

Intisari

Pengaruh Pemberian Ekstrak Kasar Jamur Tiram dan Probiotik *Lactococcus formosensis* JAL37 terhadap Sistem Kekebalan Non-Spesifik Seluler Ikan Nila Merah (*Oreochromis sp.*)

Ikan nila merah (*Oreochromis sp.*) merupakan komoditas ikan air tawar yang sangat banyak diminati, namun budidayanya masih rentan terhadap serangan penyakit. Penelitian ini bertujuan untuk mengetahui pemberian probiotik *Lactococcus formosensis* JAL37 dan ekstrak kasar jamur tiram serta kombinasi keduanya (sinbiotik) terhadap sistem imun non-spesifik seluler ikan nila merah selama 60 hari perlakuan. Hasil pengamatan menunjukkan bahwa pemberian perlakuan selama 30 hari meningkatkan secara signifikan nilai hematokrit, konsentrasi glukosa darah, aktivitas fagositosis, jumlah limfosit, serta peningkatan proporsi eosinofil. Setelah masa perlakuan berlangsung selama 60 hari, peningkatan lebih lanjut tercatat pada parameter hematokrit, aktivitas fagositosis, indeks fagositosis, jumlah limfosit, dan eosinofil. Analisis lebih lanjut mengenai efek interaksi antara probiotik dan ekstrak kasar jamur menunjukkan adanya perbedaan yang signifikan pada beberapa parameter imun seluler, yaitu jumlah hematokrit, aktifitas fagositosis, dan jumlah limfosit.

KATA KUNCI: imun, *Lactococcus*, nila, ekstrak kasar jamur, sinbiotik

Abstract

Effect of Oyster Mushroom Coarse Extract and Probiotic *Lactococcus formosensis* JAL37 on Cellular Non-Specific Immune System of Red Tilapia (*Oreochromis* sp.)

Red tilapia (*Oreochromis* sp.) is a freshwater fish commodity that is very much in demand, but its cultivation is still vulnerable to disease attacks. This study aims to determine the provision of probiotics *Lactococcus formosensis* JAL37 and oyster mushroom crude extract and a combination of both (synbiotic) on the cellular non-specific immune system of red tilapia during 60 days of treatment. The results showed that 30 days of treatment significantly increased the haematocrit value, blood glucose concentration, phagocytosis activity, lymphocyte count, and increased the proportion of eosinophils. After the 60-day treatment period, further increases were recorded in haematocrit, phagocytic activity, phagocytic index, lymphocyte count, and eosinophil parameters. Further analysis of the interaction effect between probiotics and mushroom crude extract showed significant differences in several cellular immune parameters, namely haematocrit count, phagocytosis activity, and lymphocyte count.

KEYWORDS : immune, *Lactococcus*, crude extrac mushroom, symbiotic, tilapia