



European Union Reference Laboratory for Fish and Crustacean Diseases

NATIONAL INSTITUTE OF AQUATIC RESOURCES, TECHNICAL UNIVERSITY OF DENMARK

EURL Training Course: Methods for implementation of surveillance procedures for listed fish diseases



Copenhagen, 6th – 10th of October 2025

**Hosted by the European Union Reference Laboratory
for Fish and Crustacean Diseases**



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General introduction

The training course was organized by the EURL for Fish and Crustacean Diseases located in Kgs. Lyngby at the National Institute of Aquatic Resources, Technical University of Denmark, Kemitorvet, building 202, 2800 Kgs. Lyngby, Denmark, from October the 6th to the 10th, 2025. The training course had 12 trainees and was entitled “Methods for implementation of surveillance procedures for listed fish diseases”.

The overall purpose of the training course was to provide an opportunity for the employees of NRLs to obtain training in techniques relevant when working with listed fish and crustacean diseases. The staff of the EURL and DTU Aqua provided this training together with teachers from the Danish Veterinary and Food Administration. Knowledge-sharing and discussions between participants and teachers were important parts of the course.

Course: Methods for implementation of surveillance procedures for listed fish diseases

The 5-day course in “Methods for implementation of surveillance procedures for listed fish diseases” was based on practical work (hands on) in combination with theoretical presentations.

Day 1 was dedicated to a visit to the Danish Veterinary and Food Administration (DVFA) and to a fish farm. The head of the EURL for fish and crustacean Niccolò Vendramin, postdoc Anna Alencars participated from the EURL team, while Tine Solvoll Tønder, who is coordinating diagnostics at the section for fish and shellfish diseases at DTU AQUA attended the training course as participant. In the morning, the participants were picked up at the hotel in a bus and driven first to the DVFA offices in Vejen – a three-hour drive. Here, after a short introduction, Marco Magaletti from DVFA gave a presentation about Danish aquaculture and disease surveillance after which Niccolò Vendramin gave a presentation on the laboratory findings of IHNV detected in Denmark in 2021 and at the eradication program for VHS in Denmark. After lunch at the DVFA, the participants were driven to Hesselho fish farm a 30 min drive from DVFA. The farm is a traditional earth pond farm fed by water from nearby Holme stream. The participants were shown around on the farm by Hanne Aalling and Marco Magaletti from DVFA. The owner of the farm, Jens Jensen, kindly explained the workflow at the farm and answered questions from the participants. During the visit, procedures for inspection and sample collection were demonstrated and diseased fish were caught and euthanized. Participants were taught fish necropsy techniques, and how these are performed in the field. All participants performed on site necropsy on diseased fish collected at the farm. They collected relevant samples, and the personally labelled samples were brought back to the laboratory in Lyngby for further examination the following days. After the return to Lyngby, participants were welcomed at the institute, where dinner was served.

On **day 2** an introduction and practicalities with a detailed description of the course programme was presented by Niccolò Vendramin, Argelia Cuenca and Britt Bang Jensen and each participant presented their experience and expectations for the course. After the introduction, Britt Bang Jensen gave lecture on “Epidemiological concepts of sampling and testing” and Niccolò Vendramin gave lectures on “the legislative basis for aquaculture animal health and the sampling and diagnostic procedures to use” as well as an overview of the methods for performing diagnostic and surveillance of listed fish diseases. In addition, all topics included in the compendium were presented as a preparation for the practical part of the course. In the afternoon, the participants were brought to the teaching laboratory and after an initial demonstration from Anna Alencar they prepared and processed the samples they collected on Monday.



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These were samples for cell cultivation, PCR and bacteriology on samples they collected Monday. After a coffee break, all participants were introduced to cell culture techniques and had the opportunity to prepare their own 24-well plates. In the evening, there was a social dinner in Lyngby.

Day 3 started by theoretical lectures on PCR and real time PCR laboratory- presented by the responsible for the molecular diagnostic of the EURL Dr. Argelia Cuenca. After coffee break all participants were involved in practical exercises and analysis of PCR results.

After lunch all participants were gathered again in the teaching laboratory and were involved in activities such as reading and inoculating the cells produced the day before with samples taken at the fish farm. The practical activities were followed by a presentation given by Niccoló Vendramin on “Use of cell culture in fish virology”. After the coffee break practical demonstration of titration procedures, participants could try themselves both the inoculation procedure on cell culture of diagnostic samples as well as preparation of a titration plate.

Day 4 was tutored by Argelia Cuenca. The day was fully dedicated to PCR, sequencing and BLAST analysis. The day started going over the flow in the diagnostic lab, and the requirements and routines that need to be ensured to avoid (cross-) contamination when performing PCR. After that, we had a small lecture about Sanger sequencing and how it works. A session explaining how BLAST works and how to interpret BLAST results was conducted, followed by a practical exercise about using sequencing and BLAST searching for strain identification.

At day 5 in the morning, the participants were divided into two groups. One group was shown diagnostics concerning bacterial diseases in fish and some examples of bacterial pathogens by professor Lone Madsen, while the other group was reading their inoculated cell cultures and a number of cell lines inoculated with various fish viruses, including VHSV, IHNV, EHNV, IPNV, nodavirus with Niccoló Vendramin; afterwards the groups switched. After lunch all teams were given assignments on how to handle various cases. After one hour, each member should then present their results in new groups and finally all reports were presented and discussed in plenum; this session was supervised by Niccoló Vendramin. The course was closed by discussing both results obtained by the participants and different methods for diagnosis and performing surveillance of listed fish diseases in their countries of origin. Later on an online questionnaire was distributed.

