Impact of thermal fluctuation on the response of Pacific White Shrimp to infection with the White spot syndrome Virus

Impacto da flutuação térmica sobre a resposta do Camarão-Branco-do-Pacífico frente à infecção com o vírus da Mancha Branca

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This study evaluated the effect of thermal fluctuation on the susceptibility of Pacific White Shrimp to infection with the White Spot Syndrome Virus (WSSV). The

shrimps were divided into two treatments: infected and subjected to thermal fluctuation from 28°C to 18°C for 48 h and back to 28°C (TF); and infected and kept at a constant temperature of 28°C (CT). The control group received pathogen-free inoculum and remained at a constant temperature. After 96 h of infection, the survival of the animals was evaluated and hemolymph was collected to evaluate the hemato-immunological parameters: total hemocyte count (THC), phenoloxidase enzyme activity (PO), agglutinating activity and protein concentration. Survival of TF and CT treatments (59 and 60%, respectively) was lower compared to control (100%). PO activity and protein concentration showed no significant difference between the evaluated treatments. THC was lower in the CT treatment compared to the control and the TF, while the agglutinating activity was higher in the CT in relation to the others. In conclusion, thermal fluctuation did not affect survival after 96 h of infection and had less impact on the immune response of the animals, especially in THC and in the agglutinating titer.

Keywords: WSSV, sea shrimp, *Litopenaeus vannamei*, thermal variation, susceptibility.

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