

# Growth Performance and Survival of Climbing Perch (*Anabas testudineus* Bloch) Raised in Conventional and Bioflocs System

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*Asian Journal of Fisheries and Aquatic Research*, Page 14-37

DOI: [10.9734/ajfar/2023/v21i2530](https://doi.org/10.9734/ajfar/2023/v21i2530)

Published: 25 January 2023

## Abstract

The aim of this research is to analyze the performance of growth and survival of climbing perch (*Anabas testudineus* Bloch) which was raised in bioflocs and conventional systems. It investigated the difference in the initial size of the fry stocked with climbing perch has effect. The experimental design used in this study was a Factorial Completely Randomized Design (CRD) with 2 factors and 3 replications: Factor A: climbing perch aquaculture Systems; A1: climbing perch in conventional system of; A2: the climbing perch in bioflocs system; Factor B: Initial Size of fry Stocking; B1: fry size  $3 \pm 0.5$ cm; B2: fry size  $5 \pm 0.5$ cm and B3: fry size  $7 \pm 0.5$ cm. The research was conducted for 90 days with daily growth parameters (SGR), weight and length growth, survival rate, food conversion, flocsvolume density (FVD), and main water quality parameters (water temperature, pH, dissolved oxygen and dissolved ammonia). The results showed that the bioflocs system was able to increase the average growth in the range of 12-67% with an average of 29.73% when compared to conventional systems. The highest value for the daily growth rate or Specific Growth Rate (%/day) was for fry with a size of 7 cm in the bioflocs system (8,419%). The fry size of  $3 \pm 0.5$ cm in the bioflocs system had the highest difference in standard length (4.33 cm) while the highest average length during maintenance was the seed size of  $7 \pm 0.5$  cm in the bioflocs system. The survival results of climbing perch fish during the study were based on the highest score on the seed size of  $3 \pm 0.5$ cm in the bioflocs system. The survival range of the bioflocs system is 94.89 - 99.67% and that of the conventional system is 82.00 - 94.26%. Thus the bioflocs system is able to increase survival in the range of 5-14% when compared to conventional systems. The bioflocs system is able to provide better feed efficiency than conventional systems in the range of 34-39%. The average value of floc volume density (FVD) in the bioflocs system is in the range of 5.35 – 8.16 ml/L, which is still ideal but can still be improved. Water temperature during the study period, air and water temperatures ranged from 28.54 to 28.71 (°C), the degree of acidity in all treatments was in the range 6.34 – 7.27, dissolved oxygen levels were in the range 5.77 – 6.90 mg /L) while the average measurement results for ammonia levels (mg/L) were in the range of 0.49 – 0.57 mg/L. The temperature ranges in the studies on conventional and bioflocs systems are within the acceptable range for fish farming Water temperature during the study period, air and water temperatures ranged from 28.54 to 28.71 (°C), the degree of acidity in all treatments was in the range 6.34 – 7.27, dissolved oxygen levels were in the range 5.77 – 6.90 mg /L) while the average measurement results for ammonia levels (mg/L) were in the range of 0.49 – 0.57 mg/L.

**Keywords:** Fry size climbing perch bioflocs conventional