OPEN ACCESS Freely available online

Fisheries and Aquaculture Journal

Editorial

Probiotic Effect on Feeding Technology and their Use in Aquaculture

Kishan P*

Department of Biological Sciences, Muscat University, Muscat, Oman

EDITORIAL NOTE

A probiotic is a beneficial microorganism that protects the host animal from pathogens, either directly or indirectly. Antimicrobial medicines, pesticides, and disinfectants used in aquatic disease control and high production growth are becoming increasingly resistant to bacterial pathogens. As a result, probiotics research in aquaculture is becoming increasingly popular as a means of ensuring environmentally friendly, long-term aquaculture without the use of antibiotics. The benefits of probiotics include increased feed value, enzymatic stimulation in the digestive system, pathogen reversal, anti-mutagenic activity, and improved immune response. Probiotics in the gut microbiota of marine animals have not been properly studied, and their environmental impact has not been widely considered. Further research into the effect on enzyme activity related to the fish metabolism system is needed. The use of probiotics in fish, as well as their biosecurity, should be thoroughly investigated. The farmer should have a basic understanding of the probiotic organism and exercise caution when applying it to the culture field.

The life cycles of both the aquatic host and the microorganism are intertwined. This link can be exploited in a beneficial manner. Bacteria in the aquatic environment impact gut microbiota activity and vice versa. Probiotic microbes may aid in the detoxification of the host as well as food digestion in the gut. Various health and development regulatory components, such as probiotics, prebiotics, symbiotics, and other functional supplements, can be used to achieve this goal. Where antibiotics are ineffective, microbial involvement may be a viable option for ensuring sustainable and environmentally friendly aquaculture production. Because of their vital role in gas and ion exchange, the goal of this Research Topic is to put together a series of articles focused on the early development of marine fish, with a particular emphasis on gill health and function in response to climate change.

The choice of probiotic bacteria is critical because the evidence from researchers is limited and only a few are used in practise. Due to the selection of inappropriate microbiota, it may result in a negative situation for the host. The organism's adaptability ability must be correlated with the various host and environmental factors during the selection process. Understanding how probiotics work is critical, as is having a good understanding of the characterization of potential probiotics that will be used in the farm. Bio-security considerations of the following methods, such as (a) processing methods, (b) probiotic management procedures, and (c) host body location to apply microorganisms, are used to select probiotics. The choice of probiotics is critical, and the culture species' ability to adapt to this is a major challenge. In various cases, a good mechanism for applying in the cultured field can be helpful. Recent probiotic research efforts have yielded positive results in cultured fields. As a result, more data on host-microbe relationships in life should be recorded. Monitoring tools should have more advanced technology. For example, a basic understanding of the native microorganism's chemical composition and activity, as well as their microbial cultures, is required. More research on the effectiveness of competition between species or strains is needed. Probiotics are beneficial microorganisms for the host, though some of their advantages have yet to be proven clinically. However, both in storage and in the gastrointestinal tract, there is still a problem with the preservation of these cultures microbes. It is necessary to conduct research into modern technology that can protect and maintain the viability of probiotics fish cultures. There are also concerns about probiotics' negative effects on receptive customers, but there is insufficient evidence to back up these claims. Alternative mechanisms for improving the levels of beneficial microorganisms in the gut intestine include probiotics and symbiotics. Fisheries health problems linked to probiotics may be an innovative strategy for future aquatic species.

New behavioral and physiological information on the larval stage of a large pelagic fish's responses to ocean acidification and warming, show correlations between these characteristics, and indicate that these correlations may influence the direction.

***Correspondence to:** Kishan P, Department Biological Sciences, Muscat University, Muscat, Oman, E-mail: kishansrpandiri@gmail.com

Received: March 09, 2021; **Accepted:** March 23, 2021; **Published:** March 30, 2021

Citation: Kishan P (2021) Probiotic Effect on Feeding Technology and their Use in Aquaculture. Fish Aqua J. 12:e104.