



Tropentag, September 11-13, 2024, hybrid conference

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Freshwater shrimp farming in captivity in Burkina Faso: Cases of *Macrobrachium dux* and *Macrobrachium* sp

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Abstract

In Burkina Faso, shrimp is the second source of aquatic animal protein after fish. Contrary to the fish where we are currently witnessing the development of their farming through fish farming, shrimp farming is still in the embryonic stage and their rearing conditions are not yet mastered. The objective of our study was to assess the survival rates of two captive-reared freshwater shrimp species. To do this, specimens of these species were caught in the Loumbila dam lake in Burkina Faso and survival tests were also conducted at the Laboratory. Each species of shrimp was raised in triplicata in tanks of volume 60 liters filled with water at 3/5. The shrimp were fed a food made from local ingredients. A follow-up of physico-chemical parameters (pH, temperature, electrical conductivity and dissolved solids) was performed. Means of the physico-chemical variables 7,65 – 7,64 – 7,51 (pH), 26,00°C – 25,6°C – 26,18°C (temperature), 556,7 $\mu\text{S}\cdot\text{cm}^{-1}$ – 545,53 $\mu\text{S}\cdot\text{cm}^{-1}$ – 406,33 $\mu\text{S}\cdot\text{cm}^{-1}$ (electrical conductivity) et 277,5 ppm – 272,8 ppm – 203,27 ppm (dissolved matter) have varied slightly and respectively in lots 1; 2 and 3. No significant differences in the variables between the different lots were observed. In terms of captive shrimp breeding trials, analyses of condition factor K and survival rate revealed that *Macrobrachium* sp is the most suitable species for captive breeding in terms of its size and survival rate (67 %) against an 11 % survival rate for *Macrobrachium dux*. Taking into account other variables such as dissolved oxygen, nitrogen and phosphorous compounds and a long-term experiment in semi-natural conditions is essential for a better understanding of the conditions of freshwater shrimp farming.

Keywords: Farming, nutrition, shrimp, West Africa