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Microbial community management in biofloc production aquaculture system

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Abstract

New sustainable aquaculture technology which is called biofloc technology (BFT) that consumed food waste, organic matter and compounds produced during the production by aquatic animals. Biofloc has two major roles: maintenance of water quality, by the uptake of nitrogen compounds and generating microbial protein which results in reducing feed conversion ratio and a decrease in feed costs. Biofloc is a rich natural source of protein and lipid available 24 hours per day for aquatic animals. The current problem in biofloc system is the difficulty in controlling and management of bacterial community composition for achieving optimal water quality and aquatic species health. More than 2000 bacterial species developed well *in* water containing *biofloc.*, that most include photoautotrophic, chemoautotrophic and heterotrophic communities and heterotroph bacterium plays a key role in BFT. This review gives descriptive information about a bacterial community associated with biofloc, and its influences on aquatic species intestinal microbiota, which can further be applied to research on immunity, disease resistance and nutrition in aquaculture.

Keywords: Aquaculture, Biofloc, Microbial community, Microbial protein, Water quality

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