The methods taught were primarily focused on the protocols given in the EU legislation and on the WOA (OIE) guidelines from the Manual of Aquatic Animal Diseases, and included how to select proper controls, the typical pitfalls, troubleshooting, etc. Every activity had a team of tutors in order to provide an effective support to the trainees. For the practical activities Anna Alencar was assigned as tutor.

As get-together, a dinner event for all teachers and participants was held on day two.



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Participant list

| Name | Institute | Country |
|---------------------|--|-------------|
| Anete Niemi | Institute of Food Safety, Animal Health and Environment "BIOR" Latvia | Latvia |
| Caterina D'Onofrio | Istituto Zooprofilattico Sperimentale delle Venezie | Italy |
| Tuulia Enbom | Finnish Food Authority | Finland |
| Hella Schwegler | Fish Health Division, University of Veterinary Medicine Vienna | Austria |
| Jannice Lyberg | Swedish Veterinary Agency (SVA) | Sweden |
| Katrina Spure | Institute of Food Safety, Animal Health and Environment "BIOR" | Latvia |
| Kristina Petkuvienė | National Food and Veterinary Risk Assessment Institute of Lithuania | Lithuania |
| Milica Kurucki | Institute of Veterinary Medicine of Serbia | Serbia |
| Ramona Lüthi | Institute of Fish and Wildlife Health, University of Bern | Switzerland |
| Anna Szentirmai | Hungarian National Reference Department of Parasitology, Fish and Bee Diseases | Hungary |
| Sören Woelke | German Reference Laboratory, Friedrich-Loeffler-Institute | Germany |
| Tine Solvoll Tønder | DTU Aqua -Institut for Akvatiske ressourcer | Denmark |
| Matea Alfier | Croatian Veterinary Institute | Croatia |



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Course description: Methods for implementation of surveillance procedures for listed fish diseases

Course content

This 5-day course is primarily based on practical work (hands on) in combination with theoretical presentations. The course will focus on the comparison between diagnostic techniques for listed fish diseases by evaluating pros and cons of cell culture and Real-Time PCR methods.

At the first day of the course, all participants will take part in a fish farm visit. The trip will be organized in collaboration with veterinary services and aquaculture association. Protocols for inspection, necropsy and sample collection will be demonstrated. Sample collection will involve mandatory sampling for testing listed disease (virology and molecular assay) as well as testing for differential diagnosis (bacteriology). Starting from day 2, theoretical teaching will be given on methodologies, pitfalls and troubleshooting. After the introduction, the participants will be divided into groups. Each group will start processing the samples collected at the farm. This process will include cell culture preparation, inoculation on monolayers, observation of cell culture and assessment of cytopathogenic effect. All cell cultures used for isolation of the listed viruses will be demonstrated and procedures will be conducted by the participants.

Participants will initially be introduced to basic cell culture work: 24-well plate preparation for diagnostic purpose as well as 96-well plate for titration and flask maintenance will be demonstrated and subsequently prepared by the participants. Inoculation of diagnostic samples on cell cultures will be practised. The CPE of different viruses will be shown, and the participant will practise reading of diagnostic trays. Titration procedures will be demonstrated and afterwards participants will have the opportunity to practise by themselves. Finally, course participants will calculate virus titres.

The application of accredited Real-Time PCR protocols for surveillance will be presented and discussed with the participants. Furthermore, focus will be put on genetic characterization of listed fish viruses with theoretical lectures and practical exercises on sequencing, Blast tool and phylogenetic analysis. For this reason, each participant is required to bring his/her own laptop.

The concept of test specificity and sensitivity will be explained, and the students will learn how this affects validity of surveillance systems.

The course is dialogue-based and sufficient time will be given for discussions throughout the course and for the evaluation of test results. Quality assurance, cleaning, disinfection, etc. will be an integral part of the practical demonstrations. The taught methods will primarily focus on the protocols given within the EU legislation and WOAHP guidelines from the Manual of Aquatic Animal Diseases, and include how to select proper controls, the typical pitfalls and troubleshooting, etc. A social dinner will be organized on the second evening. Further details are provided in the invitation letter.

General course objectives

The course aims to provide the participants with knowledge on the most commonly used methods for diagnosis of important viral fish diseases. The course will focus on; 1) basic cell cultivation techniques, production of cells for different purposes (IFAT, diagnostic trays, titration, etc.), cell susceptibility testing, inoculation of samples and sub-cultivation procedures, reading of cell cultures (including CPE) and virus titration, 2) providing the participants with knowledge on the most commonly used methods



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for diagnosis of important fish pathogens, 3) Real-Time PCR protocols validated for surveillance of listed fish diseases, 4) genotyping the most important viral pathogens by sequencing and blasting and 5) information on the underlying principles of the tests and how to critically review them in order to assess pitfalls and 6) epidemiological aspects to consider when designing surveillance for viral diseases in fish aquaculture.

Learning objectives

The participants that have followed all the course objectives will be able to;

- Explain the basic principles of the legislative framework for surveillance and control of listed fish disease in EU
- Describe basic principle of surveillance schemes or programs for listed aquatic fish disease
- Sample and process material for diagnostic purpose
- Maintain, cultivate, inoculate and read most used cell lines (BF-2, EPC, CCB and ASK) for fish disease diagnostic purposes
- Prepare cell cultures for different purposes, e.g. diagnosis, IFAT and virus titration
- Inoculate and sub-cultivate diagnostic samples
- Read diagnostic trays
- Titrate virus
- Understand basic principles of PCR and real time PCR techniques and their use in diagnostics and surveillance
- Genotype viral isolates by sequencing and blasting
- Troubleshoot test performances and designs.
- Demonstrate the implications of test sensitivity and specificity for surveillance programs

The major focus will be on the viral fish diseases using VHS as model. The course will provide a forum where pre-knowledge, experience and examples can be discussed between participants and teachers and hereby raise the awareness of pitfalls when using the various techniques.

