INTISARI

UJI LAPANG PENGARUH PEMBERIAN PROBIOTIK *Bacillus* spp., *Lactococcus raffinolactis*, DAN *Saccharomyces cerevisiae* PADA PAKAN TERHADAP RESPON IMUN NON-SPESIFIK SELULER LELE (*Clarias* sp.)

Probiotik merupakan mikroorganisme yang bekerja dengan berbagai mekanisme dalam memberikan efek menguntungkan bagi inang dan lingkungannya. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian probiotik *Bacillus* spp., *Lactococcus raffinolactis*, dan *Saccharomyces cerevisiae* terhadap respon imun non-spesifik seluler lele (*Clarias* sp.). Perlakuan yang diberikan, yaitu P1 (kontrol) dan P2 (pakan probotik) selama 60 hari. P1 merupakan kontrol tanpa pemberian probiotik. P2 merupakan pemberian pakan dengan penambahan *Bacillus* spp. dan *L. raffinolactis* sebanyak 0,05 g serta *S. cerevisiae* sebanyak 0,1 g per kg pakan. Parameter yang diamati adalah aktivitas fagositosis, indeks fagositosis, ledakan respirasi ekstraseluler, diferensiasi leukosit, total eritrosit, dan total leukosit. Parameter hematokrit dan leukokrit digunakan untuk mengetahui kondisi kesehatan ikan. Hasil menunjukkan bahwa probiotik dapat meningkatkan aktivitas fagositosis dan ledakan respirasi secara signifikan. Hasil tidak signifikan ditunjukkan pada indeks fagositosis. Sementara itu, parameter diferensiasi leukosit, total eritrosit, dan total leukosit yang dianalisis secara deskriptif menunjukkan hasil berada pada kisaran normal. Hasil hematokrit dan leukokrit mengindikasikan kondisi ikan yang sehat. Berdasarkan hasil penelitian, dapat disimpulkan bahwa campuran probiotik *Bacillus* spp., *L. raffinolactis*, dan *S. cerevisiae* pada pakan dapat meningkatkan respon imun non-spesifik seluler lele (*Clarias* sp.) melalui modulasi aktivitas fagositosis dan ledakan respirasi.

Kata kunci: eritrosit, fagositosis, leukosit, pakan, respon imun non-spesifik

ABSTRACT

FIELD TRIAL ON THE EFFECT OF IN-FEED PROBIOTIC *Bacillus* spp., *Lactococcus raffinolactis*, AND *Saccharomyces cerevisiae* ON NON-SPECIFIC CELLULAR IMMUNE RESPONSE OF CATFISH (*Clarias* sp.)

Probiotics are microorganisms that work with various mechanisms to confer beneficial effects on the host and the environment. This study aimed to determine the effect of the probiotics *Bacillus* spp., *Lactococcus raffinolactis*, and *Saccharomyces cerevisiae* on the celullar innate immune response of catfish (*Clarias* sp.). The treatments given were P1 (control) and P2 (probiotic feed) for 60 days. P1 was a control without any probiotic added. P2 was a treatment where *Bacillus* spp. and *L. raffinolactis* were added at 0.05 g while *S. cerevisiae* was at 0.1 g per kg of feed. Parameters observed were phagocytic activity, phagocytic index, extracellular respiration burst, leukocyte differentiation, total erythrocytes, and total leukocytes. Hematocrit and leukocrit were used to determine the health condition of fish. The results showed that probiotics significantly increased the activity of phagocytosis and extracellular respiration burst. Insignificant result was shown on the phagocytosis index. The parameters of leukocyte differentiation, total erythrocytes, and total leukocytes that were analyzed descriptively showed the results were in the normal range. Hematocrit and leukocrit results indicate a healthy fish condition. Based on the results, it could be concluded that the mixture of probiotics *Bacillus* spp., *L. raffinolactis*, and *S. cerevisiae* in feed can increase the cellular innate immune response of catfish (*Clarias* sp.) through phagocytic activity and respiratory burst modulation.

Keywords: erythrocyte, feed, innate immune, leukocyte, phagocytic