

ABSTRACT

EFFECTIVENESS OF PROBIOTIC MICROCAPSULES ON BACTERIAL COMPOSITION IN THE TIGER GROUPER INTESTINE *Epinephelus fuscogutattus* (Forsskal, 1775)

By

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This study was aimed to determine the effect of probiotic microcapsules on the bacterial composition on tiger grouper (*Epinephelus fuscogutattus*) intestine. The experimental design was used completely randomized design with five treatments and three replications, namely K + (Fed with probiotics without microcapsules), K- (Fed without the addition of probiotics), A (Fed with 1 g/kg microcapsules probiotics dose of feed), B (Fed with 2 g/kg microcapsules probiotics dose of feed), and C (Fed with 3 g/kg microcapsules probiotics dose of feed). The observed parameters were probiotic cell viability, bacterial composition on tiger grouper intestine, abundance of lactic acid bacteria and abundance of *Bacillus* sp. D2.2. The results showed that probiotic microcapsules had the effect on bacterial composition in the intestines of tiger grouper. Probiotic microcapsules could affect the viability of probiotic bacteria and also affect the abundance of lactic acid bacteria.

Keywords : *Bacillus* sp. D2.2, Lactic acid bacteria, Probiotic, Bacterial abundance, Viability

ABSTRAK

EFEKTIVITAS PEMBERIAN MIKROKAPSUL PROBIOTIK TERHADAP KOMPOSISI BAKTERI PADA USUS IKAN KERAPU MACAN *Epinephelus fuscogutattus* (Forsskal, 1775)

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Penelitian ini bertujuan untuk mengetahui pengaruh pemberian mikrokapsul probiotik terhadap komposisi bakteri pada usus ikan Kerapu Macan (*Epinephelus fuscogutattus*). Rancangan penelitian yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan lima perlakuan dan tiga ulangan, yaitu perlakuan K+ (Pemberian pakan dengan probiotik tanpa mikrokapsul), K- (Pemberian pakan tanpa penambahan probiotik), A (Pemberian mikrokapsul probiotik dengan dosis 1g/kg pakan), B (Pemberian mikrokapsul probiotik dengan dosis 2g/kg pakan), dan C (Pemberian mikrokapsul probiotik dengan dosis 3g/kg pakan). Parameter yang diamati meliputi viabilitas sel bakteri *Bacillus* sp. D2.2, komposisi bakteri pada usus Kerapu Macan, kelimpahan bakteri asam laktat dan kelimpahan *Bacillus* sp. D2.2. Hasil penelitian menunjukkan bahwa terdapat pengaruh pemberian mikrokapsul probiotik terhadap komposisi bakteri pada usus Kerapu Macan. Mikrokapsul probiotik mampu mempengaruhi viabilitas bakteri probiotik dan kelimpahan bakteri asam laktat.

Kata Kunci : *Bacillus* sp. D2.2, Bakteri Asam Laktat, Probiotik, Kelimpahan Bakteri, Viabilitas