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Abstract

Global Challenges to Feed the Blue Revolution in a Sustainable Way †

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Abstract: The global demand for food is expected to double by 2050, and trends of healthy eating and ethical consumerism are driving the innovation and consumption trends. Moreover, sustainability messaging is particularly relevant in the seafood category. There will be increasing pressure to reduce marine ingredients in aquafeeds to protect ecosystems at risk and replace them with a wide range of alternatives that include plant sources, invertebrates, microbial biomass, algae, and also agrifood byproducts that may simultaneously contribute towards a circular economy concept. However, the nutritional and functional value of each new feed ingredient has to be thoroughly evaluated to assure good growth and prevent major impacts on fish health status, flesh nutritional value, and safety. A holistic approach towards sustainable farming has to be tackled by addressing the One Health approach envisaging (a) the protection of the environment by improved feed utilization reducing the loss of nutrients into the water; (b) an increased production of robust fish able to cope with global challenges; (c) an increased contribution with safe and healthier food items for consumers, especially for sensitive populations such as elderly people, pregnant women, and children. Aquaculture needs to respond to consumer expectations, positioning itself as a true superfood with a prominent place in protein, healthy, and "clean" diets and improve its perception and image among consumers.

Keywords: one health; aquafeeds; alternative ingredients; sustainable aquaculture; healthy diet; fish consumption

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