

SWITCH FLOC

Boosting sustainability of European aquaculture through Biofloc Technology

Aquaculture provides more than half of the world's seafood protein, but it faces challenges such as water demand and eutrophication, biosecurity or dependence on fishmeal/oil. Therefore, novel systems with low environmental impact are required to meet these challenges. Biofloc technology (BFT) is a novel aquaculture system that can recycle the C and N waste into valuable biomass suitable to be used on-site as a nourishing foodsource, reducing the need for aquafeeds and enhancing animal immune system. The Nconversion into microbial fraction allows minimal water exchange, reducing water requirements. Moreover, BFT ensures biosecurity due to the absence of communication among tanks. However, BFT is still a relatively new technology, and needs to be better understood, mainly under intensive conditions. BFT is a complex multidisciplinary system, and the lack of qualified professionals is the main barrier to its implementation in Europe. SwitchFloc will face BFT challenges through an interdisciplinary and intersectoral research and training programme, including international secondments and a series of network-wide training events. SwitchFloc will focus both on species well adapted to BFT and species new to BFT and will improve aquafeed formulation and manufacturing, as well as animal health by promoting beneficial microorganisms into biofloc. Additionally, BFT sustainability and financial viability will be enhanced by the combination with IMTA and hydroponic systems (FlocPonics), analysis of carbon footprint, search of potential market opportunities and food quality assessments. SwitchFloc will train outstanding researchers in sustainable and intensive aquaculture production and will have deep technological impact in aquaculture by providing a new generation of BFT supporting technologies. In addition, SwitchFloc will impact economy and the environment by reducing artificial feed and water exchange, culminating in the production of fresh zero-kilometre product

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