IMPACT OF FORMULATED PLANT AND ANIMAL SUPPLIMENTED DIETS ON NUTRITIONAL EFFICIENCY, GROWTH AND BODY COMPOSITION IN JUVENILES OF *CLARIAS BATRACHUS* IN EXPERIMENTAL TANKS

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ABSTRACT - Impact of eight different types of plant and animal formulated diets viz., *Phyllanthus niruri, Asparagus adscendens, Pseudarthria vesida, Moringa oleifera, Tribulus alatus, Tribulus terrestris*, dried Shrimp and dried Grasshopper in the form of pellets were observed on the following parameters: initial and final weight, production, feed consumption, faecal output, mean per cent increase in weight, relative growth rate, assimilation, metabolism, food conversion ratio, food conversion efficiency, food assimilation efficiency, initial weight of protein/lipid/carbohydrate in food, and excreta, protein/lipid/carbohydrate efficiency ration, apparent protein/lipid/carbohydrate digestibility percentage in feed, specific growth rate and survival percentage on *Clarias batrachus* after 60 days of feeding. The results of the different diets could only be framed through specific growth rate and survival percentage. The highest specific growth rate was recorded for *T. alatus* (35.513±2.153), *T. terrestris* (30.213±0.719), dried Shrimp (25.396±3.458), *P. niruri* (19.420±1.629), respectively while the *A. adscendens* (14.250±1.054), *P. vesida* (13.90±0.196) and *M. oleifera* (12.91±0.807) were at par to each other and were higher than control (10.230±1.198). The diet of dried Grasshopper stood lowest (6.030±0.520). The similar trend was observed in the survival percentage of *C. batrachus*. The merit of the provided food was considered on the basis of highest crude protein and fat contents and lowest carcass moisture. Dietary dried Shrimp had a positive influence on carcass protein (16.576±1.099) and next by *P. niruri* (16.306±1.089) and next position for both the protein (14.213±0.603) and fat (4.05±0.112) was allocated in *T. alatus*. The rest were at par to control in considering the protein (13.99±0.498) and fat (4.01±0.170). The changes in carcass composition of the fish could mainly be attributed to presence of additive in the diet and the influence of enzyme secretion. It can be concluded that *C. batrachus* grows well with the pelleted feed containing *T. alatus > T. terrestris > dried Shrimp > P. niruri > A. adscendens > P. vesida* and *M. oleifera* and they can efficiently utilized the nutrients from the plants and animal feed in addition to other aquatic microphytes tried so far. Superior and statistically significant data is indicative of the possibility of utilizing these plants and animal as an alternate/substitute for fishmeal to *C. batrachus*, hence they can be better recommended as a diet ingredient for cost effective catfish culture practices in captivity.

Key words: Formulated diets, specific growth rate (SGR), survival percentage, *Clarias batrachus*, carcass composition.