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Survival and Growth Performance of Common Carp *Cyprinus carpio* Fry in Biofloc Farming System in Tanks Under Different Stocking Densities

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Common carp *Cyprinus carpio* is the fourth most important cultured fish species with a share of 7.7% of total aquaculture fish production in the world. In recent times, biofloc technology (BFT) is getting more attention in aquaculture due to its greater effectiveness in terms of sustainable production through improvement of water quality, feed efficiency and immunity of fish. An experiment was conducted to study the survivability and growth performance of common carp fry in BFT system in tanks under different stocking densities for a period of 90 days from 27th March, 2023 to 28th June 2023 at DoAR Parwanipur Bara, Madhesh Province, Nepal.

The experiment was conducted in 5000L of water in tank with a dimensions of 3*2*1 (6m³) in cement tank under four different stocking densities (T₁:750 fries, T₂:1000 fries, T₃:1250 fries and T₄:1500 fries) having three replications. An average fry weight was 0.232 g at stocking. Fries were fed (30% protein content mass ball feed) twice a day @ 15-10 % body weight. Before stocking; flocs were made by following amount of materials. For 5000L of water, Probiotics: 100g, Molasses: 1 kg, Lime (CaCO₃): 250g and raw salt: 5 kg is used.

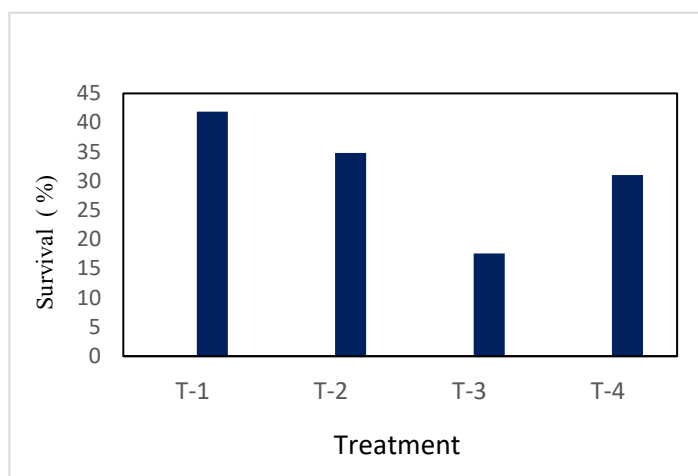


Figure: Survival of common carp fry in different treatments

The results revealed that the survival rate were almost similar in all the treatment whereas average weight gain were found to be decreased in treatment with stocking density of 1500 fry. The survival rate found in T₁ was 314 (41.86 %); T₂= 420 (42%); T₃ =527 (42%) and T₄ =620 (41.33 %). Similarly growth obtained in T₁=2.85g, T₂=3.33g, T₃= 6.13g and T₄=3.75g. In each tank some (4-5) fish found greater than 50 g up to 120g. During experiment, mass mortality never found, however, at harvest no one tank found more than 45% survivability. It means common carp have highly cannibalism effect and found low survivability.

In conclusion, common carp fry rearing is not suitable. However, this trail need to more repetition for final decision. Total analysis and publication will be done in full paper. Water quality parameters like temperature, DO, pH, ammonia, TSS and amounts of flocs were measured.