

Intisari

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian pakan berprobiotik terhadap total bakteri dan aktivitas enzim pencernaan pada nila merah (*Oreochromis sp.*) nilasa. Penelitian menggunakan rancangan acak lengkap 2 perlakuan (pakan berprobiotik dan pakan non probiotik) dengan 4 ulangan. Nila merah nilasa dengan rerata berat awal individu 76,32 gram dipelihara selama 90 hari. Pakan diberikan sebanyak tiga kali sehari dengan dosis 3% dari biomassa dan merupakan pakan komersil berbentuk butiran dengan kandungan protein 31-33% yang ditambahkan medium 100 ml/kg pakan. Kepadatan bakteri pada pakan probiotik $8,75 \times 10^7$ cfu/g pakan dan $4,25 \times 10^5$ cfu/g pakan pada pakan non probiotik. Parameter yang diamati yaitu total bakteri usus, total bakteri proteolitik, aktivitas protease dan aktivitas selulase pada usus nila merah nilasa dilakukan di akhir penelitian dengan rerata berat individu 123,68 gram. Metode yang digunakan pada parameter total bakteri adalah *Total Plate Count* dan pengukuran zona bening pada aktivitas enzim. Hasil penelitian menunjukkan tidak adanya beda nyata pada total bakteri usus, bakteri proteolitik, aktivitas enzim protease, serta aktivitas enzim selulase ($P > 0,05$) pada perlakuan pakan berprobiotik dan non probiotik. Hal ini menunjukkan bahwa pemberian pakan berprobiotik tidak berpengaruh terhadap total bakteri dan aktivitas enzim pencernaan pada usus nila merah nilasa.

Kata kunci: aktivitas protease, aktivitas selulase, nila merah nilasa, probiotik, total bakteri

Abstract

This research aims to evaluate the effect of probiotic dietary application on the total bacteria account and digestive enzyme activities of red tilapia (*Oreochromis sp.*) of nilasa strain. Complete randomized design was used in this experiment with two diets (with probiotic and non probiotic) in quadruplicate. The average weight of the individual red tilapia used was 76,32 gram cultured for 90 days. Non probiotic and probiotic supplement diets were given 3% of biomass three times a day. Commercial feed which has 31-33% protein content added with medium 100 ml/kg of diet on probiotic and non probiotic diet. The result of total bacteria that given on diet probiotic was $8,75 \times 10^7$ cfu/g diet and $4,25 \times 10^5$ cfu/g diet on non probiotic diet. The parameters observed were total intestinal bacteria, total proteolytic bacteria, protease activity and cellulase activity in the intestine of red tilapia with the individual average weight used was 123,68 gram at the end of cultured. Total bacteria were observed with the Total Plate Count (TPC) method, and measurement of the clear zone in enzyme activities. The result showed no significant difference ($P > 0.05$) for total bacteria, total of proteolytic bacteria, protease activity, and cellulase activity with probiotic and non probiotic diet. This suggest that application of probiotic did not effect the bacteria total and digestive enzyme activities of red tilapia (*Oreochromis sp.*) of nilasa strain.

Keywords: nilasa red tilapia, probiotic, protease activity, selulase activity, total bacteria count.