

**PREVALENCE OF COLUMNARE DISEASE, FUNGAL INFECTIONS,
ECTO-PARASITES AND UNDERLYING FACTORS IN SELECTED
FISH FARMS IN UGANDA**

BY

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ABSTRACT

Fish diseases have been reported in fish farms in Uganda since 2000 although their magnitude is still unknown. The study investigated prevalence of columnare disease, fungal infections, ecto-parasites and underlying factors in selected fish farms. Ten fish farms covered by the FISH project were considered and disaggregated as intensive production and low production farms. A structured questionnaire was administered to designated respondents in all the 10 study farms. Fish were examined for presence or absence of ecto-parasites with the aid of a hand lens and light microscope followed by collection of swabs on identified lesions for culture.

Four cases of gas bubble disease were recorded. *F. columnare* was isolated in seven samples out of 20, giving a prevalence of 35% while fungi were isolated in five samples giving a prevalence of 25%. Co-infection of *F. columnare* and fungi was observed in eight samples. The common ecto-parasites observed were *Gryodactylus spp*, *Dactylogrus spp*, *Trichodina spp* and leeches. From the questionnaires it was revealed that the major drugs and chemicals used to treat fish conditions and diseases in the hatcheries included formalin, oxytetracycline and salt treatments administered either individually or in combination.

Disease prevalence was highest on intensive farms as compared to the low production farms. This was attributed to the fact that the water sources had relatively low or no oxygen and this was compounded by high stocking densities on the farm. The mean water temperature; dissolved carbon dioxide and oxygen were: $23.6^{\circ}\text{C} \pm 0.132$; $42 \text{ ppm} \pm 2.91$ and $3.4 \text{ ppm} \pm 0.145$ respectively. Disease prevalence was found to be influenced by, water flow system, stocking densities and water quality.

Based on the findings of this study, it is recommended that all fish farms using ground water as main water sources should have an efficient degassing mechanism and use aeration to improve on the water quality in the hatchery tanks. Furthermore, before any hatchery is set up, the water quality parameters at the source should be assessed.