

Dietary Effect of Probiotic Bacteria, *Bacillus amyloliquefaciens* JFP-2 Isolate from Jeju Island`s Traditional Fermented Food, on Innate Immune Response of *Oplegnathus fasciatus* Challenged with *Vibrio anguillarum*

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Abstract : The present study was performed to evaluate the use of *Bacillus amyloliquefaciens* JFP-2 isolated from a traditional fermented sea food, as probiotic bacteria in the diets for Rock-bream, *Oplegnathus fasciatus*. A total of 180 fish (187.4 ± 2.7 g) were divided into two groups, control (C) and probiotic (P) group (90 fish per group) in triplicate. C group was fed with basal diet without probiotic, while P group was fed with *B. amyloliquefaciens* spores at concentration of 1.4×10^6 colony forming units per gram (CFU/g) of feed. After two months of feeding experiments, P group fish showed significant improvements in body weight (BW), weight gain (WG), specific growth rate (SGR) and food conversion ratio (FCR) compared with C group. Also, bi-weekly assessment of serum protein, glucose, fatty acid profile showed a significant increase in probiotic fed fish than that of control fish group. Similar increase in serum antioxidant and lysozyme activity was found in probiotic fed fish group. Twenty days challenge experiment shows decrease mortality in probiotic fed fish group when compared with that of control group. Hence, these results indicate that the use of *B. amyloliquefaciens* JFP-2 as a feed supplement, is beneficial to improve the health status of *Oplegnathus fasciatus* challenged with *Vibrio anguillarum*.

Keywords : *Bacillus amyloliquefaciens*, *Oplegnathus fasciatus*, probiotic feed, rock bream

Conference Title : ICFSB 2016 : International Conference on Food Science and Biotechnology

Conference Location : Barcelona, Spain

Conference Dates : December 12-13, 2016