

**The effects of dietary supplementation of methanolic extracts of herbal medicine on haematological variable of red hybrid tilapia (*Oreochromis* sp.)**

**ABSTRACT**

The most common strategy to treat in aquaculture disease is the use of antibiotics, however, such utilization has been accounted to have antagonistic impacts like accumulation of drugs in tissues, development of drug resistance and immunosuppression. One of the most promising methods of controlling diseases in aquaculture is strengthening the defence mechanisms through therapeutic administration. *Vitex trifolia*, *Strobilanthes crispus*, and *Aloe vera* have been reported to have better antimicrobial activity in vitro against *Streptococcus agalactiae*. However, there is no report on the application of the extracts on the treatment of *Oreochromis* sp. The objective of the study was to assess the effectiveness of diet supplementation of selected plant extract for 14 days as disease treatment. In red blood cell (RBC), haemoglobin (Hb), mean corpuscular volume (MCV), white blood cell (WBC), alanine transaminase (ALT), aspartate aminotransferase (AST), and alkaline phosphatase (ALP) showed significant differences between treatment and control. RBC, Hb and WBC levels of the infected group were significantly higher ( $P < 0.05$ ) than those of the control group indicating improve defence system in the fish fed with *V. trifolia*, *S. crispus*, and *A. vera*. These results suggested that of methanolic mixed herbal to applying *S. agalactiae* infected *Oreochromis* sp had a synergistic restorative effect on the haematological variables.

**Keyword:** *Vitex trifolia*; *Strobilanthes crispus*; *Aloe vera*; *Streptococcus agalactiae*; *Oreochromis* sp.