

**NON SPECIFIC IMMUNITY AND SURVIVAL RATE
OF HYBRID CATFISH (*Clarias gariepinus* \times *C. macrocephalus*)
APPLIED PROBIOTICS AND ARTIFICIAL SUBSTRATES DURING
CULTURE**

Mauli Selvia SB.¹, Supono¹ and Yudha Trinoegraha Adiputra^{1*}

ABSTRACT

Hybrid catfish (*Clarias gariepinus* \times *C. macrocephalus*) is a new variant of catfish that has much superiority over the catfishes. One of them is the rapid growth of this catfish so that many farmers are interested. The use of artificial substrates on hybrid catfish farming is conducted as an alternative to increase the production. However, giving the artificial substrates in cultivation indicates that the fish become stress. One of the solutions to solve that problem is by giving immunostimulant likes probiotic. Immunostimulant is capable to increase non specific immunity of hybridn catfish. This research was aimed to study the effect of giving probiotics toward the non specific immunity of hybrid catfish which is cultivated using the artificial substrates. The research design consists of 2 treatments, with and without giving probiotics with three replicates. The research in 45 days and observed on day of 0, day of 15, day of 30, and day of 45. The results showed that the administration of probiotics significantly affect the percentage of total leukocytes, percentage of lymphocytes and survival rate of hybrid catfish ($P < 0,05$), but not significantly different to the percentage of monocytes, neutrophils and hematocrit levels ($P > 0,05$). Addition of probiotics in feed and water were able to increase the total leukocyte from 66.856 sel/mm³ to 103.739 sel/mm³, respectively. Addition of probiotics in feed and water were able to increase the lymphocyte percentage from 68,7% to 75%, respectively.

Key words: hybrid catfish, survival rate, probiotics, stress

¹Department of Aquaculture, University of Lampung
Address: Jalan Prof. Soemantri Brodjonegoro No. 1 Gedung Meneng
Rajabasa, Bandar Lampung 34145

*Corresponding e-mail: yudha_adiputra@yahoo.com