Webinar series: Epidemiology in Aquatic Animal Health

Overall description: This course provides an introduction into basic concepts of aquatic animal health epidemiology. It covers basic epidemiological principles, concepts of surveillance and sampling, and the validity of diagnostic tests. In addition, it provides an introduction to risk factor analysis for understanding and mitigation of disease. Examples will be provided primarily from finfish aquaculture, and reading materials will primarily be in the form of scientific papers. Lectures will be provided by epidemiologists and fish health experts.

Learning objectives: After attending the course, participants will be able to:

- Define and explain fundamental concepts of aquatic animal health epidemiology, including prevalence, incidence, and measures of association.
- Describe the principles and objectives of disease surveillance in aquatic animals, including EU and WOAH descriptions and understand how a surveillance system can be evaluated.
- Identify and evaluate appropriate sampling strategies for aquatic animal populations.
- Assess the validity of diagnostic tests by interpreting sensitivity, specificity and predictive values.
- Design a study to investigate disease occurrence and distribution in aquaculture settings, using basic epidemiological methods.
- Interpret epidemiological findings from scientific papers and case studies in aquatic animal health and critically appraise scientific literature relevant to aquatic epidemiology and fish health management.

Participants: Professionals working with fish health, and with an interest in disease surveillance and testing.

Structure: Webinar series for 6 weeks + one follow-up. 1.5-2 hrs once a week, plus preparation. Examination: Online test (multiple choice), one small assignment

Course supervisors

Britt Bang Jensen (DVM, PhD) Epidemiology

Niccoló Vendramin (DVM, PhD), EU System and compliance with WOAH

Modules:

(Preliminary programme, subject to changes)

Module I	Wednesday, October 22nd		
Introduction	10.00	Introduction. Introduction to course material.	
Epidemiological principles	10.30	Basic epidemiological concepts	
Outbreak investigation	11.30	Outbreak investigation	

Module II	Wednesday, October 29th		
Surveillance in Aquaculture	10.00	Surveillance fit for purpose	
	10.30	Roles in surveillance	
	11.00	Designing a program	

Module III	Wednesday, November 5th		
Sampling and testing for aquatic diseases	10.00	Sampling fit for purpose	
	10.30	Sample sizes	
	11.00	Interpretation	

Module IV	Wednesday, November 12th		
Diagnostic test evaluation	10.00	Sensitivity and specificity	
	10.45	Validation of tests	
Participants cases	11.30	Participants presents cases	

Module V	Tuesday, November 18th		
Risk factor analyses	10.00	Formulating hypothesis	
	10.20	Data for purpose	
	10.40	Analyses and interpretation	

Module VI	Wednesday, November 26th		
Evaluation of surveillance programmes	10.00	Surveillance sensitivity	
	10.30	Current EU system and compliance with WOAH	
Follow-up	11.00	Q&A Further resources	