THE EFFECT OF GARLIC (*Allium sativum*) ON IMMUNE RESPONSE AND DISEASE RESISTANCE OF RED TILAPIA (*Oreochromis* sp.)

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ABSTRACT

This study was conducted to find out the effects of garlic-supplemented diet on the immune system and disease resistance of red tilapia (*Oreochromis* sp.). Experiment was randomly designed with 5 treatments in triplicates (0.5 and 1 % fresh garlic; 0.25 and 0.5 % garlic powder, and control). Samplings were done 1 and 4 weeks after the onset of dietary treatments as well as 3 days after infection with *Streptococcus agalactiae*. Several immune parameters including total erythrocytes, leukocytes, monocytes, lymphocytes, neutrophils, thrombocytes and lysozyme activity were recorded. The results showed that hematology parameters and lysozyme activity in garlic supplemented treatments were significantly higher than those of control treatment ($p<0.05$). Treatment with 0.25% garlic powder displayed the highest values in most of the hematological markers and lysozyme activity compared with other treatments ($p<0.05$). After challenge with *S. agalactiae*, the mortality of fish in dietary garlic treatments was significantly lower than in control fish, the best survival being observed in fish fed 0.25% garlic powder.

KEYWORDS: *Red Tilapia, Oreochromis sp., Allium sativum, immune response, disease resistance.*

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