



Research Highlight

Clarias gariepinus: An Amazing Alternative Diet for Fish

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Fish has a great nutritive value as compared to other animal sources of protein. Fish can play a significant role in the eradication of malnutrition globally as it is a rich source of protein¹.

For proper growth and development of fish, it is indispensable to make sure adequate energy level in fish diets. It is reported that maize is one of the main sources of metabolizable energy in diets for catfish because it is readily digestible by fish².

In Nigeria, maize is mostly consumed by humans for food purpose. However, inadequate quantities of maize were reported in this country, therefore it is illegal to export maize from Nigeria³. Consequently, the amplifying prohibitive cost and scarcity of maize, there is a need to search for underutilized energy source feed ingredients.

Accordingly, the utilization of substitute energy source feed ingredients in fish feed is reported by several scientists. These alternative sources include; coffee pulp⁴, sweet potato⁵, cassava⁶ as well as biscuit waste⁷.

Chrysophyllum albidum is a potential option to meet up with the scarcity of maize. It is a tropical edible fruit tree which can be found in diverse ecological zones in Nigeria as well as other African countries⁸. The cotyledons from the seeds of this tree are excellent sources of tannin, carbohydrates, flavonoids, terpenoids as well as resin⁹.

This situation urged scientists to conduct a new research in order to assess the histological alterations in the liver and the kidney of *Clarias gariepinus* by utilizing diets that contain *Chrysophyllum albidum*¹⁰.

For this purpose, scientists made 5 isonitrogenous diets containing maize which was replaced by *Chrysophyllum albidum* at a rate of 0, 25, 50, 75 and 100%. The diets without a *Chrysophyllum albidum* seedmeal served as the control. The diets were isonitrogenous and isolipidic¹⁰.

At the end of this experiment, it was found that there was an obvious vacuolation of hepatocytes among the treatments after the experiment which is not dietary treatment related. Conclusively, it is technically possible to substitute maize with *Chrysophyllum albidum* seed meal in the diet

Key words:

Maize, metabolizable energy, catfish, *Chrysophyllum albidum*, hepatocytes, flavonoids, energy source, *Clarias gariepinus*

of *Clarias gariepinus* it does not possess any unfavorable effect on the histology of liver as well as kidney.

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