

Effect of Raw *Spirulina platensis* Supplement on the Growth Performance of Guppy Fish — Red Blonde (*Poecilia reticulata*)

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Aquarium fish industry in Sri Lanka has become a valuable source of foreign exchange recently. Guppy fish (*Poecilia reticulata*) ranks the highest (67%) market of ornamental, fresh water fish export sector in Sri Lanka. *Spirulina platensis* is one of the commercially important micro algae due to its overall nutritional qualities. The study was investigated the effect of dietary supplementation of different percentages of *Spirulina platensis* (5%, 10%, 15%, 20%, and 25%) on growth performance, Feed Conversion Rate and survival rate in guppy and were compared with commercial feed as the control treatment. *Spirulina platensis* were cultured using axenic batch culture method in Zarrouck's medium, under illumination with a photo period of 12 hours light and dark. Glass tanks (0.3 m x 0.15 m x 0.15 in) were used for each treatment with 3 replicates and 21 days old red blond guppy were reared with a stocking density of **10** fish/tank for 30 days. Fish were fed, twice per day at a rate of 10% of body weight for 60 days. Data were collected every 2 weeks interval and analyzed by One Way Analysis Variance (ANOVA). There were significant differences between all the diets in terms of average body weights ($p < 0.05$). Average body weight was highest in treatment with 5% raw *Spirulina platensis* incorporated feed (0.45 ± 0.090) and lowest in control treatment (0.36 ± 0.13 g). No significant differences were observed in weight gain and Specific Growth Rate (SGR) ($p > 0.05$) according to the treatments. There were significant differences of Feed Conversion Ratio (FCR) among all the diets ($p < 0.05$), while it was lowest in 5% raw *Spirulina platensis* incorporated feed (1.43 ± 0.06) and highest in the control treatment (2.05 ± 0.09). 100% survival rate was observed in all treatments. The study revealed that 5% raw *Spirulina platensis* dietary supplementation enhances the growth rate in guppy fish.

Keywords: Dietary supplementation, Growth performance, *Poecilia reticulata*, *Spirulina platensis*