

Comparative study of selected probiotics on *Aeromonas hydrophila* at fishery farms—As a biocontrol agent

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Current study, deals with nutritional roles of some probiotic bacteria's (*Lactobacillus delbrueckii subsp. lactis*, *Lactobacillus rhamnosus*, *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, and *Micrococcus luteus*) in fresh water fish *Catla catla* (Hamilton, 1822) and they are antagonized against *Aeromonas hydrophila*. Selected probiotics were added to artificial basal diet with 40% crude protein to evaluate their efficacy on the growth-performance and survival rate, besides some blood-parameters like Red blood cell & White blood cell counting and total protein & carbohydrate contents. One thousands and twenty *Catla catla* (Hamilton, 1822) fish with an average body weight of 5.50–6.10 g/fish were equally divided into 17 treatments. Fishes were fed twice daily at the rate of 3% of their live body weight, for six days a week during the experimental periods (90 days). Fish were challenged by *Aeromonas hydrophila* (3% of total body weight i.e. $10^7 \pm 1$ cells g^{-1}) via feed and kept for 7 days. The best growth rate, feed utilization and survival rate were noticed in *L. rhamnosus* & *L. bulgaricus* treatments. WBC & plasma protein level was moderately increased in treated fish's against *A. hydrophila*. The challenged fish along with *A. hydrophila* in all single probiotic treatments showed mortality rate between 20–30%, while combinations showed below 10% mortality respectively. So, combination of two or more probiotics has shown significantly enhanced the fish growth and health. It is recommended to use the combination of effective probiotics as a biocontrol agent *in-vivo* in aquaculture.

Biography

D. Ravi, Assistant Professor, Government Arts College, Coimbatore (India) possesses a strong and meritorious research background in field of Industrial & beneficial microbial organism & Biotechnology. He is a recipient and Indian ambassador to receive an International award for life time research achievement by International Biographical centre, USA at Washington, D.C (2007). He has published more than 33 research papers at national and International level. He guided more than 35 students at M.Phil level. He also expertise to the industrial R & D centre (South India Viscose Ltd., Coimbatore) for period of 5 years. He has completed many projects & currently he has 3 research projects sponsored by Government of India.

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