Intended learning outcomes

To increase the practical and theoretical knowledge of cell culture based and bio-molecular techniques used in fish virus diagnostics. The course also aims at providing a forum where (good and bad) experiences can be discussed among participants and teachers.

The core elements

Sampling and processing fish tissue for diagnostic purpose

Fish cell line cultivation

PCR / Real-Time PCR

Sequence analysis and use of BLAST tool

Identification and discussion of pitfalls and how to perform troubleshooting

Assessment

Each day will end with a short result and discussion follow-up in order to evaluate whether the participants picked up the treated core elements. Their results will be discussed. At the end of the course a questionnaire for course evaluation will be delivered to all participants.



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The course material

Protocol for the hands-on exercises, PowerPoint presentations as well as the original scientific papers describing the applied assays/techniques is included in the course binder. The supervisors will collect the generated results and provide shared data overviews to be starting point of discussions.

The course participants

Since course attendants can come with very different backgrounds, during the general introduction (day 2), researchers and technicians will be asked to introduce themselves, their pre-experience in the laboratory and their expectations to the course in order to target the course content optimally, especially during the theoretical and discussion workshops. Their starting point will therefore be mixed as some may have limited theoretical or practical experience, while others may be highly experienced in some or all disciplines.

Course supervisors

Niccoló Vendramin (DVM, PhD), Fish virology and diagnostics

Argelia Cuenca Navarro (M.Sc., PhD): Molecular methods

Britt Bang Jensen (DVM, PhD) Epidemiology

Lone Madsen (DVM, PhD): Fish bacteriology and diagnostic

Technical help and assistance for running the laboratory courses will be given by

Anna Luisa Farias Alencar (DVM, PhD), cell culture

Thomas Weise, logistics

Programme

| Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|--|--|--|--|--|
| Section 1 Visit to fish farm and Veterinary services in Jutland | Section 2 Laboratory introduction and sample preparation | Section 3 PCR analysis and Cell culture methods | Section 4 PCR, blast and phylogeny | Section 5 Cell culture /bacteriology and evaluation |
| <p>8:00 – 11:00 Transport by car to Danish Veterinary and Food Administration, in Jutland.</p> <p>11:00 – 12:15 Introduction to surveillance programs</p> <p>Aquaculture surveillance and sampling procedures in Denmark</p> | <p>9:00 – 10:30 Introduction and practicalities. Participants experience and expectations</p> <p><u>Coffee break 10:30 – 10:50</u></p> <p>10:50 – 12:15 Theoretical introduction to sample preparation, cell cultivation, virus ID and qPCR for surveillance programs for the non-exotic listed fish disease in Europe</p> | <p>9:00 – 10:30 PCR and real time PCR theory.</p> <p><u>Coffee break 10:30 – 10:50</u></p> <p>10:50 – 12:15 Result analysis Practical exercises.</p> | <p>9:00 – 10:30 PCR and Real Time PCR Troubleshooting. The diagnostic laboratory – PCR flow.</p> <p><u>Coffee break 10:30 – 10:50</u></p> <p>Sequencing theory and practical exercises</p> | <p>9:00 – 10:30 Cell culture observation with different reference viral isolates</p> <p><u>Coffee break 10:30 – 10:50</u></p> <p>10:50 – 12:15 Fish bacteriology demonstration</p> |
| Lunch: 12:15 – 13:00 | Lunch: 12:15 – 13:00 | Lunch: 12:15 – 13:00 | Lunch: 12:15 – 13:00 | Lunch: 12:15 – 13:00 |
| <p>13:00 – 13.30 Transport to Fish Farm</p> <p>13:30 – 15:30 Inspection and sampling</p> <p>15:30 – 19:00 Return to Hotel</p> | <p>13:00 – 14:30 Sample preparation for cell culture, PCR and bacteriology on samples collected Monday</p> <p><u>Coffee break 14:30 – 14:45</u></p> <p>14:45 – 16.45 Practical cell culture passaging and production of 24 well plates</p> <p>19:00 Social dinner</p> | <p>13:00 - 13:45 Reading cells and inoculation of samples</p> <p>13:45 - 14:30 Use of cell culture in fish virology</p> <p><u>Coffee break 14:30 – 15:00</u></p> <p>15:00 – 16:00 Titration procedure, viral titre calculation. Barcoding cell lines</p> | <p>13:00 – 17:00 Blast analysis and practical exercise</p> <p><u>Coffee break 14:30 – 15:00</u></p> <p>Introduction to phylogenetic analysis</p> | <p>13:00 – 14:45 Assignment + presentation and assessment of data obtained by each group Discussion and recommendations Conclusion</p> <p>14:45 – 15:00 Course evaluation, coffee and goodbyes</p> |



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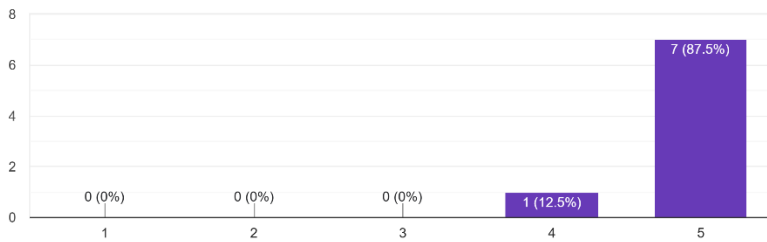
Evaluation: Methods for implementation of surveillance procedures for listed fish diseases

Participant satisfaction level for each respective section on a scale from 1 (very low) to 5 (very good). The calculations are based on returned evaluation schemes from 9 participants.

