Effect of loading density and temperature on rainbow trout (Oncorhynchus mykiss) inoculated with Piscirickettsia salmonis Efecto de la densidad poblacional y temperatura en truchas arco iris (Oncorhynchus mykiss) inoculadas con Piscirickettsia salmonis

Larenas,

Contreras,

Oyanedel,

Morales,

Smith,

Piscirickettsiosis is the most important disease affecting farmed salmonids in Chile since 1989. It is produced by a rickettsial agent named Piscirickettsia salmonis which has been described in all species of salmonids reared in seawater. The effect of water temperature (°C) and fish loading density (k/m3) on piscirickettsiosis was evaluated. Rainbow trout (Oncorhynchus mykiss) (n=300) were inoculated by intraperitoneal injection with P. salmonis (0.2 ml in 105.8 TCID50/ml (LF-89 strain) and divided into three groups (n=100 each one) according to water temperature (8, 14 and 18°C). Subsequently, each group was divided in two according to loading densities (5 k/m3 and 20 k/m3); 24% cumulative mortality was obtained in the group with highest density (20 k/m3) and 14°C. This was significantly higher than the other groups (p ? 0.001). These results suggest that both, temperature and loading density, and their interactions, are significant epidemiological factors for the disease.