



Intisari

PENGARUH SUHU DAN BERAT TERHADAP KONSUMSI OKSIGEN ELVER (*Anguilla sp.*)

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Penelitian ini bertujuan untuk mengetahui pengaruh suhu dan berat badan, serta interaksi kedua faktor tersebut terhadap konsumsi oksigen elver. Metode penelitian yang digunakan adalah metode eksperimental dengan Rancangan Acak Lengkap (RAL) Faktorial, yang terdiri dari 2 faktor yaitu faktor suhu ($24\pm 1^\circ\text{C}$; $28\pm 1^\circ\text{C}$; $32\pm 1^\circ\text{C}$) dan faktor berat (<10 gram; 10-20 gram; >20 gram) dengan 3 kali ulangan. Elver yang digunakan untuk penelitian berasal dari Balai Pengembangan Teknologi Kelautan dan Perikanan (BPTKP) Cangkringan. Percobaan dilakukan menggunakan alat respirometer sederhana dimana suhu air diukur menggunakan *Water Heater* dan *Air Conditioner*. Parameter kualitas air yang diamati meliputi oksigen terlarut (DO), pH, CO_2 bebas dan alkalinitas. Hasil penelitian menunjukkan semakin besar ukuran berat elver maka akan semakin menurunkan konsumsi oksigen elver dengan membentuk persamaan regresi $Y = 102,721 - 0,86 X$; semakin meningkat suhu air maka akan semakin meningkatkan konsumsi oksigen elver dengan membentuk persamaan regresi $Y = -88,203 + 4,959 X$; suhu air dan berat elver secara bersama-sama dapat berpengaruh terhadap konsumsi oksigen elver, yang ditunjukkan dengan persamaan regresi $Y = -61,075 + 5,982 X_1 - 0,957 X_2$ dimana X_1 adalah suhu air dan X_2 adalah berat elver. Hasil analisis varian menunjukkan bahwa terdapat beda nyata ($P < 0,05$) pada faktor suhu dan berat terhadap konsumsi oksigen elver, serta terdapat beda nyata pada interaksi kedua faktor tersebut terhadap konsumsi oksigen elver. Berdasarkan hal tersebut, maka disimpulkan bahwa suhu dan berat badan elver, serta interaksinya berpengaruh terhadap laju konsumsi oksigen elver.

Kata kunci: *Anguilla sp.*, konsumsi oksigen, suhu, berat, oksigen terlarut

Abstract

EFFECT OF TEMPERATURE AND WEIGHT ON THE ELVER (*Anguilla sp.*)
OXYGEN CONSUMPTION

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This research intends to determine the effect of temperature and weight, as well as the interaction of these two factors on the elver oxygen consumption. The research used an experimental method with a Completely Randomized Design (CRD) factorial, consists of two factors: the temperature factors ($24\pm 1^{\circ}\text{C}$; $28\pm 1^{\circ}\text{C}$; $32\pm 1^{\circ}\text{C}$) and weight factors (<10 gram; 10-20 gram; > 20 gram) with thrice repetitions. Eels used for the research obtained from BPTKP Cangkringan. The experiments were performed using a simple respirometer where the water temperature measured by Water Heater and Air Conditioner. Water quality parameters that observed such as dissolved oxygen (DO), pH, carbon dioxide and alkalinity. The research showed that the heavier the eels, the oxygen consumption will progressively decreased by forming the regression equation $Y = 102.721 - 0.86 X$; The more water temperature increased, the more oxygen consumption of eel by forming the regression equation $Y = -88.203 + 4.959 X$; the water temperature and the weight of eel can influence the oxygen consumption of eel, as indicated by the regression equation $Y = -61.075 + 5.982 X_1 - 0.957 X_2$ wherein X_1 is the water temperature and X_2 is the weight of eel. The results of variance analysis showed that there were significant difference ($P < 0.05$) on the temperature factor and weight factor toward the oxygen consumption of eel, and there is a significant difference on the interaction of these two factors toward the oxygen consumption of eel. Based on these, can be concluded that the water temperature, the weight of eel and the interaction between them effect on the rate of eel oxygen consumption.

Keywords: *Anguilla sp.*, oxygen consumption, temperature, weight, dissolved oxygen