

## ABSTRACT

### **Fatty Acids Composition of Nile Tilapia (*Oreochromis Niloticus*) Fingerlings Fed Diets Containing Different Levels of Water Spinach (*Ipomoea Aquatica*)**

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Fish is a major source of n-3 LC-PUFA for humans. Fatty acids especially n-3 and n-6 polyunsaturated fatty acids (PUFAs) play important role in human health. This study was conducted to evaluate the effects of different inclusion levels of *Ipomoea aquatica* on fatty acids composition of *Oreochromis niloticus* fingerlings. Five diets containing 0%, 5%, 10%, 15% and 20% *Ipomoea aquatica* were formulated. The results indicated that 18 types of fatty acids with different saturation levels were detected. Total saturates, n-3 PUFAs, n-6 PUFAs in all the tissues were not significantly affected by the different levels of *I. aquatica*. Fish fed 10% diet recorded the highest level of muscle docosahexaenoic acid (DHA). The tissue composition of docosahexaenoic acid (DHA) was significantly higher than eicosapentaenoic acid (EPA). There was an increase in PUFAs with increased levels of *I. aquatica*. There was no significant difference ( $P > 0.05$ ) in fatty acids in all the tissues. The study suggests that 20% dietary inclusion of *I. aquatica* resulted into high DHA in all tissues thus *I. aquatica* can be used to increase fatty acid.

**Keywords Eicosapentaenoic acid, Docosahexaenoic acid, Fish feeds, Tissue fatty acids and Aquaculture**