

**EFFECT OF DIETARY SUPPLEMENTATION WITH *BACILLUS*
AMYLOLIQUEFACIENS IN THE INNATE IMMUNITY IN THE EUROPEAN
SEA BASS (*DICENTRARCHUS LABRAX*)**

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Aquaculture, probably the fastest growing food-producing sector, now accounts for nearly 50 percent of the world's food fish. Conventional approaches to the control of diseases include the use of chemicals, such as antimicrobial drugs, pesticides and disinfectants that adversely affect fish and lead to immune-suppression, disturbances of the gastrointestinal bacterial populations and reduced disease resistance. Probiotics are beneficent microbial cells that are commonly used as immune-modulators. The supplementation of fish diets with probiotics might modulate specific functions of the gut and immune system and provide disease protection. The aim of the current work was to investigate the effects of dietary supplementation with *B. amyloliquefaciens* on the immune parameters of European sea bass as judged by serum bactericidal, serum lysozyme, serum nitric oxide (NO) and phagocytic activities and the expressions of interleukin-1 (IL-1), tumor necrosis factor alpha (TNF- α) and Mx in head kidney tissue. The group treated exhibited significantly higher in serum killing, lysozyme activities, nitric oxide and phagocytic activity. Dietary *B. amyloliquefaciens* supplementation caused significant increases in MX, IL-1 β and TNF α mRNA levels in the pattern of both groups compared with the control b-actin levels.