Day 1 – Fish farm inspection and sampling

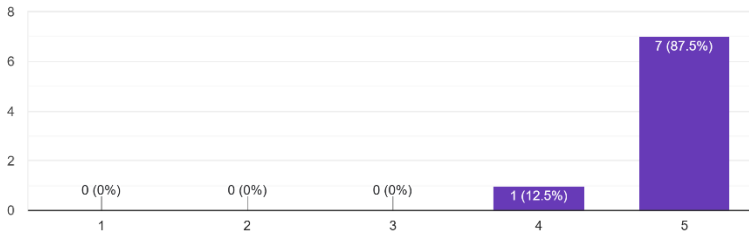
Day 1 Fish farm inspection and sampling - teacher's expertise

8 responses



Day 1 Fish farm inspection and sampling - teacher's preparedness

8 responses



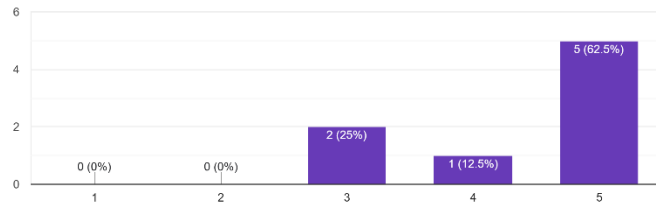


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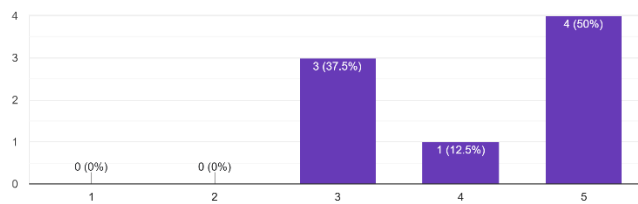
Day 1 Fish farm inspection and sampling - relevance for you

8 responses



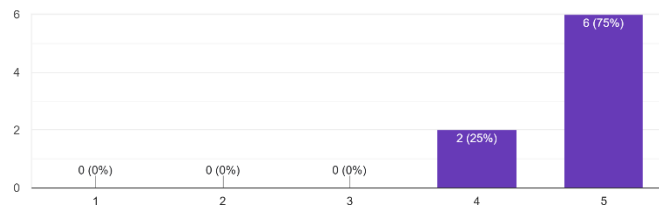
Day 1 Fish farm inspection and sampling - increase of your knowledge

8 responses



Day 1 Fish farm inspection and sampling - overall score

8 responses



Day 1 – Fish farm inspection and sampling: Is there anything you think could be improved?

8 responses

- No
- No, everything is really well thought out and organized.
- It was a very interesting day. A comparison with a marine fish farm would be interesting.
- I think it was very well organized all in all, nice to see the industry and surveillance institutions in other countries
- It would be very interesting to visit some modern RAS facility.
- No, I don't think so :)
- Not that I can think of



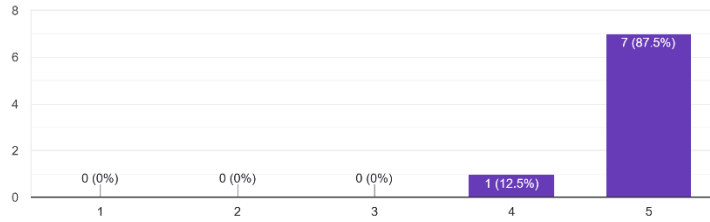
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Day 2 and 3 – Legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases

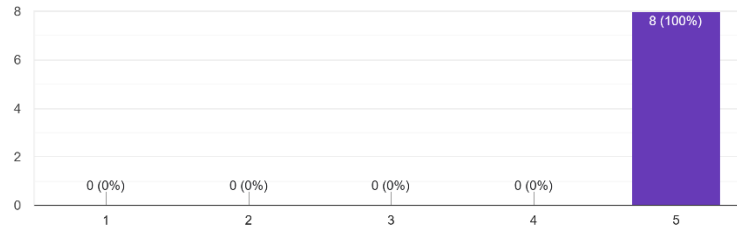
Day 2 and 3 - legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases- teacher's expertise

8 responses



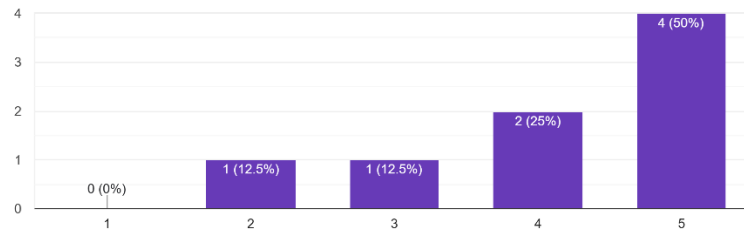
Day 2 and 3 - legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases - teacher's preparedness

8 responses



Day 2 and 3 - legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases - relevance for you

8 responses



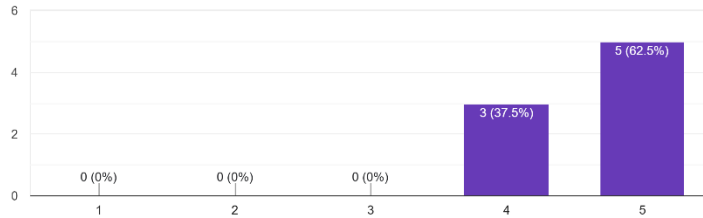


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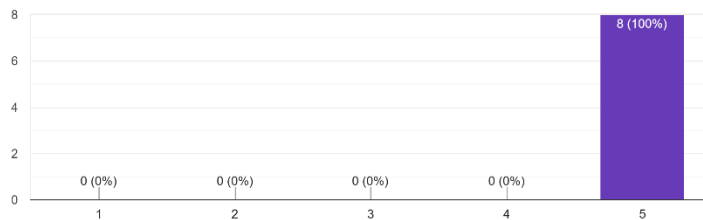
Day 2 and 3 - legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases - increase of your knowledge

8 responses



Day 2 and 3 - legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases overall score

8 responses



Day 2 and 3 – Legislative background for surveillance and control of listed fish diseases, use of cell culture for surveillance of listed fish diseases: Is there anything you think could be improved?

