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Effect of nano-se supplementation on growth performance, hematology and carcass composition of *Cyprinus carpio* fingerlings fed sunflower meal based diet

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The present study (70-days) was conducted to determine the growth performance, hematology and carcass composition of *Cyprinus carpio* fingerlings fed sunflower meal based diet supplemented with Se nanoparticles. Sunflower meal based diet was used as a test diet and supplemented with nano-Se at different levels (0, 1, 2, 3, 4 and 5 mg Kg-1). Three replicates having 15 fingerlings in each tank were used for every treatment. Fingerlings were fed twice a day with nano-Se supplemented sunflower meal based diet at the rate of 5% of live wet body weight. The higher weight gain (16g), weight gain % (211%) and SGR (1.3) were observed when fingerlings were fed at 2 mg Kg-1 level based diet. Similarly, maximum hematological indices (RBCs, WBCs and Hb) and carcass composition (Crude protein, Crude fat and Gross energy) were also found in fish fed at 2 mgKg-1 of nano-Se supplemented sunflower meal based diet as compared to fish fed control and other test diets. The present work revealed that sunflower meal based diet supplemented with nano-Se improves overall fish performance and reduces the need for extra mineral and nutrients supplementation in fish feed, which decreases the feed cost with the better aquatic environment. The results of the present study suggest that 2 mg Kg 1 supplementation of nano-Se in sunflower meal based diet is the most optimum level for higher performance of *C. Carpio* fingerlings.

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