ATLANTIC SALMON - INFECTIOUS SALMON ANEMIA VIRUS (ISAV)

Introduction

Infectious salmon anemia (ISA) is a systemic disease of farmed Atlantic salmon. Disease outbreaks have been reported in Norway, Canada, Scotland, the Faroe Islands, USA and Chile. Prophylactic measures are sought to prevent outbreaks of ISA in the salmon aquaculture industry. VESO Vikan offers challenge models to evaluate the efficacy of vaccines, the effect of prophylactic feeding and the effect of selective breeding for resistance.

Challenge models to evaluate the effect of vaccination

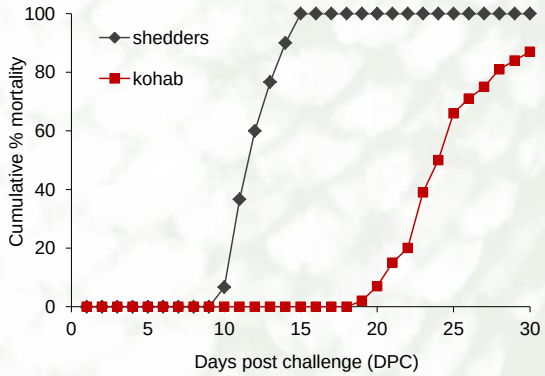
The fish will be vaccinated at the parr stage and either photoperiod-manipulated to smoltify or maintained as pre-smolts. After vaccination the fish are either challenged by i.p. injection of virus or by cohabitation with i.p. injected shedder fish. Evaluation of the protection provided by the vaccines is based on differences in mortality in vaccinated and unvaccinated fish after challenge.

Challenge models to evaluate genetic resistance profiles

Fish of different genetic characteristics can be kept in separate tanks or mixed in one tank during challenge. Possible tank effects can be reduced by mixing all families in one tank. The fish will be acclimatized for minimum two weeks followed by challenge by i.p. injection of virus or cohabitation with i.p. injected shedder fish. Subpopulations of fish from the challenged fish pool are typically identified by DNA fingerprinting or PIT-tag readings.

Challenge models to evaluate the effect of feeding

The fish will be acclimatized for minimum two weeks followed by a period of test feeding. After challenge by i.p. injection or cohabitation, mortality will be recorded throughout a five weeks observation period.



Mortality in groups of fish i.p. injected with ILAV (shedders) and in the naïve fish (cohabitants).

Available models

Salmon			Water			Challenge model		
Fry	Parr	Smolt	FW	SW	°C	Ip	Bath	Cohab
	X	X	X	X	12	X		X