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TITLE: Facts, truths and myths about SPF shrimp in Aquaculture

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ABSTRACT:

Abstract Shrimp domestication and genetic improvement programmes began in late 1980s, in the United States of America, under the United States Marine Shrimp Farming Program (USMSFP), using the Pacific whiteleg shrimp Penaeus vannamei . The USMSFP was based on proven concepts from the livestock and poultry industries and began with establishing a specific pathogen?free (SPF) shrimp stock. The original shrimp stock was obtained using rigorous screening of captured wild shrimp for selection of individuals naturally free of major shrimp pathogens. Although the concept of SPF animals was well defined for terrestrial animals, it was relatively new for aquaculture, and it took some time to be adopted by the aquaculture community. In the early 1990s, parallel to USMSFP , several other programmes on genetic improvement of shrimp were also initiated in Latin America. Subsequently, several new terminologies and products, such as specific pathogen resistant (SPR) shrimp, specific pathogen tolerant (SPT) shrimp and even ?all pathogen exposed? (APE) shrimp, entered the shrimp industry vocabulary and became commercial. This led to confusion in the shrimp industry about the meaning, relationship and significance of these new terms with respect to SPF . This position paper attempts to clarify these concepts, provide science?based definitions, reconfirms the importance of developing, maintaining and using domesticated, specific pathogen?free (SPF) shrimp stocks (which may also achieve SPR and/or SPT status) to reduce the risk of disease outbreaks and increase production and profit. The same principles would apply to development of domesticated SPF stocks for other species used in aquaculture. The paper also discusses the difficulties of confirming and certifying SPF status due to the presence of endogenous viral elements (EVE s) and calls for internationally agreed science and evidence?based technical guidelines for producing healthy shrimp.

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