

## **Enhancement of Growth Performance and Body Coloration Through The Inclusion of Torch Ginger Powder in The Feed of Red Tilapia (*Oreochromis sp.*)**

### **ABSTRACT**

Red tilapia (*Oreochromis sp.*) is a highly produced aquaculture fish among freshwater species. Coloration is an important factor in determining consumer preferences. Therefore, an 8-week experiment was conducted to enhance the growth performance and body coloration through the inclusion of torch ginger in the feed of red tilapia. Five experimental feeds were prepared from commercial feed (crude protein: 34%, crude lipid: 5%) containing torch ginger powder at 2.5, 5.0, 7.5, and 10% (T1 , T2 , T3 , & T4 ) inclusion levels while feeding without torch ginger act as a control (T0 ). Red tilapia (Initial body weight:  $0.4\pm 0.1$ g; Initial total length:  $4.0\pm 0.1$ cm) were distributed at stocking number 20 fish/tank into fiberglass tanks with a capacity of 80 L and triplicates for each treatment. The fish were fed with experimental feeds until satiation. The growth of fish was significantly higher ( $P<0.05$ ) when the fish fed with T1 , T2 , and T3 compared to control treatment T0 . Moreover, the feed intake was significantly increased ( $P<0.05$ ) when the torch ginger powder was added to the experimental feeds. In addition, the FCR was significantly better ( $P<0.05$ ) when the fish fed on T1 , T2, and T3 compared to T0 . The inclusion of torch ginger powder in the feed did not significantly affect ( $P<0.05$ ) the body protein and lipids of the experimental fish. The increment of redness was significantly higher ( $P<0.05$ ) when the fish fed with T1 , T2 , T3, and T4 compared to T0 . However, it showed a declining trend of redness when the inclusion of torch ginger increased to 5.0% and above. Thus, the present study suggested that the inclusion of torch ginger powder improved the performance and enhanced the body coloration of juvenile red tilapia. However, a further increase of torch ginger powder by more than 2.5% did not help in the enhancement of the body coloration.