8 responses

- No
- No, everything is really well thought out and organized.
- Overall very interesting. Perhaps comparing the differences with non EU countries.
- For me personally it was very well explained course, new information and experience, as it is not a typical part of my daily work. Totally worth it
- No
- No I think it was excellent!
- More time in the lab



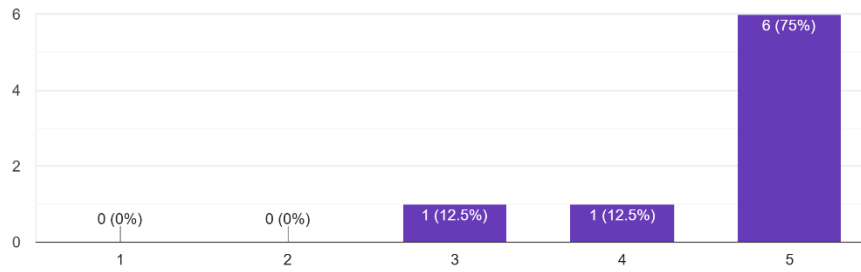
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Day 3 – PCR and real time PCR theory

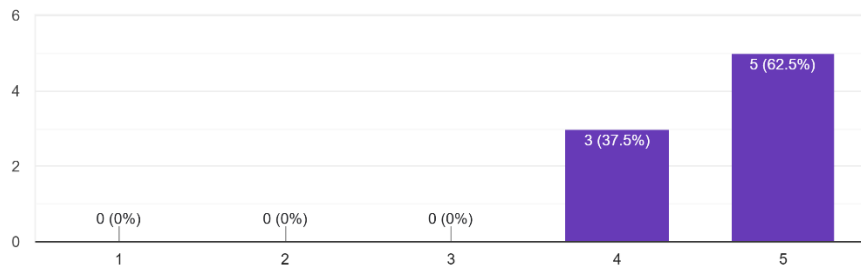
Day 3 - PCR and real time PCR theory - teacher's expertise

8 responses



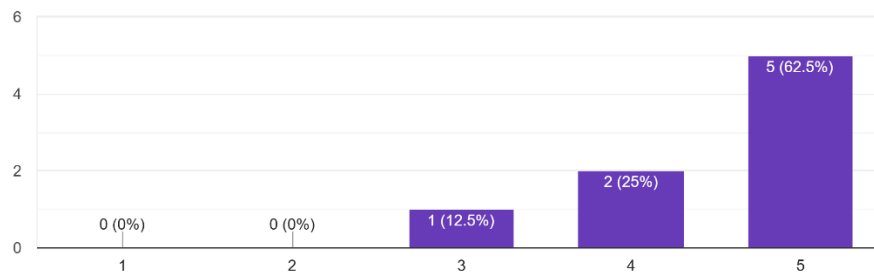
Day 3 - PCR and real time PCR theory - teacher's preparedness

8 responses



Day 3 - PCR and real time PCR theory - relevance for you

8 responses



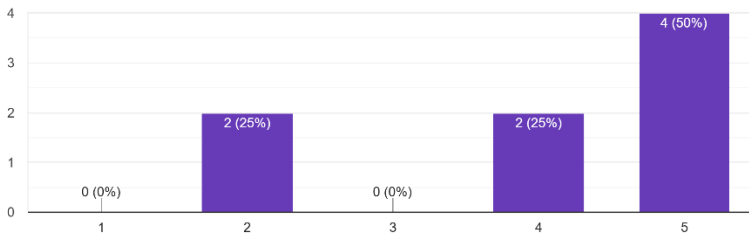


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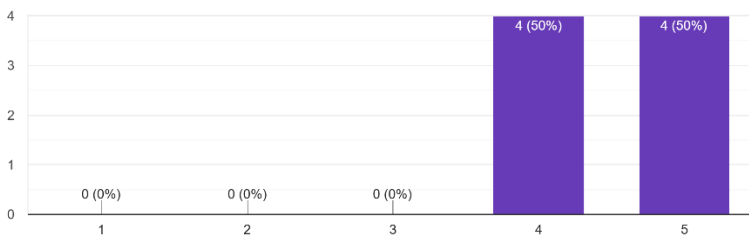
Day 3 - PCR and real time PCR theory - increase of your knowledge

8 responses



Day 3 - PCR and real time PCR theory - overall score

8 responses



Day 3 – PCR and real time PCR theory: Is there anything you think could be improved?

8 responses

- No
- No, everything is really well thought out and organized.
- Personally, I prefer to listen to the teacher's lecture rather than explaining things myself or trusting the explanation of the other course participants.
- As the theme is not very easy, I think it was well explained. Maybe more practical examples were needed
- No
- I think it was very informative.
- The slides in the folder we were given was not the same as the presentation given. That would have been beneficial when taking notes.

