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Vibriosis in Fish: A Review on Disease Development and Prevention

(Article)

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Abstract

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Current growth in aquaculture production is parallel with the increasing number of disease outbreaks, which negatively affect the production, profitability, and sustainability of the global aquaculture industry. Vibriosis is among the most common diseases leading to massive mortality of cultured shrimp, fish, and shellfish in Asia. High incidence of vibriosis can occur in hatchery and grow-out facilities, but juveniles are more susceptible to the disease. Various factors, particularly the source of fish, environmental factors (including water quality and farm management), and the virulence factors of Vibrio, influence the occurrence of the disease. Affected fish show weariness, with necrosis of skin and appendages, leading to body malformation, slow growth, internal organ liquefaction, blindness, muscle opacity, and mortality. A combination of control measures, particularly a disease-free source of fish, biosecurity of the farm, improved water quality, and other preventive measures (e.g., vaccination) might be able to control the infection. Although some control measures are expensive and less practical, vaccination is effective, relatively cheap, and easily implemented. In this review, the latest knowledge on the pathogenesis and control of vibriosis, including vaccination, is discussed. © 2018 American Fisheries Society

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