POTENSI BAKTERI PROBIOTIK *FREEZE DRY* PADA PAKAN TERHADAP PERTUMBUHAN DAN KELANGSUNGAN HIDUP IKAN MAS (*Cyprinus carpio*)

SKRIPSI

Diajukan untuk Memenuhi Sebagian Syarat untuk Memperoleh Gelar Sarjana Pendidikan Program Studi Pendidikan Kelautan dan Perikanan

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2024

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ABSTRAK

POTENSI BAKTERI PROBIOTIK *FREEZE DRY* PADA PAKAN TERHADAP PERTUMBUHAN DAN KELANGSUNGAN HIDUP IKAN MAS (*Cyprinus carpio*)

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Ikan mas (*Cyprinus carpio*) merupakan salah satu komoditas penting dalam budidaya perikanan air tawar. Kualitas pakan yang kurang optimal sering kali mempengaruhi pertumbuhan dan kelangsungan hidup ikan mas. Peningkatan pertumbuhan dan kelangsungan hidup ikan ini dapat didukung oleh penggunaan bakteri probiotik *freeze dry* dalam pakan. Penelitian ini bertujuan untuk mengevaluasi efektivitas bakteri probiotik *freeze dry* terhadap pertumbuhan dan kelangsungan hidup ikan mas. Metode penelitian yang digunakan adalah eksperimental dengan rancangan acak lengkap (RAL) yang terdiri dari empat perlakuan dan tiga ulangan: PK1 (0,1 gr probiotik/100 gr pakan, 10^5 CFU/g), PK2 (1 gr probiotik/100 gr pakan, 10^6 CFU/g), PK3 (10 gr probiotik/100 gr pakan, 10^7 CFU/g), dan K (tanpa probiotik). Ikan mas yang digunakan berukuran 7-8 cm dengan padat tebar 10 ekor/20L air. Waktu pemeliharaan dilakukan selama 14 hari pada pemberian pakan dengan perlakuan dosis probiotik. Hasil uji statistik ANOVA dilanjutkan uji Duncan menunjukkan perbedaan nyata ($P<0.05$), diperoleh bahwa penambahan dosis probiotik pada pakan berpengaruh signifikan terhadap pertumbuhan dan kelangsungan hidup ikan mas yang ditunjukkan pada perlakuan dosis PK1 0,1 gr/100 gr pakan probiotik *Lactobacillus casei* (10^5 CFU/g) pada Bobot Mutlak (2,8 ± 0,12g), Panjang Mutlak (1,1 ± 0,21cm), *Specific Growth Rate* (SGR) (1,7 ± 0,06%/hari), *Feed Conversion Ratio* (FCR) (1,5 ± 0,06), Efisiensi Pemanfaatan Pakan (EPP) (65,3 ± 2,27%), dan *Survival Rate* (SR) (100 ± 0%).

Kata kunci: Probiotik *freeze dry*, Pertumbuhan ikan mas, Kelangsungan hidup

ABSTRACT

POTENTIAL OF FREEZE-DRY PROBIOTIC BACTERIA IN FEED ON THE GROWTH AND SURVIVAL OF COMMON CARP (Cyprinus carpio)

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The common carp (*Cyprinus carpio*) is one of the key commodities in freshwater aquaculture. Suboptimal feed quality often affects the growth and survival of common carp. Enhancing the growth and survival of these fish can be supported by the use of freeze-dried probiotic bacteria in the feed. This study aims to evaluate the effectiveness of freeze-dried probiotic bacteria on the growth and survival of common carp. The research employed an experimental method using a completely randomized design (CRD) with four treatments and three replications: PK1 (0.1 g probiotic/100 g feed, 10^5 CFU/g), PK2 (1 g probiotic/100 g feed, 10^6 CFU/g), PK3 (10 g probiotic/100 g feed, 10^7 CFU/g), and K (without probiotics). The carp used were 7-8 cm in size with a stocking density of 10 fish/20 liters of water. The rearing period was conducted for 14 days with feed treatments at different probiotic doses. ANOVA statistical tests followed by Duncan's test showed significant differences ($P<0.05$), indicating that the addition of probiotics to the feed significantly affected the growth and survival of common carp. This was demonstrated by the treatment with PK1 at a dose of 0.1 g/100 g feed containing *Lactobacillus casei* probiotics (10^5 CFU/g), which resulted in Absolute Weight (2.8 ± 0.12g), Absolute Length (1.1 ± 0.21cm), Specific Growth Rate (SGR) (1.7 ± 0.06%/day), Feed Conversion Ratio (FCR) (1.5 ± 0.06), Feed Utilization Efficiency (FUE) (65.3 ± 2.27%), and Survival Rate (SR) (100 ± 0%).

Keywords: Freeze dry probiotics, Common carp growth, Survival rate

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