

Growth performance and post-harvest quality of gift tilapia reared in two different culture systems

ABSTRACT

The growth performance, feed utilization, sensory evaluation, proximate and fatty acid composition of Genetically Improved Farmed Tilapia (GIFT) reared in different aquaculture systems (tank and cage culture in pond) were examined in a 126-day feeding trial. Throughout the feeding trial, fish were fed commercial tilapia feed twice a day at 3% of their body weight. Significantly higher final body weight, weight gain, daily growth rate, viscerosomatic and hepatosomatic indices were yielded in GIFT tilapia cultured in pond than in tank. In contrast, GIFT tilapia cultured in tank showed significantly higher survival rate than GIFT tilapia cultured in pond. Higher positive scores of sensory evaluation test were observed in both treatments, indicating the good acceptance of consumers towards GIFT tilapia. Meanwhile, higher contents of 20:5n-3 and 22:6n-3 of GIFT tilapia fillets from tank culture system than those cultured in cage were mainly influenced by significantly different size of fish and maturity factor during harvest. In general, it can be concluded that the performance of GIFT tilapia reared in pond culture system was better than those in tank culture system with benefits of early harvest and faster growth rate. On the other hand, tank culture system also has its own advantages in terms of higher survival rate and better fatty acid profile. © 2020, Malaysian Society of Applied Biology. All rights reserved.