fishes were stocked in similar numbers in glass tanks and fed twice a day with commercial feed (T1), un-enriched prepared ration (T2), prepared ration enriched with 5 g infusion of *C. sativum* (T3), and prepared ration enriched with 10 g infusion (T4) for 56 days duration. Growth and survival were recorded. At the end of the feed trial, bacteria were introduced to each animal through intraperitoneal injection of 0.8 ppm cell concentration and mortalities of each experiment were recorded. Highest SGR level (0.500) ($P>0.05$) was in T1 (control) followed by T3 (0.479). The lowest SGR was in T2 (0.423) ($P>0.05$). The lowest FCR (3.51) ($P>0.05$) was also in T1 followed by T3 (3.79) and the highest value (4.21) was obtained from T2 ($P>0.05$). Immunostimulant test results indicated that the lowest

mortality percentage (32.73%) which is relevant to highest immunity enhancement was from T4 followed by T3. Commercial feed fed fishes showed the highest mortality (99.53%) ($P < 0.05$). Though the growth performances of experimental groups showed a non-significant growth, the quality of the prepared feed must be enhanced. The non-significant levels of poor growth performance, low feeding rate and relatively high FCR levels could be due to low concentrations of oxygen (< 5 ppm) and continuous heavy rain during the experimental period. However, Koththamalli infusion can be used as an immunostimulator, as it enhances the non-specific immunity of Koi carp fingerlings to the infection.

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