

Application of vaccines and dietary supplements in aquaculture: possibilities and challenges

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© 2014, Springer International Publishing Switzerland. The development of vaccines has proven essential for the development of a successful finfish aquaculture industry by preventing the occurrence of diseases like furunculosis and vibriosis in industrialised finfish farming. Further developments, like DNA vaccines, will aid in controlling even more diseases in the future. There are however many diseases where it is difficult to produce effective vaccines. Furthermore, many disease outbreaks may occur due to impaired animal welfare. Identifying factors associated with disease and optimizing health and welfare through biotechnological developments is likely to be an important research area in the future. The fact that dietary manipulation can affect fish gut microbiota thus improving disease resistance is well known from mammalian science, and is slowly gaining ground in finfish research. Both prebiotic and probiotic approaches have been used in fish, with particular focus on lactic aci