

INTISARI

Pengaruh Pengkayaan *Microworm* (*Panagrellus redivivus* Linnaeus, 1767) Dengan β -karoten Terhadap Kualitas Warna dan Pertumbuhan Ikan Platy (*Xiphophorus helleri* Heckel, 1848)

Penelitian ini bertujuan untuk mengevaluasi efek pemberian *microworm* (*Panagrellus redivivus*) yang diperkaya β -karoten terhadap kualitas warna, sintasan dan pertumbuhan ikan platy (*Xiphophorus helleri*). Penelitian dilakukan selama 45 hari menggunakan benih ikan platy 15 ekor per wadah dengan rerata bobot dan panjang individu $0,014 \pm 0,0009$ g dan $0,91 \pm 0,014$ cm yang diberi makan *microworm* tanpa penambahan β -karoten (kontrol) serta *microworm* diperkaya β -karoten pada konsentrasi total karotenoid sebesar 50 $\mu\text{g/g}$, 75 $\mu\text{g/g}$, dan 100 $\mu\text{g/g}$ ikan per hari. Parameter yang diukur meliputi kandungan karotenoid total pada kulit dan sirip ikan, kualitas warna (kecerahan, kemerahan, kekuningan, hue, chroma, indeks merah dan keputihan), pertumbuhan ikan, sintasan dan kualitas air. Penelitian ini menggunakan *Analysis of Variance* dengan tingkat kepercayaan 95% dan apabila hasil berbeda nyata maka dilakukan uji lanjut dengan *Duncan's Multiple Range Test* dan *Trend Analysis*. Hasil penelitian menunjukkan bahwa pemberian *microworm* yang diperkaya dengan β -karoten menghasilkan peningkatan kualitas warna yang signifikan, seperti peningkatan kandungan karotenoid total dalam kulit dan sirip ikan, serta intensifikasi warna merah (termasuk kemerahan, kroma, dan indeks merah) ($P < 0.05$). Namun, diamati bahwa pemberian *microworm* yang diperkaya dengan β -karoten tidak memiliki efek yang terlihat pada kelangsungan hidup atau pertumbuhan ikan platy.

Kata kunci: β -karoten, *microworm*, warna, ikan platy, *Xiphophorus helleri*

ABSTRACT

Effect of β -Carotene-Enriched Microworm (*Panagrellus redivivus* Linnaeus, 1767) on the Colour Quality and Growth of Platy Fish (*Xiphophorus helleri* Heckel, 1848)

This study aimed to evaluate the effect of feeding microworms (*Panagrellus redivivus*) enriched with β -carotene on the colour quality, survival rate, and growth of platy fish (*Xiphophorus helleri*). The study was conducted over 45 days on a group of platy fish fry, consisting of 15 individuals, with an average weight and length of 0.014 ± 0.0009 g and 0.91 ± 0.014 cm. The fish were divided into groups: one group was fed microworms without enrichment of β -carotene (control), while the other groups were fed microworms enriched with β -carotene at total carotenoid concentrations: 50 $\mu\text{g/g}$, 75 $\mu\text{g/g}$, and 100 $\mu\text{g/g}$ per day. The study measured the total carotenoid content in the skin and fins of the fish, evaluated colour quality (brightness, redness, yellowness, hue, chroma, red index, and whiteness), and assessed fish growth, survival rates, and water quality. Statistical analysis in this study involved conducting analysis of variance (ANOVA) at a 95% confidence level to determine the significance of the results. For significant differences, further analysis was carried out using Duncan's multiple range test and trend analysis to delve deeper into the results and identify specific trends in the data. Feeding microworms enriched with β -carotene resulted in a significant enhancement in colour quality, as indicated by the increased total carotenoid content in the skin and fins of the fish, intensifying red colouration (including redness, chroma, and red index) ($P < 0.05$). However, it was observed that feeding microworms enriched with β -carotene did not have any discernible effect on the survival or growth of platy fish.

Keywords: β -carotene, microworm, colour, platy fish, *Xiphophorus helleri*