

EFFECTS OF FEEDING FREQUENCY ON GROWTH,
FEED INTAKE AND BODY COMPOSITION OF *Puntius*
gonionotus (Bleeker) FRY

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BY

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Dedicated to

Dad, mum, brothers and sisters

..... for their support and prayers

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ABSTRACT

Lampam Jawa, Puntius gonionotus (Bleeker), fry with a mean weight of 1.08 ± 0.22 g and mean total length of 3.71 ± 0.85 cm were randomly stocked and reared in glass aquaria of 32.5 litre capacity under ambient conditions and fed with a 30% protein diet to satiation. The feeding frequencies tested were 1, 2 and 3 times per day. Fish in all tanks were sampled at biweekly intervals to determine their weights. The water in the aquaria were changed every week and some of the water quality parameters such as temperature, dissolved oxygen, pH and ammonia nitrogen were monitored.

Generally, higher feeding frequencies were observed to induce fast growth. At the end of the experiment, the mean weights of the fish for the feeding frequencies of 1, 2 and 3 times per day were 1.68g, 2.34g and 2.99g respectively and these values were significantly different ($P < 0.05$). This corresponded to a growth rate of 0.10, 0.13 and 0.17 g/fish/day respectively. The total feed intake for the feeding frequencies of 1, 2 and 3 times per day were 48.36g, 98.90g and 130.37g respectively and they were significantly different ($P < 0.05$). The feed consumption per meal were 0.87g, 1.03g and 0.99g respectively and these values were not significantly different ($P > 0.05$). This suggests that complete gastric evacuation had occurred within 6 hours, i.e., the time interval between feeding activity for the feeding frequency of 3 times per day. The food conversion for the feeding frequencies of 1, 2 and 3 times per day were 4.54, 4.46 and 4.62 respectively and these values were not significantly different ($P > 0.05$).

There was no significant effect on the body composition of fish tested for the different feeding frequencies. However, a trend towards higher fat content but lower crude protein and ash content were observed with increase in feeding frequency.

From this study, we can conclude that Lampam Jawa (0.79g to 3.17g) grew best at the feeding frequency of 3 times per day when fed to satiation.

ABSTRAK

Ferai Lampam Jawa, Puntius gonionotus (Bleeker), dengan min berat 1.08 ± 0.22 g dan min panjang keseluruhan 3.71 ± 0.85 sm telah dipilih secara rawak dan dipelihara dalam kaca akuaria yang berisi 32.5 liter air serta diberi makan sehingga kenyang dengan pelet yang mengandungi 30% protin. Kekerapan pemberian makanan yang diuji ialah 1, 2 dan 3 kali sehari. Semua ikan dalam kaca akuaria disampel dua minggu sekali untuk menentukan perubahan berat. Air dalam akuaria ditukar sekali seminggu dan beberapa parameter kualiti air seperti suhu, oksigen terlarut, pH dan ammonia nitrogen diukur.

Pada seseluruhannya tumbesaran adalah cepat dengan peningkatan pemberian makanan. Di akhir kajian, min berat ikan mengikut kekerapan 1, 2 dan 3 kali sehari adalah 1.68g, 2.34g, dan 2.99g tiap-tiap satu dan nilai-nilai ini adalah berbeza secara bererti ($P < 0.05$). Ini bersamaan dengan kadar pertumbuhan sebanyak 0.10, 0.13 dan 0.17 g/ikan sehari tiap-tiap satu. Jumlah pengambilan makanan keseluruhan untuk kekerapan 1, 2 dan 3 kali sehari adalah 48.36g, 98.90g dan 130.27g tiap-tiap satu ($P < 0.05$). Nilai pengambilan makanan untuk tiap-tiap pemberian adalah 0.87g, 1.03g dan 0.91g tiap-tiap satu dan ianya tidak berbeza secara bererti ($P > 0.05$). Dengan ini dicadangkan penghazaman gastrik yang lengkap berlaku dalam jangka masa 6 jam iaitu perantaraan waktu untuk aktiviti kekerapan pemberian makanan 3 kali sehari. Nilai-nilai kadar penukaran makanan untuk kekerapan pemberian makanan 1, 2 dan 3 kali sehari ialah 4.54, 4.46 dan 4.62 tiap-tiap satu dan nilai-nilai adalah tidak berbeza secara beerti ($P > 0.05$).

Tidak ada kesan kekerapan pemberian makanan yang bererti didapati ke atas komposisi tubuh ikan yang dikaji. Walaubagaimanapun, satu tren kepada peningkatan lemak mentah didapati dengan meningkatnya kekerapan pemberian makanan tetapi ini diikuti dengan penurunan dalam protein mentah dan abu.

Dengan kajian ini, boleh disimpulkan dengan pemberian makanan sehingga kenyang, Lampam Jawa (ukuran antara 0.71g ke 3.17g) tumbuh paling baik pada kekerapan 3 kali sehari.