Abstract
A study was conducted to determine the effect of feeding with diets containing kefir on growth performance and fatty acid profile of rainbow trout (Oncorhynchus mykiss). Four isonitrogenous (450 g protein kg-1) and isocaloric (4325 kcal kg-1) diets were prepared in trout feed to contain 0 (control), 20, 50 and 100 g kg-1 kefir. Fish, initial weight of 46 g, were randomly distributed into triplicate 520-L fibreglass tanks in freshwater flow-through system. Fish were fed at 4% of the body weight thrice a day for 12 weeks. The results indicated that survival rate ranged from 97.14 to 100% without significant difference among treatments (p > .05). Whole-body moisture and lipid composition were significantly affected by diets containing different levels of kefir (p < .05), but no differences were determined in protein and ash. Furthermore, the fatty acid profile of flesh showed differences among the groups. The percentages of saturated fatty acid in the flesh lipid decreased, while 18:3n-3 and polyunsaturated fatty acids were increased at higher substitution levels of kefir grain. The present study showed that up to 100 g kg-1 supplementation of kefir in diets could be improve the fatty acid profile, especially PUFA, in fish flesh without adverse effect on the growth, feed utilization and survival rate of rainbow trout.