

## INTISARI

### Pengaruh Padat Tebar terhadap Sintasan dan Pertumbuhan Ikan Mas Koki (*Carassius auratus*, Linnaeus 1758) dalam Akuarium dengan Sistem Budidaya Resirkulasi

Penelitian ini bertujuan untuk mengetahui pengaruh padat tebar terhadap sintasan dan pertumbuhan ikan mas koki (*Carassius auratus*), serta menentukan padat tebar optimal dalam budidaya. Penelitian dilakukan pada bulan Februari – April 2025 di Laboratorium Akuakultur (Ruang Genetika dan Pemuliaan Ikan), Departemen Perikanan Fakultas Pertanian Universitas Gadjah Mada. Metode yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 4 perlakuan padat tebar ikan (20, 30, 40, dan 50 ekor/40L) dan 3 ulangan. Benih yang digunakan mempunyai panjang kurang lebih 3 cm. Ikan mas koki dipelihara selama 60 hari dalam akuarium bervolume 40L dengan penambahan filterisasi dan aerasi. Metode pemberian pakan dengan dosis 3% biomassa sebanyak 3 kali sehari. Pergantian air dilakukan dengan cara penyiponan selama 3 hari sekali sebanyak 20% dari total volume air. Parameter yang diamati meliputi sintasan, pertumbuhan berat dan panjang (mutlak dan spesifik), serta kualitas air. Hasil penelitian menunjukkan bahwa padat tebar ikan yang berbeda (20, 30, 40, 50 ekor/40L) secara statistik tidak memberikan perbedaan yang nyata terhadap sintasan dan pertumbuhan ikan mas koki. Budidaya ikan mas koki dengan padat tebar ikan 20-50 ekor/40L selama 60 hari memberikan sintasan 80-100%; pertumbuhan berat mutlak 10,05-38,09 g; laju pertumbuhan berat spesifik 0,211547-0,739818 %/hari; pertumbuhan panjang mutlak 0,33763-0,69500 cm; laju pertumbuhan panjang spesifik 0,153960-0,34953 %/hari. Sintasan dan pertumbuhan ikan mas koki yang relatif lebih tinggi diperoleh pada pemeliharaan padat tebar 20-30 ekor/40L dibandingkan dengan padat tebar 40-50 ekor/40L.

Kata kunci : ikan mas koki, kualitas air, padat tebar, pertumbuhan, sintasan

## ABSTRACT

### Influence of Stocking Densities on the Survival and Growth Rates of Goldfish (*Carassius auratus*, Linnaeus 1758) Cultured in an Aquarium with a Recirculating Aquaculture System

This study aimed to determine the effect of stocking density on the survival and growth of goldfish (*Carassius auratus*), as well as to identify the optimal stocking density for cultivation. The research was conducted from February to April 2025 at the Aquaculture Laboratory (Fish Genetics and Breeding Room), Department of Fisheries, Faculty of Agriculture, Gadjah Mada University. A Completely Randomized Design (CRD) was used, consisting of four treatments fish stocking densities (20, 30, 40, and 50 fish per 40 L) with three replications. The goldfish seeds used were approximately 3 cm in length. The fish were reared for 60 days in 40 L aquaria equipped with filtration and aeration. Feeding was carried out three times daily at a dose of 3% of total biomass. Water changes were performed every three days by siphoning 20% of the total water volume. Observed parameters included survival rate, growth in weight and length (both absolute and specific), and water quality. This study aimed to evaluate the effect of different stocking densities (20, 30, 40, and 50 fish/40 L) on the survival and growth performance of goldfish (*Carassius auratus*) during a 60-day culture period. The results showed that the fish stocking densities had no statistically significant effect on either survival or growth parameters. Survival rates ranged from 80-100%, indicating good adaptability across all density treatments. Absolute weight gain ranged from 10.05-38.09 g, with specific growth rates (SGR) in weight ranging from 0.2115-0.7398%/day. Absolute length gain was between 0.3376-0.6950 cm, while specific growth rates (SGR) in length ranged from 0.1539-0.3495%/day. Although not statistically different, fish reared at lower stocking densities (20–30 fish/40 L) showed relatively better survival and growth performance compared to those at higher densities (40–50 fish/40 L).

Keywords : goldfish, growth, stocking density, survival rate, water quality