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Effect of different processing temperatures and times on safeguarding the nutritional quality of fish meal analogue in *Clarias gariepinus* (African catfish)

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Statement of Problem: Protein nutrient insecurity in the Sub-Saharan Africa is on the increase with an increase in population trend leading to high state of malnutrition in children and adult. This had led to reduced labor force, low agricultural production and increased morbidity and mortality amongst the populace. Also, the problem of importation of fish meal which is not easily accessible to the farmers had led to downward negative growth of the aquaculture industry in Africa.

Aim: The purpose of this study therefore is to sensitize the government, researchers, farmers, feed millers etc., on the need to embrace insect protein consumption through the cultivation, harvesting and processing of Maggot Meal (MM): a fish meal alternative source-analogue from *Musca domestica* (Housefly).

Methodology & Processing Orientation: It involved using wheat offal as a substrate in a wooden maggotry. After harvesting the larvae of housefly on the seventh day, they were air-dried and later processed in an electric halogen oven[®] at different temperatures and time (65°C at 30 mins; 85°C at 30 mins and 120°C at 30 mins). The three treatment feed ingredients were cooled after drying, milled into powdery form and stored for use in feeding the African catfish.

Findings & Conclusion: After analysis and six weeks feeding trials showed that the crude protein content of 85°C at 30 mins treated group was significantly highest of the three groups at 58.43>52.55>49.81% (in 85°C; 65°C and 120°C) respectively. Overheating can denature the protein content in the fish meal analogue as seen in the feeding trial growth performance and feed conversion ratio. It is therefore safe for the nutrient in feed to be intact and not lost or denatured for availability for use in Catfish feeding performance without negatively affecting the fish growth performance and farmers profitability ensured for a profitable and sustainable aquaculture production.

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