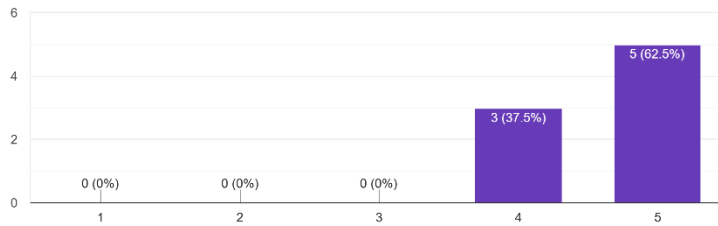


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Day 4 – Validation of methods and molecular methods to detect listed pathogens in fish

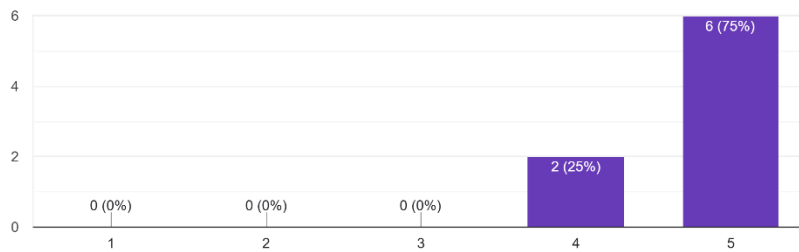
Day 4 -Validation of methods and molecular methods to detect listed pathogens in fish- teacher's expertise
8 responses



Day

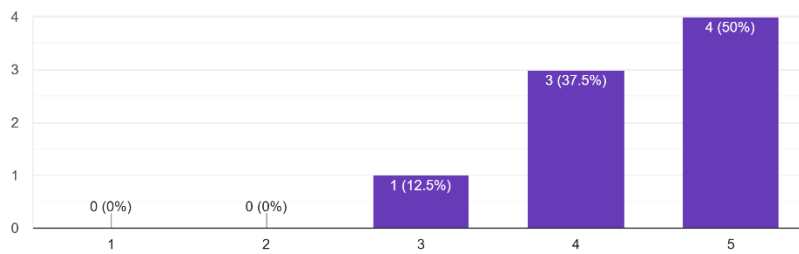
Day 4 - Validation of methods and molecular methods to detect listed pathogens in fish- teacher's preparedness

8 responses



Day 4 - Validation of methods and molecular methods to detect listed pathogens in fish - relevance for you

8 responses



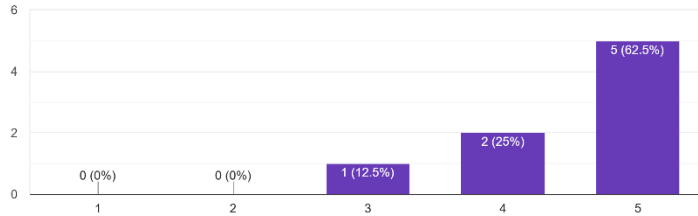


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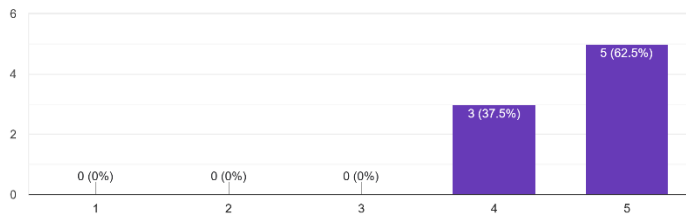
Day 4 -Validation of methods and molecular methods to detect listed pathogens in fish- increase of your knowledge

8 responses



Day 4 Validation of methods and molecular methods to detect listed pathogens in fish - overall score

8 responses



Day 4 – Validation of methods and molecular methods to detect listed pathogens in fish: Is there anything you think could be improved?

8 responses

- No
- No, everything is really well thought out and organized.
- I think a case study would be helpful here. For example non-specific bonds are improved in this way, low sensitivity in an other way. I also think the validation process would be better and more excitingly explained using an explicit example.
- -
- No
- No :)
- Not that I can think of



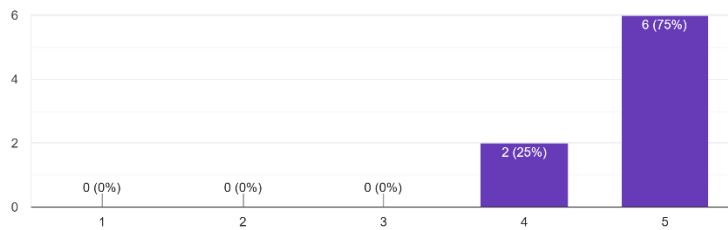
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Day 4 – Blast and phylogenetic analysis

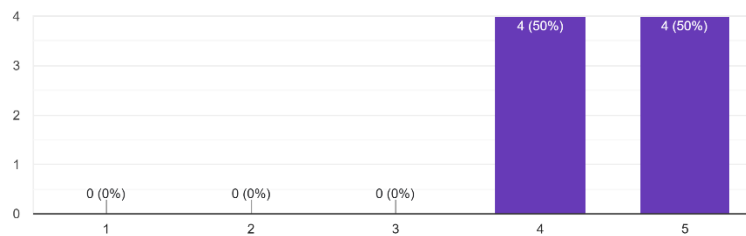
Day 4 - Blast and phylogenetic analysis - teacher's expertise

8 responses



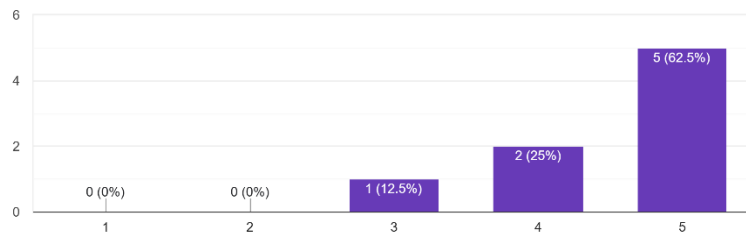
Day 4 - Blast and phylogenetic analysis - teacher's preparedness

