

Indoor study on the immunization of red tilapia : *oreochromis niloticus* x *O. mossambicus* against aeromonad and pseudomonad septicemias.

ABSTRACT

Monovalent, killed and live attenuated vaccines of *Aeromonas hydrophila* and *Pseudomonas putida* were used in the immunization of red tilapia against Motile Aeromonad and Pseudomonad septicemias. There were 4 treatments and a 5th control group with 3 replicates per each. A 4th replicate was kept for replacement of natural mortality among the experimented fish. The 4 treatments included, Heat-killed vaccine of *A. hydrophila*, Live-attenuated vaccine of *A. hydrophila* (using herbs), Heat-killed vaccine of *P. putida* and Live-attenuated vaccine of *P. putida*. A total of 160 brood stocks of *O. niloticus* with 250 g average body weight were used for all treatments (8 fish per each glass aquarium). Vaccination was conducted via the Intra Peritoneal route (I/P) as an initial dose followed by 2 booster doses every 2 weeks. The last dose was applied via the immersion route. The evaluation of vaccination was carried out through periodical antibody titration of the serum of the examined fish (every 2 weeks) using direct agglutination method as well as by the experimental challenge 3 months after the initial immunization. Results revealed that there were a significant difference between the vaccinated and non vaccinated fish of the control group regarding antibody titers and Relative Percent Survival (RPS) of the challenge test. Differences in immunity levels within the vaccinated groups themselves were demonstrated.

Keyword: Tilapia; *Aeromonas hydrophila*; *Pseudomonas putida*; Vaccination; Immunization