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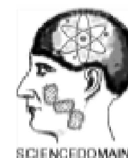
SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Annual Research & Review in Biology
Manuscript Number:	**Ms_ARRB_43149**
Title of the Manuscript:	**Comparative Assessment of Growth Performance and Nutrients Utilization of African Catfish (Clarias gariepinus, Burchell 1882) Fed Chicken Offal and Shrimp-Based Diets**
Type of Article:	

PART 2:

FINAL EVALUATOR S comments on revised paper (if any)	Authors response to final evaluator s comments
Must remove it from Material and methods **Determination of moisture level:** A neat crucible was subjected to drying in an oven to a constant weight (a) before introducing a quantity of the sample into a beaker, then weighed (b). Next, the sample was dried inside a ventilated heated oven which was powered electrically at 75°C for 24 hours, then allowed to cool in a desiccator, and then weighed. The procedure was repeated until a constant weight (c) was reached. Same procedure was repeated 3 times for each sample. The percentage moisture level was mathematically calculated using the formula: % moisture content = $\frac{b-c}{b-a} x\ 100\%$ **Ash content:** The crucible was ignited at 550°C for 3 hours, then cooled and weighed. Five grams of the sample was placed in the crucible and weighed. It was then burnt at 550°C for a day, cooled and then weighed. Same procedure was carried out over and over again until a constant weight was obtained. The calculation of percentage ash content followed the formula as shown below: % Ash content = $\frac{wt\ of\ ash}{wt\ of\ sample} x\ 100$ **Crude fat or ether extract:** Five grams of the sample was weighed and put in a thimble. About 120 mL of petroleum ether was emptied into an earlier dried and weighed round bottom flask. The thimbles and its content were introduced into an extractor known as the soxhlet extractor, which became fitted into the spherical bottom flask and then condensed together with the extraction apparatus to allow the sitting of the flask on the spaces provided in the hot plate. The hot plate was set to gentle heat. With tap on, the ether evaporated and condensed, dropping into a thimble from where it extracted the soluble ether contents into a round bottom flask. The process continued for 10 hours, the thimble was removed and dried in the air, later the fat from the extract was utilize for the determination of fibre. Then, petroleum ether present in the flask was distilled off and received in the soxhlet extractor tube. Drying of the flask was carried out in an air circulating desiccator for two days. The circular bottom flask with the lipid extract inside was then weighed. The content inside the flask was dried and weighed to a constant weight. The lipid quantity that was obtained from the difference between the flasks weighed previously and later-on was obtained as shown below: % Ether Extract = $\frac{wt\ of\ extract}{wt\ of\ sample} x\ 100$ **Crude fibre:** For acid digestion, the fat free material (8-10g) was weighed and transferred into a 400mL beaker that was previously marked at 200 mL level. Fifty milliliters of sulphuric acid (i:e 1.25%) was added and the mixture rose to 200 mL marked. The beaker together with the content was heated to a boiling point for half an hour. The content of the beaker was then filtered through a Buchner funnel with the aid of a suction pump. The residue was washed with hot water until it was acid free. For base digestion, the residue left after acid digestion was	**With due respect sir, i think these various methods through which the proximate composition analysis of the fish feeds was done is very neccesary and should not be removed. If it is removed, the readers of the article will not have a knowledge on how the proximate composition analysis was determined, thereby making the article incomplete and critisizable. Thank you.**



transferred into 400 mL beaker. The mixture was again heated for 30 minutes with constant stirring. The content of the beaker was filtered through the Buchner funnel and washed several times with hot water until it was free from sodium hydroxide. Finally, the residue was washed twice with 95% methanol, then quantitatively transferred into a porcelain crucible and dried at 100°C. The weight of the dry residue was noted, and the residue ignited in a furnace at 550°C. The weight of the ash left after ignition was also noted. The crude fibre content was determined from the loss in weight of crucible and its content after ignition.

Crude protein estimation (6.25 x N) micro kheljahl method:

One grams of the sample powder was measured for weight into 50 mL digestive Kjeldahl flask. About 20 mL of concentrated H_2SO_4, 1 tablet of Kjeldahl catalyst and a pinch of antibumbing chips were included. Same mixture sample was incinerated into a slowly boiling digestion rock, then subjected to strong heating till the digest appeared clear, before heating for further 3 hours. The digest at this point was removed and allowed to get cold, then certain amount of a known quantity was transferred into 100 mL volumetric flask up to a required mark. The Erlenmeyer flask with 100 mL of boric acid solution indicator was placed on the tip of the condenser unit of the distillation apparatus (which had been steam washed), so that the condenser tip is extended below the upper layer of the solution. Then 10 mL of the digest sample was put into the dums sample tube and made to undergo steam heating. About 10 mL NaoH solution at 40% was included in the digest and steam distilled into the Erlenmeyer flask until the content increased more than double its original quantity. As the ammonia distilled into the boric acid indicator solution, it transformed into green. A black determination was conducted in the same manner as highlighted above, exception that here, the digestion sample was substituted by 0.1 ml of distilled H_2O. The sample inside the Erlenmeyer flask was subjected to titration with 0.1 NH_4Cl to arrive at pink end. Percentage protein was calculated as shown below:

% protein = (MI HCI (test)   MI HCI (BLANK)) X normality of acid x $\frac{1.4}{1000} x \frac{100}{10}$ x 6.25 x $\frac{100}{0.1}$