

CFA2.3 Course Title: Surveillance and monitoring of the health status of aquaculture and wild populations

Modality: Advance Training Course

Dates:

April 23-27th 2018

Duration:

Lectures: 20h

Laboratory: 0h

Location: Universidade de Santiago de Compostela (Videoconference system for students in other campus).

Academic coordinators:

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Lecturers:

Name	Institution	e-mail
Iganacio de Blas	Universidad de Zaragoza	deblas@unizar.es
Carlos Pereira Dopazo	Universidade de Santiago	carlos.pereira@usc.es

General description:

Quantitative and qualitative aspects of veterinary epidemiology will be discussed. The design of sampling and processing of samples for official follow-ups and routine monitoring in aquaculture facilities will be addressed. Diagnostic methods Analysis and evaluation of risks. It will be considered in the debate aspects of applied immunology, applied pathology, diagnostic systems, virulence, vaccination, immune response, defense mechanisms, epidemiology, toxicology, treatments ...

Contents:

Day 1 - Epidemiological surveillance for disease detection

- 1.1-Basic concepts of Surveillance Epidemiology in Aquaculture Health and its implementation in the EU (Directive 88/2006) (2.5 h). (I. de Blas)
- 1.2-Sampling for disease detection: non-probabilistic sampling methods and calculation of sample size (1.5 h). (I. de Blas)
- 1.3-Procedures and legal requirements for shipment and conservation of samples (biological material) (2 h) (C.P. Dopazo)

Day 2 - Epidemiological surveillance for disease detection

- 2.1-Evaluation of diagnostic tests: sensitivity, specificity and predictive values (1.5 hours) (I. de Blas)
- 2.2-Reliability of results obtained: estimation of false negatives and false positives, dilution effect in the use of pool samples ... (1.5 h) (I. de Blas)
- 2.3-Theoretical foundations of diagnostic techniques in Aquaculture Health: histology, bacteriology, cell culture, PCR ... (2 hours) (C.P. Dopazo).

Day 3- Epidemiological surveillance for disease detection (cont)

- - 3.1-Theoretical foundations of diagnostic techniques in Aquaculture Health: histology, bacteriology, cell culture, PCR ... (Cont.- 2 hours) (C.P. Dopazo)
- - 3.2-Notifiable diseases in the OIE and the EU in aquatic animals (1 h) (I. de Blas)
- - 3.3-OIE Reference Diagnostic Techniques (1 h) (C.P. Dopazo)
- - 3.4-Notification of diseases in OIE and EU (1 h) (I. de Blas)

Day 4- Monitoring the health status of aquatic populations

- - 4.1-Design of cross-sectional studies and preparation of epidemiological surveys (1 h) (I. de Blas)
- - 4.2-Sampling for prevalence estimation: probabilistic sampling methods and calculation of the sample size (1.5 h) (I. de Blas)
- - 4.3-Cross-sectional measures of disease: morbidity-prevalence, mortality and lethality. Weighting of results (2 h) (I. de Blas)
- - 4.4-Reliability of results obtained: confidence intervals and apparent prevalence vs actual prevalence. Use of samples in pool (1.5 h) (I. de Blas)

Teaching methodologies:

Interactive classes through videoconference. Resolution of practical cases.

Evaluation system:

Short test to be delivered via telematics in the time indicated at the time

Brief CV of the lecturers:

Ignacio de Blas

Doctor in veterinary medicine from the University of Zaragoza. Expert for FAO on issues of aquaculture and sustainability; author of the book *Aquaculture for Veterinarians* (L. Brown and Ignacio de Blas Giral, 2000. Ed Acribia). Expert in epidemiology; is the author of the book *Manual de Epidemiología Veterinaria* (de Blas et al., 2008, ed. ReGABA). Author of a long list of publications related to epidemiology in aquaculture and veterinary medicine in general.

Carlos P. Dopazo

Doctor in Biology from the University of Santiago de Compostela. Expert in Fish Virology since the 80's, and specially in diagnostics techniques, including traditional, serological and molecular procedures, as well as in validation of diagnostic techniques. He is in charge of the Viral Diagnostic Laboratory of the Institute of Aquaculture, University of Santiago de Compostela, a laboratory officially recognized by the Galician Government, Spain.