Abstract:

The objective of this experiment was to evaluate the effect of *Gymnarchus niloticus* (Weer) body weight (1, 2 and 3 kg), on body length, body components and flesh quality. Twenty four fishes were used. Fish body measurements, weights of body components, proximate chemical composition, water holding capacity (WHC), cooking loss, shrinkage, oxidative rancidity, total bacterial count and sensory evaluation were determined. Increasing *G. niloticus* body weight resulted in a significant (P≤0.05) increase of the fish total length and weights of body components but, the internal organs and fins percentage were significantly (P≤0.05) decreased and the skin and fillet percentage increased but not significantly (P>0.05). The light weight (1kg) gave a higher moisture percentage and slightly lower, protein, fat and ash percentages while the heavy groups (2 kg and 3 kg) gave the highest lightness (L*), redness (a*) and yellowness (b*) colour values and protein, fat, ash percentages but lower moisture percentage and improved WHC. Cooking loss and shrinkage percentages were significantly decreased while oxidative rancidity, total bacteria count were significantly (P≤0.05) increased and the sensory evaluation was not significantly different. The medium body weight (2 kg) gave the highest panel scores compared with the low and high weights. *Gymnarchus niloticus* has a good processing characteristics and quality.