

# **EFFECT OF *Pluchea odorata*, *Piliostigma reticulatum* AND *Guiera senegalensis* LEAVES POWDER ON GROWTH, IMMUNITY RESPONSE AND RESISTANCE OF NILE TILAPIA (*Oreochromis niloticus* LINNAEUS, 1758) AGAINST *Aeromonas hydrophila* INFECTION**

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The use of medicinal plants would boost growth, improve immunity and resistance against *Aeromonas hydrophila*, a major pathogen in tropical aquaculture. The effect of *Pluchea odorata* (L.) Cass., *Piliostigma reticulatum* (DC.) Hoscht and *Guiera senegalensis* (J. F.) Gmel. leaves powder, collected in Senegal, on growth, immune response and resistance of Nile tilapia (*Oreochromis niloticus* Linnaeus, 1758) against experimental infection of *Aeromonas hydrophila* was studied.

Five experimental diets containing different contents of the above-mentioned plants, namely C (control diet or 0% plant), 1% P (1% *P. odorata*), 2% P (2% *P. odorata*), 1% M (1% *P. odorata* + 1% *P. reticulatum* + 1% *G. senegalensis*) and 2% M (2% *P. odorata* + 2% *P. reticulatum* + 2% *G. senegalensis*), were produced using a basal formulated diet (32% protein, 9% lipids and 10.7% ash). Five hundred and twenty-five (525) Nile tilapia fingerlings with an average initial weight of  $22.23 \pm 3.6$  g were randomly distributed in 15 aquaria (250 l/aquaria) at a density of 35 fish per aquarium. The fish were reared in triplicate and fed the experimental diets twice daily for 28 days. Growth (average weight gain (AWG), feed conversion ratio (FCR), specific growth rate (SGR)), survival (SR) and non-specific immunity (NBT, bactericidal activity and plasma lysozyme) parameters were assessed prior to the experimental infection, which was conducted at 12 days.

No significant differences were observed for growth and survival parameters and plasma lysozyme activity between diets at the end of the feeding period (28 days). 2% M significantly improved NBT compared to the control. The bactericidal activity of plasma increased with the level of plant inclusion. The survival rate after experimental infection with *A. hydrophila* did not change after 12 days of observation.

The mixture of 2% *P. odorata*, 2% *P. reticulatum* and 2% *G. senegalensis* included in the basal diet was able to stimulate bactericidal activity and NBT in the plasma of *O. niloticus* during the 28 days of feeding.





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