

## **Growth Performance and Innate Immune Response of *Clarias gariepinus* Infected with *Aeromonas hydrophila* fed diets fortified with *Curcuma longa* leaf**

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### **Abstract**

The use of antibiotics as diseases control agents in aquaculture has become cantankerous due to rise in drug resistant bacteria such as *Aeromonas hydrophila* which has been reported to cause huge biological and economic losses. Studies have revealed antibacterial potential of some botanicals such as *Curcuma longa* as alternative. However, there is rarity of information on the use of *Curcuma longa* as growth promoter and disease control agents in *Clarias gariepinus*. Hence, effects of *Curcuma longa* on growth performance and innate immune response of *Clarias gariepinus* infected with *Aeromonas hydrophila* were evaluated. Fish ( $10.30 \pm 0.15$  g) were fed seven isonitrogenous (40% crude protein) diets (0.0, 0.5, 1.0, 1.5, 2.0, 2.5 and 3.0%) twice daily to satiation for 12 weeks. Growth performance and innate immune responses were measured and evaluated using standard procedures. Fish at 12 weeks were challenged intra-peritoneally with *Aeromonas 5 hydrophila* ( $5 \times 10^8$  mL) and observed for 14 days. Survival rate and relative protection were monitored. The results revealed that *Clarias gariepinus* fed supplemented diets had better growth and immunity against *Aeromonas hydrophila* at 2.5% inclusion level and therefore could be used as immunodulation against *Aeromonas* infection.