Effect of *Spirulina platensis*, a cynobacterium on growth performances and colour enhancement in guppy, *Poecilia reticulata*

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Fish that are coloured and healthy in nature often acquire faded colouration and show growth retardation under intensive and semi- intensive culture conditions. The present study was carried out to investigate whether, *Spirulina platensis* could be cultured under the laboratory conditions and cultured *S. platensis*, when incorporated to the feed and fed to a commercial strain of guppy, *Poecilia reticulata*, could improve growth performances and the colouration. *S. platensis* was successfully cultured in Zarouk medium under laboratory conditions; in about 7 to 10 days when the cultures were in their peak growth, harvesting was done and it was filtered, dried and ground to form a fine powder. Feed A was prepared by adding 2% cultured *Spirulina* powder to a commercially available ornamental fish feed. The control feed (Feed B) was prepared by repelleting the powdered commercial fish feed without adding *Spirulina* powder. Two groups of guppy fry with 5 replicates for each (20 fry in each replicate) were fed with the 2 types of feeds separately over a period of 70 days. Before the fry were introduced into experimental aquaria, their initial standard length and body weight were recorded. A sample of guppy from each replicate in each group fed with the different formulated feeds was randomly caught and average body weight and standard body length were recorded weekly.

At the end of the experiment, color intensity of random samples from each group of guppy was examined by a panel of judges and values were allocated according to a scale depending on the intensity of the body color. Mean percentages of Specific Growth Rate (%SGR), Average Daily Growth (%ADG), Weight Gain (%WG), Condition Factor (%CF) and mean colour intensity of fish fed with different formulated feeds, were compared using Student t- Test. Mean percentages of SGR, ADG, WG and CF recorded for guppy fed with *Spirulina* were 2.19, 5.17, 362.05 and 4.24 respectively and were significantly higher ($P<0.05$) than those were recorded for the control feed (respective values were 1.66, 3.14, 220.09 and 3.78). Mean colour intensity of guppy fed with *Spirulina* was significantly higher (9.66; $P<0.05$) than that was recorded for the control group (2.03). *Spirulina platensis*, when incorporated to the feed and offered to guppy fry it could improve growth performances and enhance the body colour.