

Intisari

Probiotik merupakan biakan mikroba yang menguntungkan bagi inang. Penelitian ini bertujuan untuk mengetahui pengaruh dan dosis efektif pemberian probiotik pada pakan buatan terhadap pertahanan tubuh non-spesifik humoral *Clarias* sp. Probiotik uji terdiri atas tiga jenis bakteri, yaitu *Bacillus* sp. T2A, *Bacillus* sp. T3PI, dan *Lactococcus raffinolactis* JALI. Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 3 ulangan. Perlakuan yang diberikan yaitu kontrol negatif (pakan tanpa probiotik) (P1), pakan ditambah probiotik dosis 10^2 CFU/g (P2), pakan ditambah probiotik dosis 10^3 CFU/g (P3), pakan ditambah probiotik dosis 10^4 CFU/g (P4), dan kontrol positif (pakan buatan ditambah probiotik komersial merk Raja Lele dengan dosis 7,5 ml/kg) (P5). Pemberian pakan dilakukan 2 kali sehari dengan dosis 3% dari biomassa ikan uji. Pengambilan sampel darah dilakukan pada hari ke 0, 14, 28, 42, dan 56. Parameter pertahanan tubuh non-spesifik humoral yang diamati yakni aktivitas antibakteri serum, aglutinasi alami, dan total protein plasma (TPP). Sedangkan leukokrit dan hematokrit diamati untuk mengetahui parameter darah dalam kondisi normal. Hasil penelitian menunjukkan bahwa pemberian probiotik dapat meningkatkan pertahanan tubuh non-spesifik humoral *Clarias* sp. melalui peningkatan persentase aktivitas antibakteri serum. Dosis efektif pemberian probiotik untuk meningkatkan pertahanan tubuh non-spesifik humoral *Clarias* sp. berdasarkan penelitian yang dilakukan adalah 10^2 CFU/g.

Kata kunci : *Clarias* sp., humoral, pertahanan tubuh non-spesifik, probiotik

Abstract

Probiotics are microbial culture which are beneficial to the host. The research aimed to determine the effect and the effectiveness of probiotics dosage in commercial feed on *Clarias* humoral innate immune. The probiotics were composed of three bacteria, namely *Bacillus* sp. T2A, *Bacillus* sp. T3PI, and *Lactococcus raffinolactis* JALI. The experimental design used in this research was Randomized Complete Design (RCD) with 5 treatments and 3 replications. The treatments in this research consisted of negative control (without administration of probiotic) (P1), administration of probiotics at 10^2 CFU/g (P2), administration of probiotics at 10^3 CFU/g (P3), administration of probiotics at 10^4 CFU/g (P4), and a positive control (administration of "Raja Lele" probiotic 7,5 mL/kg dose. *Clarias* sp. was fed twice daily at 3% of its biomass. Blood samples were taken at day 0, 14th, 28th, 42th, and 56th. Parameters of humoral innate immune that observed were serum antimicrobial activity, natural agglutination, and total plasma protein. The percentage of leucocyte and erythrocyte were observed to know the normal blood parameters. The results showed that administration of probiotics in feed significantly increase non specific humoral body defense of *Clarias* sp. by increasing the percentage of serum antibacterial activity. The effective dosage of probiotics administration to increase *Clarias* humoral innate immune according to this research was 10^2 CFU/g.

Key words : *Clarias* sp., humoral, innate immune, probiotic