Dietary Supplementation with Dried *Syzygium cumini* Flesh Improved Growth and Physiological Parameters in Hybrid Catfish (*Clarias macrocephalus* × *C. gariepinus*)

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ABSTRACT

This research was aimed to evaluate the effects of dietary supplementation with dried S. cumini flesh (DSCF) on growth and physiological parameters in hybrid catfish (Clarias macrocephalus × C. gariepinus). Fish (initial weight of 14.00 ± 1.00 g) were divided into four groups and fed with the diets containing DSCF at 0 (control), 1, 3 and 5% / kg diet for 8 weeks. After the experimental period, final weight, final length, weight gain, specific growth rate, average daily gain, and feed conversion efficiency were markedly increased, whereas feed conversion ratio was significantly decreased in the treated fish compared with the control fish (P<0.05). The condition factor and survival rate did not differ significantly among the treatments (P>0.05). Intestinal morphology was significantly improved in fish fed with DSCF containing diets (P<0.05). No changes in white blood cell, red blood cell, hemoglobin, and hematocrit were observed between the treatments (P>0.05). Meanwhile, the platelet was significantly increased in the tested fish compared with the control fish (P<0.05). Aspartate aminotransferase, albumin, total protein, creatinine, uric acid, and triglyceride levels did not differ significantly between the treatments (P>0.05). Serum glucose in fish fed with DSCF diet was significantly increased, while serum alkaline phosphatase was significantly lowered in the experimental groups compared to the control group (P<0.05). Overall, these results indicate that the usefulness of DSCF as a phytogenic additive in aquafeeds with an effective level rage from 2.60 to 2.72%/kg diet.

Keywords: *Syzygium cumini*, Hybrid catfish, Growth, Intestinal morphology, Hematology, Blood biochemistry