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Abstract

Since it first appeared in 1992, white spot syndrome virus (WSSV) has become the most threatening infectious agent in shrimp aquaculture. Within a decade, this pathogen has spread to all the main shrimp farming areas and has caused enormous economic losses amounting to more than seven billion US dollars. At present, biosecurity methods used to exclude pathogens in shrimp farms include disinfecting ponds and water, preventing the entrance of animals that may carry infectious agents and stocking ponds with specific pathogen-free post-larvae. The combination of these practices increases biosecurity in shrimp farming facilities and may contribute to reduce the risk of a WSSV outbreak. Although several control methods have shown some efficacy against WSSV under experimental conditions, no therapeutic products or strategies are available to effectively control WSSV in the field. Furthermore, differences in virulence and clinical outcome of WSSV infections have been reported. The sequencing and characterization of different strains of WSSV has begun to determine aspects of its biology, virulence and pathogenesis. Knowledge on these aspects is critical for developing effective control methods. The aim of this review is to present an update of the knowledge generated so far on different aspects of WSSV organization, morphogenesis, pathology and pathogenesis.