

# EFFECTS OF *Xylopia aethiopica* POD POWDER AS A FEED ADDITIVE ON HAEMATOLOGICAL AND REPRODUCTIVE PARAMETERS OF AFRICAN CATFISH (*Clarias gariepinus*) (Burchell, 1822)

**B. Maliki Ibrahim<sup>1,2,5</sup>, E. Miegoue<sup>1</sup>, F. Djitie Kouatcho<sup>2</sup>,  
C. Bouba<sup>2</sup>, I. Abdoullahi<sup>5</sup>, S. Bagari Iya<sup>6</sup>, A. Ali Moussa<sup>5</sup>,  
B. Songmo<sup>1</sup>, M. Burducea<sup>3</sup>, R.M. Radu-Rusu<sup>4</sup>**

<sup>1</sup>Department of Animal Sciences, Faculty of Agronomy and Agricultural Sciences,  
University of Dschang, Cameroon

<sup>2</sup>Department of Sciences and Techniques of Biological Agriculture, Faculty of Sciences,  
University of Ngaoundere, Cameroon

<sup>3</sup>Alexandru Ioan Cuza University of Iasi, Romania

<sup>4</sup>Faculty of Food and Animal Sciences, "Ion Ionescu de la Brad" Iasi  
University of Life Sciences, 8 Mihail Sadoveanu Alley, 700489 Iasi, Romania

<sup>5</sup>Institute of Agricultural Research for development (IRAD),  
Maroua Agricultural Research Center, Cameroon

<sup>6</sup>Institute of Agricultural Research for development (IRAD),  
Wakwa Agricultural Research Center, Cameroon  
e-mail: franckdjitie@gmail.com

## **Abstract**

In order to contribute to the improvement of the productive potential of African catfish through the use of plants with medicinal properties, a study was carried out from November 2023 to May 2024 at the Maroua Agricultural Research Center (CRA-Maroua), Diamaré Division, Far North Region (Cameroon). It focused on the effect of the inclusion of *Xylopia aethiopica* pod powder as a feed additive on the reproductive and haematological parameters of *Clarias gariepinus*. To this end, a total 600 of a 4-week-old *C. gariepinus* fries with an average weight of 4g were randomly distributed in 151m<sup>3</sup> tanks each with 40 fingerlings. They were submitted to 5 treatments consisting of concentrated feed with added different level of Guinea pepper pod powder (*X. aethiopica*): T0%; T0.25%; T0.5%; T0.75% and T1% *X. aethiopica*. The animals were fed 02 times a day (7H and 18H), at 5% of their biomass. Results showed that incorporation of *X. aethiopica* at 0.5% into the diet resulted in the highest egg weight (18.17±0.78g), number of oocytes/g of total eggs weight (7350.00±382.02) and absolute fecundity (133609.04±9449.34) at 24 weeks of rearing. In addition, the highest testicular value (3.54±0.34g) was observed at T0.25%. On the other hand, *X. aethiopica* pod powder had no significant effect on the relative fertility, oocyte diameter and gonado-somatic index of *C. gariepinus*. In addition, lymphocytes, white and red blood cells, haemoglobin and haematocrit increased significantly with the level of incorporation of *X. aethiopica*. On the other hand, MCV (Mean corpuscular volume) and MCH (Mean haemoglobin concentration) decreased significantly. It was thus concluded that *X. aethiopica* pod powder can be incorporated at 0.5% to improve the reproductive performance and blood quality of African catfish.

**Key words:** *Xylopia aethiopica*, feed additive, hematology, reproduction, African catfish *Clarias gariepinus*