

REPRODUCTIVE AND LARVAE PERFORMANCE
OF HYBRID CATFISH OF BIGHEAD CATFISH,
(*Clarias macrocephalus*) AND AFRICAN CATFISH,
(*Clarias gariepinus*.)

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BIGHEAD CATFISH, *Clarias macrocephalus* AND AFRICAN CATFISH, *Clarias
gariiepinus*.

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ABSTRACT

The hybridisation of *C. macrocephalus* and *C. gariepinus* had produce fry which have a high growth rate, high disease resistance, larger size and have a high food conversion ratio. Besides that, this experiment was conduct to identify the suitable sexes combination for hybridisation of *C. macrocephalus* and *C. gariepinus*. The reproductive performance of fertilization and hatching rate on hybrid catfish of *C. macrocephalus* and *C. gariepinus* can be improve. Besides that, determination of Growth Rate (SGR) and survival *C. macrocephalus* and *C. gariepinus* can be increase by identifying the suitable sexes combination for hybridisation of *C. macrocephalus* and *C. gariepinus*. In this experiment, an *Artemia* must be cultured first until it hatched before *Artemia* was feed to the fish larvae. Sampling of fish by measurements of their Total Length (TL) were carried out once in a two days at the hatchery. Five larvae were measured individually for each sampling. The survival rate, absolute growth rate and specific growth rate were determined. The graph of fertilization rate above, treatment 2 show the highest value of fertilization rate which is the value of fertilization is 77.6%. The fertilization rate on the Treatment 1 show the lowest percentage of fertilization rate compared to other treatment. The hatching rate of Treatment 2 is the highest which is 73.75%. The lowest percentage of hatching rate is on treatment 1. The percentage is about 25.68%. The hatching rate of Treatment 3 is 59.20% and the hatching rate of treatment 4 is 62.32%. Besides that, treatment 2 show the highest of total length on the day 40 compared to the other treatment. Treatment 2 shows the highest of SGR which is 2.028% compared to the treatment 1 which the lowest value of SGR. The SGR of treatment 1 is 1.3698%. Treatment 3 show the highest of survival rate on the day 40. Hybrid catfish have a slow growth rate and smaller in sizes compared to African catfish which have a low disease resistance. Hybrids fish also high growth rate, big size and more resistance to disease. The hybridisation of catfish between female *Clarias gariepinus* and male *Clarias macrocephalus* show better growth rate and survival rate compared to male *Clarias gariepinus* and female *Clarias macrocephalus*.

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Pembiakan dan Ternakan Larva Ikan Keli Kacukan dari Ikan Keli Bunga, *Clarias macrocephalus* dan Keli Afrika, *Clarias gariepinus*.

ABSTRAK

Kacukan *Clarias macrocephalus* dan *Clarias gariepinus* telah menghasilkan benih yang mempunyai kadar pertumbuhan yang tinggi, ketahanan penyakit yang tinggi, saiz yang lebih besar. Selain itu, eksperimen ini telah dijalankan untuk mengenal pasti gabungan jantina sesuai untuk kacukan *C. macrocephalus* dan *C. gariepinus*. Prestasi pembiakan persenyawaan dan kadar penetasan ikan keli hibrid *C. macrocephalus* dan *C. gariepinus* boleh diperbaiki. Selain itu, penentuan Kadar Pertumbuhan dan kehidupan *C. macrocephalus* dan *C. gariepinus* boleh meningkat dengan mengenal pasti gabungan jantina sesuai untuk penghibridan *C. macrocephalus* dan *C. gariepinus*. Dalam eksperimen ini, satu *Artemia* mesti menjadi yang pertama dikultur sehingga ia menetas sebelum *Artemia* diberikan kepada larva ikan. Persampelan ikan oleh ukuran jumlah panjang telah dijalankan sekali dalam dua hari. Lima larva telah diukur secara individu untuk setiap pensampelan. Kadar kehidupan, kadar pertumbuhan mutlak dan kadar pertumbuhan spesifik telah diplot pada graf. Kadar persenyawaan di atas, rawatan 2 menunjukkan nilai tertinggi kadar persenyawaan yang merupakan nilai persenyawaan adalah 77.6%. Kadar persenyawaan pada Rawatan 1 menunjukkan peratusan yang paling rendah kadar persenyawaan berbanding rawatan lain. Kadar penetasan Rawatan 2 adalah yang tertinggi yang merupakan 73,75%. Peratusan terendah kadar penetasan adalah pada Rawatan 1. Peratusan adalah kira-kira 25.68%. Kadar penetasan Rawatan 3 adalah 59.20% dan kadar penetasan daripada Rawatan 4 adalah 62,32%. Selain itu, Rawatan 2 menunjukkan tertinggi jumlah panjang pada 40 hari berbanding rawatan. Rawatan 2 menunjukkan SGR tertinggi yang 2.03% berbanding Rawatan 1 yang nilai terendah SGR. SGR 1 Rawatan adalah 1.37%. Rawatan 3 menunjukkan tertinggi kadar survival pada 40 hari. Ikan keli hibrid mempunyai kadar pertumbuhan perlahan dan lebih kecil dalam saiz berbanding dengan ikan keli Afrika yang mempunyai rintangan penyakit yang rendah. Ikan hybrid mempunyai kadar pertumbuhan yang tinggi, saiz besar dan rintangan yang lebih kepada penyakit. Penghibridan ikan keli antara *Clarias gariepinus* betina dan jantan *Clarias macrocephalus* menunjukkan kadar pertumbuhan yang lebih baik dan kadar survival berbanding jantan *Clarias gariepinus* dan *Clarias macrocephalus* betina.