

## ANTIBIOTIC SENSITIVITY OF BACTERIAL ISOLATES FROM *PENAEUS MONODON* CULTURED IN SEMI-INTENSIVE SYSTEMS

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Bacterial and other disease conditions, bad management practices in culture and poor post harvest handling practices greatly influence the post harvest quality of cultured shrimps. In Sri Lanka about 30% of the total harvest has fallen into grade II. Development of bacteria resistance to antibiotics and antibiotic residues retained in processed shrimp products are increasingly serious problems due to widespread indiscriminate use of antibiotics. In the present study, an attempt was made to determine the appropriate antibiotics against common bacterial diseases of *Penaeus monodon* cultured in semi-intensive systems in Sri Lanka with a view to minimizing the indiscriminate use of antibiotics in the shrimp culture industry.

The bacterial profiles associated with black gills, soft-shell and swelling of the cephalothorax, which are three common clinical signs of bacterial infections in *P. monodon* were studied. Total bacterial counts, total *Vibrio* counts (sucrose fermenting *Vibrio* and sucrose non-fermenting *Vibrio*) and luminous bacterial counts were monitored in the hepatopancreas, gills, carapace and flesh of shrimps and in the sediment and water of culture ponds. Results indicated that the bacterial counts were relatively high in the hepatopancreas of shrimps than in the other organs. Luminous bacteria which ranged from  $10^2 - 10^3$  cfu g<sup>-1</sup> could be observed only in healthy and affected parts of shrimps with swollen carapace. The isolated colonies of *Vibrio* spp from the hepatopancreas, gills, carapace and flesh of infected adults of *P. monodon*, were tested for their sensitivity to seven antibiotics. The isolates were highly sensitive to chloramphenicol (10µg and 30µg) and tetracycline (30µg) and moderately sensitive to streptomycin (25 µg) and oxytetracycline (30µg) when compared to furazolidone (50µg), erythromycin (15µg) and sulphafurazole (300µg). Results indicate that chloramphenicol (10µg) and tetracycline (30µg) are the most effective antibiotic against *Vibrio* infection in *P. monodon*.