

## Intisari

### EVALUASI SISTEM PERTAHANAN NON-SPESIFIK NILA MERAH (*Oreochromis sp.*) HIBRIDA HASIL SELEKSI INDIVIDU

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Penelitian ini bertujuan untuk mengevaluasi sistem pertahanan non-spesifik nila merah top dan kontrol, hasil seleksi individu dari populasi sintetik hasil persilangan ikan nila strain Nifi, Filipina, Singapura dan Citralada. Pengamatan sistem pertahanan non-spesifik dilakukan dengan uji LD<sub>50</sub>, uji fagositosis, aktivitas NBT, leukokrit, dan penghitungan jumlah leukosit. Ikan nila hasil pendederan ke-2 diadaptasikan dengan lingkungan laboratorium. Setelah aklimatisasi, untuk diuji LD<sub>50</sub>, ikan diinfeksi bakteri *Streptococcus sp.* dan *Aeromonas hydrophila* dan dilakukan pengamatan kematian ikan selama 14 hari. Pengamatan aktifitas fagositosis, NBT, leukokrit dan penghitungan jumlah leukosit dilakukan dengan mengambil sampel darah melalui vena *caudalis*.

Hasil penelitian menunjukkan bahwa nilai rerata LD<sub>50</sub> ikan nila top adalah  $9,61 \times 10^5$  CFU/ml (*Streptococcus sp.*) dan  $2,74 \times 10^5$  CFU/ml (*Aeromonas hydrophila*), sedangkan nilai rerata LD<sub>50</sub> nila kontrol adalah  $6,87 \times 10^5$  CFU/ml (*Streptococcus sp.*) dan  $9,35 \times 10^5$  CFU/ml (*Aeromonas hydrophila*). Nilai rerata aktifitas fagositosis ikan nila top adalah 18,25% dan ikan nila kontrol adalah 15%, nilai rerata NBT ikan nila top adalah 0,64 dan ikan nila kontrol adalah 0,67, nilai rerata leukokrit ikan nila top adalah 2,55 dan ikan nila kontrol adalah 2,12, penghitungan jumlah leukosit ikan nila top adalah 21696,25 sel/mm<sup>3</sup> dan ikan nila kontrol adalah 20541,5 sel/mm<sup>3</sup>. Berdasarkan analisis varian tidak terdapat perbedaan yang nyata sistem pertahanan non-spesifik ikan nila top dengan ikan nila kontrol.

Kata kunci : sistem pertahanan non-spesifik, ikan nila merah, hibrida

*Abstract*

THE EVALUATE OF NON-SPECIFIC IMMUNE RESPONSE  
SELECTION OF INDIVIDUAL RED-TILAPIA (*Oreochromis sp.*) HYBRIDS

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The objectives of this research was to evaluate non-specific immune response of red tilapia top and control, of individual selection from synthetic population of Nifi, Philipines, Singapore and Citralada hybrids. Observations of non-specific immune responses were investigated by LD<sub>50</sub> test, phagocytic activity, nitroblue tetrazolium test, leucocrit, and leucocyte counts. Red tilapia produced from second rearing stage were adapted to the research environment. After that, for LD<sub>50</sub> test, fish were infected with *Streptococcus sp.* and *Aeromonas hydrophila* and mortalities were recorded for 14 days. While observations of phagocytic activity, nitroblue tetrazolium test, leucocrit, and leucocyte counts were performed by taking samples of blood from caudal vein.

The results of this study show that the average LD<sub>50</sub> of red tilapia top were  $9,61 \times 10^5$  CFU/ml (*Streptococcus sp.*) and  $2,74 \times 10^5$  CFU/ml (*A. hydrophila*), whereas the average LD<sub>50</sub> of red tilapia control were  $6,87 \times 10^5$  CFU/ml (*Streptococcus sp.*) and  $9,35 \times 10^5$  CFU/ml (*A. hydrophila*). The average phagocytic activity of red tilapia top were 18,25% and red tilapia control were 15%. The average nitroblue tetrazolium test of red tilapia top were 0.64 and red tilapia control were 0,67. The average leucocrit of red tilapia top were 2,55 and red tilapia control were 2,12. The average leucocyte counts of red tilapia top were  $21696,25 \text{ sel/mm}^3$  and red tilapia control were  $20541,5 \text{ sel/mm}^3$ . There are no significant different of non-specific immune response between red tilapia top and control.

*Keywords : non-specific immune response, red tilapia, hybrids*