

# Dietary usage of bacterial protein from fermentation of agricultural misuse in African catfish production

Samwel Mchele Limbu\*

Department of Aquatic Sciences and Fisheries Technology, University of Science and Technology Beijing, China

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## Description

The African catfish, scientifically known as *Clarias gariepinus*, is a remarkable species of fish that holds great economic and ecological significance in Africa. Found in various water bodies across the continent, this catfish species has gained popularity in aquaculture due to its fast growth, adaptability, and delicious flesh. In this article, we will explore the fascinating world of African catfish, delving into its characteristics, habitat, breeding habits, aquaculture potential, and conservation efforts. The African catfish possesses unique characteristics that set it apart from other fish species. It has an elongated body covered in smooth, scaleless skin, with a pair of long barbels on its upper jaw, known as "whiskers" or catfish barbels. These sensory organs assist the catfish in locating food in dark or murky waters. The coloration of African catfish varies, with shades ranging from olive green to grayish-brown. African catfish are found in a wide range of freshwater habitats throughout Africa. They inhabit rivers, lakes, swamps, and reservoirs, preferring slow-moving or stagnant waters. Their distribution spans from the northern regions of Africa, such as the Nile River, down to the southernmost reaches of the continent. Additionally, African catfish have been introduced to various non-native regions, including Europe and Asia, due to their aquaculture potential. The reproductive behaviour of African catfish is truly fascinating. They are known to be adaptable breeders, capable of surviving in diverse environmental conditions. African catfish possess an internal fertilization mechanism, with males using modified pelvic fins called "andropodium" to transfer sperm to the females during mating. These fish are typically oviparous, meaning they lay eggs. After mating, the female catfish can produce thousands of eggs that are carefully guarded by the male. The male constructs a nest by digging a hole in the substrate or finding a suitable shelter, such as a hollow log or vegetation. The eggs are then deposited in the nest, and the male diligently guards them until they hatch. African

catfish has emerged as a significant player in aquaculture due to its robust growth and adaptability. The species has become increasingly popular among fish farmers, offering a promising alternative to traditional aquaculture species. Its rapid growth rate and efficient feed conversion make it an economically viable choice for commercial production. One of the notable advantages of African catfish aquaculture is its ability to thrive in diverse water conditions. It tolerates low oxygen levels, high stocking densities, and fluctuating temperatures, making it suitable for intensively managed systems. Furthermore, its omnivorous nature allows for a wide range of feed options, including commercial pellets, agricultural by-products, and natural food sources. The conservation of African catfish is crucial for maintaining the ecological balance and preserving the biodiversity of African water bodies. Overfishing, habitat destruction, and water pollution pose significant challenges to the species' survival. Efforts are being made to raise awareness about sustainable fishing practices and implement regulations to protect African catfish populations. Conservation initiatives focus on establishing protected areas, regulating fishing quotas, and promoting sustainable aquaculture practices.

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## Conflict of interest

The author declares there is no conflict of interest in publishing this article.

## \*Corresponding to

Samwel Mchele Limbu

Department of Aquatic Sciences and Fisheries Technology,  
University of Science and Technology Beijing, China

Email: [mchele\\_limbu@yahoo.com](mailto:mchele_limbu@yahoo.com)