

The microbial management as a important strategy for decreasing of pollution of fish farming in Marin cage culture in base of promotion feeding performance and decreasing metabolic excretion compounds in cultivable fish

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Abstract

Despite the fact that fish farming in Marin cages has many advantages, its negative effects on the environment cannot be taken into account. Fish waste and left over food spill out from nets into the ocean, causing nutrient pollution. This may lead to oxygen depletion in the water, which can stress or kill aquatic creatures. In addition, drugs, antibiotics or pesticides used on farmed fish can affect other marine life or human health. Ammonia and urea secreted from fish have adverse effects on the marine environment. Employing of beneficial microorganisms is one of the important strategies for decreasing of these negative effects. Microorganisms are of great importance to aquaculture. They can use via supplementation with diets, inoculating into culturing systems and bio encapsulation with live foods. Studies by the author have shown that employing of beneficial microorganisms can significantly reduce the negative effects of fish farming on marine environments These potentials can be achieved by increasing the rate of eating, increasing digestibility and accelerated digestion of low digestibility feeds via increasing digestive enzymes, increasing in absorption of nutrients, better metabolism of food, reducing fecal production, promotion of growth, and reducing the period of farming, promotion of immune system activity and reduction of consumable drugs and especially antibiotics against pathogenic agents, reduction of ammonia secretion, urea and phosphate, bioremediation of water in fish farming environment, increasing efficiency and performance of protein and fat retention, and reducing in losing energy and protein that reduces the negative impacts on marine environments.

Keywords: Marin cages, fish waste, ammonia and urea secreted, marine environments