8 responses



Day 4 - Blast and phylogenetic analysis - relevance for you

8 responses

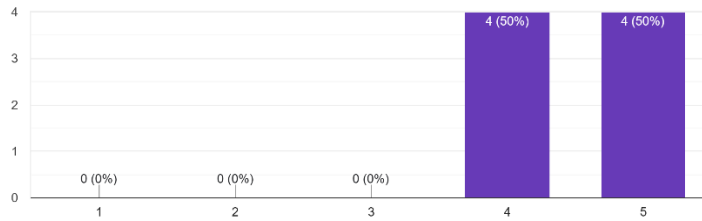




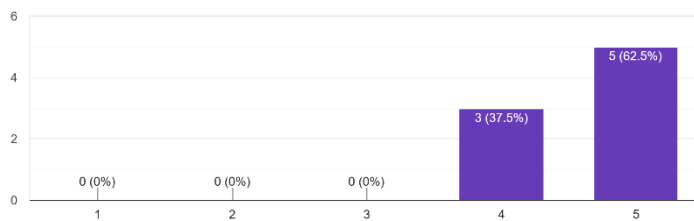
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Day 4 - Blast and phylogenetic analysis - Increase of your knowledge
8 responses



Day 4 Blast and phylogenetic analysis - overall score
8 responses



Day 4 – Blast and phylogenetic analysis: Is there anything you think could be improved? 8 responses

- No
- No, everything is really well thought out and organized.
- I thought it was great that the BLAST analysis was demonstrated using specific examples. Perhaps each participant could create a phylogenetic tree on their own laptop during an exercise in class?
- Maybe more examples, as it made theory more clear after seeing examples
- It would be better to have an opportunity to try these tools by yourself instead of just watching teacher using those.
- No.
- Consider including more exercises and computer



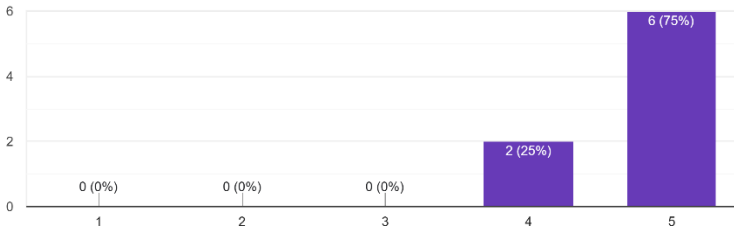
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Day 5 – Fish bacteriology lab

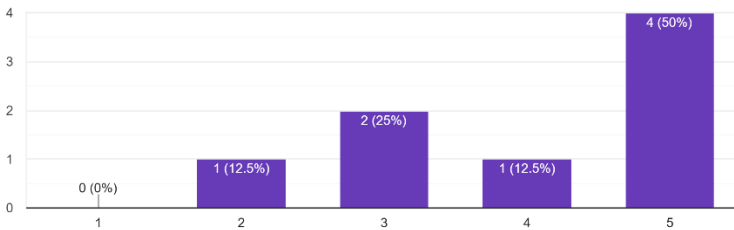
Day 5 - fish bacteriology lab - teachers' preparedness

8 responses



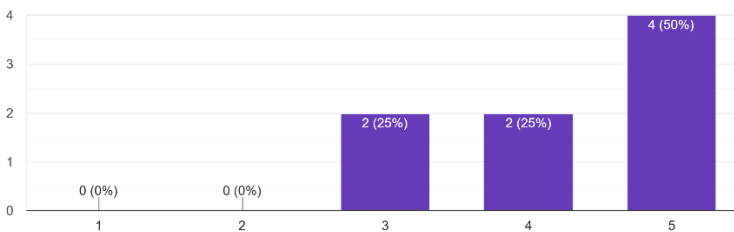
Day 5 - fish bacteriology lab - relevance for you

8 responses



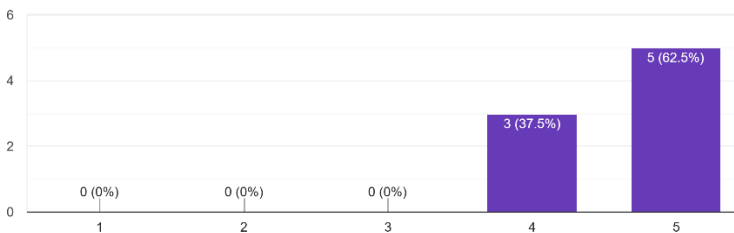
Day 5 - Fish bacteriology lab - increase of your knowledge

8 responses



Day 5 - Fish bacteriology lab - overall score

8 responses





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Day 5 – Fish bacteriology lab: Is there anything you think could be improved?

8 responses

- No
- No, everything is really well thought out and organized.
- It was interesting and good.
- I wish we had a little more time with bacteriology, it was very interesting and useful
- No. It was really interesting to visit the fish bacteriology lab.
- No, it was very nice to see how your bacteriology lab function.
- It could be interesting to try plating the swab samples we collected at the farm ourselves



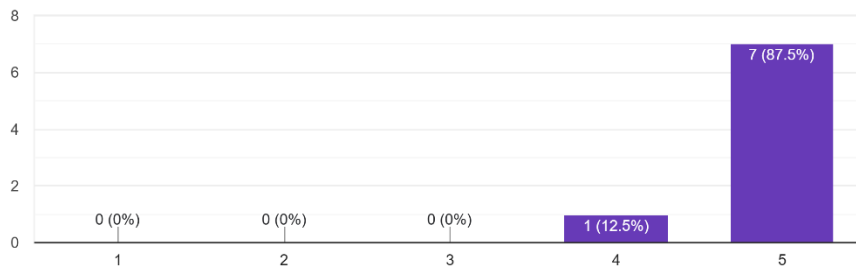
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Day 5 - Assignment, discussion and conclusions

