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Neem (*Azadirachta indica*) supplemented biofloc in replacing commercial feed in *Cyprinus carpio* var. *communis* (Linnaeus) culture

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Potential of neem, *Azadirachta indica* supplemented biofloc medium in replacement of artificial feed under *Cyprinus carpio* var. *communis* (Linnaeus) culture vis-vis the environmental health of the culture system was studied in outdoor experimental cisterns (300L). Under iso-nutrient regime, biofloc was effective in contributing 17% higher growth consequent with improvement in FCR and FCE by 32.56% and 14.11%, respectively. However, biofloc alone was not sufficient in supporting growth and survival of the test fish as the mortality rate was substantial (22.22%). Though, neem leave in biofloc medium inhibited nitrification, nutrient status of any of the biofloc treated systems was not substantially impacted upon. Moreover, in

biofloc treated systems, balancing of total available nitrogen (TAN) and phosphorus was independent of orthophosphate as the microbial flocs favoured mineralization of phosphorus and became limited in maintaining the balance between TAN: P beyond 0.065 mg/l-1. Biofloc medium acted as strong source of carbon and in turn enriched the organic pool of the sediment and supported microbial mineralization of phosphate as strong positive relationship between organic carbon and available phosphorus in sediment ($y=0.3399x^{0.0772}$, $R^2=0.69$) was established. Therefore, judicious use of neem leaves in the biofloc medium was beneficial as a source of carbon and nitrogen among others.

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