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Waste yield, proximate and mineral composition of shrimp resources of Nigeria's Coastal Waters

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Abstract

Some aspects of the chemical and anatomical weight composition of shrimps in Nigeria's Coastal Waters were analysed with a view to obtaining the flesh yield, waste yield and their utilization potentials. The four most abundant shrimp species in Nigeria's waters were selected for the study. Proximate analysis of the species [Macrobrachium rosenbergii (freshwater); Palaemon serratus (brackishwater); Panaeus notialis and Parapenaeopsis atlantica (marine)] was carried out on the flesh, shell and head. The moisture content of the flesh varied from 71·57±0·33% in Palaemon serratus to 75·95±0·16% in Parapenaeopsis atlantica. The protein content varied between 26·30±0·34% and 22·35±0·30% in flesh of all the species. Fat content was generally low, ranging between 0·79±0·03% and 1·11±0·18%. Crude fibre was below 0·06% in the flesh of all the species.

The concentrations of calcium, magnesium, potassium, sodium, phosphorus, manganese, copper, iron and zinc were determined in the head, shell and flesh of the four species. The head was consistently higher than the shell and flesh in the levels of the various elements.

Anatomical fractionation showed the head was about 33% of the total weight while the head-off portion was about 66%. The total flesh yield obtainable from the shrimps was 51% and the waste yield was 49%. The possibility for processing shrimp waste into shrimp meal and single cell protein is discussed.

Keywords:
Shrimp; waste; yield; utilization