

RINGKASAN

ZICKY ILHAM. Efektivitas Penambahan Asam Amino Metionin terhadap Peningkatan Laju Pertumbuhan Ikan Kerapu Cantang *Epinephelus fuscoguttatus* >< *Epinephelus lanceolatus*. Dibimbing oleh Dwi Septiani Putri dan Daniel Sinaga.

Ikan kerapu cantang *Epinephelus fuscoguttatus* >< *Epinephelus lanceolatus* merupakan komoditas perikanan budidaya yang cukup populer di Asia Tenggara. Peningkatan produksi untuk ikan ini terus digalakkan mengingat produk ini merupakan salah satu target ekspor. Permasalahan sering ditemui dalam budidaya ikan kerapu cantang yaitu waktu pemeliharaan yang relatif lama, yang mengakibatkan peningkatan biaya produksi, terutama untuk pakan. Pemanfaatan pakan pada ikan kerapu cantang bisa dioptimalkan dengan penambahan asam amino metionin ke dalam pakan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan asam amino terhadap pertumbuhan ikan kerapu cantang. Penelitian ini dilaksanakan pada Februari 2025, berlokasi di Kampung Madong, Kota Tanjungpinang. Ikan uji yang digunakan berukuran 20 gram/ekor. Metode penelitian mengenakan Rancangan Acak Lengkap (RAL) 4 perlakuan serta 3 ulangan. Perlakuan yang dicobakan yaitu penambahan asam amino metionin dengan dosis (0%; 0,5%; 1% serta 1,5%) per kg pakan. Penambahan asam amino metionin dalam pakan tidak berpengaruh terhadap pertumbuhan, efisiensi pemanfaatan pakan, rasio konversi pakan tetapi berpengaruh pada kelangsungan hidup ikan kerapu cantang.

Penambahan asam amino metionin 1% dalam pakan menghasilkan pertumbuhan bobot mutlak tertinggi sebesar 48,06 gram; efisiensi pemanfaatan pakan 40,52%; rasio konversi pakan 2,48 dan kelangsungan hidup sebesar 87%; Penambahan asam amino Metionin pada pakan C terbukti efektif meningkatkan kandungan protein pakan ikan kerapu cantang 77,73%; aktivitas enzim protease tertinggi (0,0070 μ /Ml) dibandingkan pakan control; kualitas air dalam media pemeliharaan ikan kerapu cantang secara umum berada dalam kisaran optimal, di mana suhu 27–31°C, DO 4–5,8 ppm, dan pH 7–7,5 mendukung pertumbuhan dan kelangsungan hidup ikan, meskipun salinitas 10–23 ppt tercatat tidak stabil dan lebih rendah dari standar ideal 24–33 ppt karena adanya masukan air tawar. Penambahan asam amino metionin sebesar 1% dalam pakan dapat diaplikasikan untuk meningkatkan pertumbuhan ikan kerapu cantang.

Kata kunci: Asam Amino Metionin, pertumbuhan, kerapu cantang

SUMMARY

ZICKY ILHAM. The Effectiveness of Adding Methionine Amino Acid to Increase the Growth Rate of Cantang Grouper *Epinephelus fuscoguttatus* $\times$ *Epinephelus lanceolatus*. Supervised by Dwi Septiani Putri and Daniel Sinaga.

Hybrid grouper *Epinephelus fuscoguttatus* $\times$ *Epinephelus lanceolatus* is a popular aquaculture commodity in Southeast Asia. Production in this fish is being increased to meet rising demand in export targets. The problems often encountered in hybrid grouper culture is the relatively long maintenance time, which results in increased production costs, especially for feed. Feed utilization in hybrid grouper can be optimized by adding the amino acid methionine into the feed. This study aimed to determine the effect of amino acid methionine addition on the growth of hybrid grouper. This research was conducted on February 2025 in Madong Village, Tanjungpinang City. The average weight of fish is 20 grams. The research method used a Completely Randomized Design with 4 treatments and 3 replications. The treatment tested was the addition of the amino acid methionine with doses (0%, 0.5%, 1%, and 1.5%) per kg of feed. The addition of amino acid methionine to the feed had no effect on growth, feed utilization, and feed conversion ratio, but did affect on the survival rate of hybrid grouper.

The addition of 1% methionine amino acid in the feed resulted in the highest absolute weight growth of 48.06 grams; feed utilization efficiency of 40.52%; feed conversion ratio of 2.48 and survival of 87%; The addition of Methionine amino acid in the feed C was proven to be effective in increasing the protein content of cantang grouper feed by 77.73%; the highest protease enzyme activity (0.0070 μ /ml) compared to the control feed; the water quality in the cantang grouper maintenance medium was generally within the optimal range, where the temperature of 27–31°C, DO 4–5.8 ppm, and pH 7–7.5 supported the growth and survival of the fish, although the salinity of 10–23 ppt was recorded as unstable and lower than the ideal standard of 24–33 ppt due to the input of fresh water. The addition of 1% methionine amino acid in the feed can be applied to increase the growth of cantang grouper.

Keywords: Methionine Amino Acid, Growth, Hybrid grouper