

**Epidemiologic investigation of the re-emergence of infectious salmon anemia virus in Chile**

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Reports from surveillance activities were analyzed to get insight into the epidemiology of the re-emergence of infectious salmon anemia virus (ISAV) in Atlantic salmon farms in Chile. Description of the epidemic and spatial and spatial-temporal patterns were performed taking into account commercial compartmentalization of the farms. During the 64-week study period, 76 ISAV-infected salmon farms, representing 17 companies, were reported in 65 % of the management geographic zones of the 10<sup>th</sup> region in southern Chile. Approximately 20 % of the farms at risk became infected, with the incidence rate increasing slightly over time. Results from epidemic analyses and the observed spatial and spatial-temporal patterns suggested an initial dispersal spread and subsequent clustering of cases around the index case (IC) in a propagated epidemic mode. Results suggested that delayed depopulation may have been a key factor in the spread and persistence of ISAV. Clustering of cases supported the assumption that passive transmission in seawater from ISAV-infected farms (proximity) is a critical factor involved when controlling disease. The re-emergence of ISAV in Chile has resulted in one of the largest ISAV epidemics reported in the world, and this paper generates new hypotheses and provides useful information for spatial disease control planning in salmon farming areas.