COMPARATIVE STUDY ON PROXIMATE AND MINERAL ELEMENT COMPOSITION OF CLARIAS GARIEPINUS FROM THE CULTURED AND WILD SOURCES

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ABSTRACT

Fourty (40) samples of Clarias gariepinus representing twenty(20) each for cultured and wild fishes, were obtained from Labana Farms and Kashin Zama fish landing site both in Aleiro, Kebbi state, Nigeria, and considered for comparative proximate and mineral elements compositions. The fish were categorized into two size groups of juveniles and adults with an average total weights of (72.47±9.05g, 288.43±2.16 g and 69.80±3.22g, 110.70±1.44 g respectively). The crude protein (CP) of cultured juvenile and adult fish species were 28.71±0.61%, 28.24±0.79%, and 29.49±1.75%, 29.23±1.47 % for the wild juvenile and adult fish species respectively. The percentage lipid in the cultured juvenile and adult fish species were 19.39±1.30% and 17.83±0.86 %, while in the wild juvenile and adult fish species it was observed to be 11.70±1.33% and 15.45±1.34 %. There were variations in the dry matter and lipid compositions of both fishes. The cultured fish species had less protein content when compared with the fish species obtained from the wild, while the lipid content was observed to be higher in cultured than the wild fish species. Differences in protein content could be as a result of different varieties of food available in a large water body when compared with the cultured system, while the difference in the lipid content could be as a result of less active movement in the cultured system when compared to the large expanse of water body in the wild. This study shows that, the proximate composition of both the cultured and wild fishes varies.

Keywords: Protein, lipids, juveniles and adults.