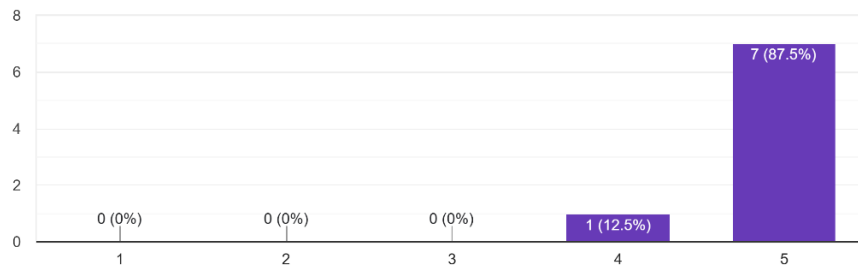
Day 5 - Assignment, discussion and conclusions - teachers' expertise

8 responses



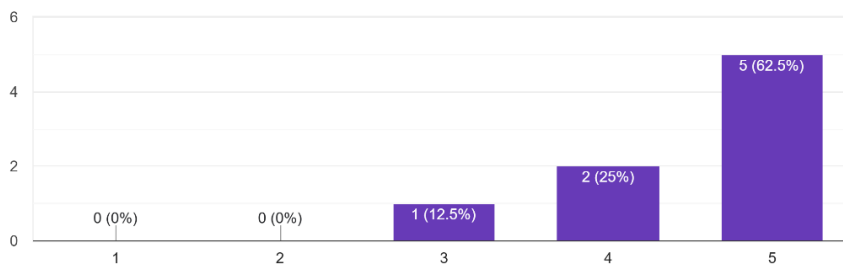
Day 5 - Assignment, discussion and conclusions - teachers' preparedness

8 responses



Day 5 - Assignment, discussion and conclusions - relevance for you

8 responses



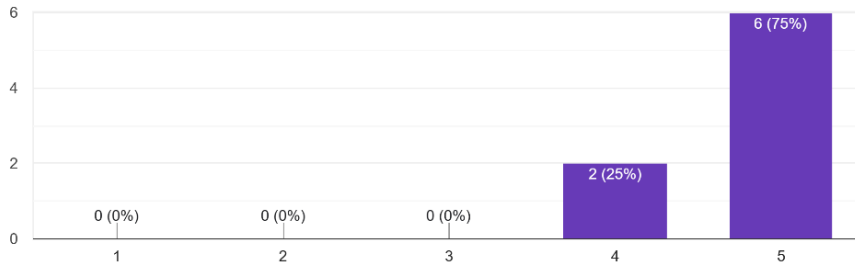


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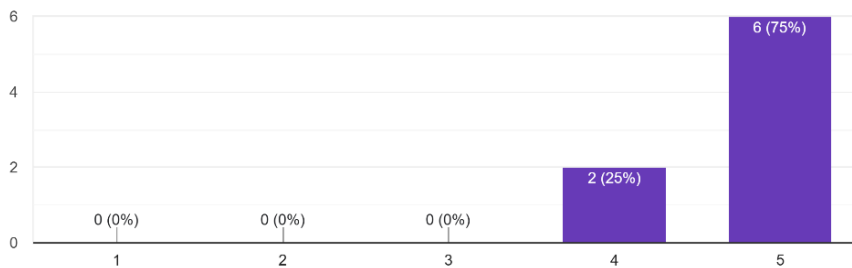
Day 5 - Assignment, discussion and conclusions - increase of your knowledge

8 responses



Day 5 - Assignment, discussion and conclusions - overall score

8 responses



Day 5 – Assignment, discussion and conclusions: Is there anything you think could be improved? 8 responses

- No
- No, everything is really well thought out and organized.
- The exercise was very interesting and helpful. It would be great to have a little more time for it and to be given the solutions at the end of the exercise.
- Great sum up of the course, it was very much needed and great wrap of the course
- No, it was nice to discuss with others.
- I think it was an important assignment to practice finding relevant information regarding legislation.
- It would have been nice to have a bit more time to work on the assignment.



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Closing remarks

The EURL training course 2025 was - based on the feedback from the participants - considered a success. The evaluation schemes enabled the participants to evaluate each day and topic on the course. The majority of the participants evaluate the courses with the highest mark.

The possibility to provide financial support to participants made it possible to offer training to laboratories where the lack of funding usually makes it hard to find the resources to participate in such activities. This way of funding the training courses, therefore, holds the possibility to increase the expertise in all National Reference Laboratories within the EU.

After one year break, where a course on validation of diagnostic methods was given, this year's course was on "Methods for implementation of surveillance procedures for listed fish diseases". The course started with a health inspection to a fish farm, to demonstrate the full process from sampling fish at a fish farm to final reading and interpretation of results, giving a holistic view and large span of topics that, according to the evaluation schemes, were well received.

DTU-Aqua is acknowledged for offering training course facilities for free. Marco Magaletti and Hanne Aalling from the Danish Veterinary and Food Administration is deeply acknowledged for organizing the office and field visit and for teaching how to organize and implement surveillance and eradication programmes and how to inspect and sample on fish farms. Hesselho Fish Farm and Mr. Jens Jensen are deeply acknowledged for great hospitality and for providing all information and facilities needed during the farm visit.

Finally, all laboratory technicians and scientists in the unit for fish and shellfish diseases at DTU Aqua are deeply acknowledged for delivering excellent teaching and training and help with practical issues.

Copenhagen, Tuesday, 18 November 2025

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EURL for Fish and Crustacean Diseases