

## Intisari

Probiotik merupakan produk yang tersusun oleh biakan mikroba atau pakan alami mikroskopik yang bersifat menguntungkan bagi inang. Penelitian ini bertujuan untuk Mengetahui pengaruh penambahan probiotik dalam pakan dan dosis probiotik pakan yang efektif terhadap kekebalan tubuh *Oreochromis sp.* non-spesifik humoral. Rancangan yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 6 perlakuan dan 3 kali ulangan. Perlakuan yang diberikan yaitu kontrol negatif (tanpa penambahan probiotik) (P1), penambahan probiotik komersial (P2), penambahan probiotik Petrogrow serbuk  $10^4$  cfu/g pakan (P3), penambahan probiotik Petrogrow serbuk  $10^6$  cfu/g pakan (P4), penambahan probiotik Petrogrow cair  $10^4$  cfu/g pakan (P5), dan penambahan probiotik Petrogrow serbuk  $10^4$  cfu/g pakan (P6). Pemberian pakan dilakukan sebanyak 3 kali sehari dengan dosis pakan 5% dari biomassa tubuh ikan uji. Pengambilan sampel darah dilakukan setiap 1 bulan sekali selama 60 hari pemeliharaan. Parameter pertahanan tubuh non-spesifik humoral yang diamati yakni aktivitas antibakteri serum, aglutinasi alami, dan total protein plasma (TPP). Sedangkan leukokrit dan hematokrit diamati sebagai data tambahan untuk mengetahui parameter darah dalam kondisi normal. Hasil penelitian menunjukkan bahwa pemberian probiotik petrogrow dapat meningkatkan pertahanan tubuh non-spesifik humoral Nila merah melalui peningkatan persentase aktivitas antibakteri serum (ABS), Aglutinasi Alami dan Total Protein Plasma (TPP). Dosis probiotik yang paling efektif untuk meningkatkan pertahanan tubuh non-spesifik humoral *Oreochromis sp.* berdasarkan penelitian adalah  $10^6$  CFU/g pakan.

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

### *Abstract*

Probiotics are products that are composed of microbial cultures or microscopic natural feeds that are beneficial for the host. This study aims to determine the effect of the addition of probiotics in feed and dosages of probiotics which were effective against the immune system of *Oreochromis sp.* non-specific humoral. The design used was a completely randomized design (CRD) with 6 treatments and 3 replications. The treatments given were negative controls (without the addition of probiotics) (P1), addition of commercial probiotics circulating in the market (P2), addition of probiotics Petrogrow powder  $10^4$  cfu/g feed (P3), addition of probiotics Petrogrow powder  $10^6$ cfu/g feed (P4), addition of liquid probiotic Petrogrow  $10^4$  cfu/g feed (P5), and addition of probiotics Petrogrow powder  $10^4$  cfu/g feed (P6). Feeding was carried out 3 times a day with a 5% feed dose of the test fish biomass. Blood sampling were carried out every month for 60 days of experiment. The non-specific humoral body defense parameters observed were serum antibacterial activity, natural agglutination, and total plasma protein (TPP). Whereas leukocrit and hematocrit were observed as additional data to determine blood parameters under normal conditions. The results showed that the administration of petrogrow probiotics increased the non-specific immune defence of red tilapia by increasing the percentage of serum anti-bacterial activity (SBA), Natural Agglutination and Total Plasma Protein (TPP). The most effective dose of probiotic for increasing the humoral non-specific immune in *Oreochromis sp.* was  $10^6$  CFU/g of feed.

Keywords: *Oreochromis sp.*, Humoral, non-specific body defense, probiotics