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Objectives

Quality, safety and traceability are key aspects in the global fish value chain, from primary production to the final consumer. Fish and fish products cover a wide range of species, production systems (capture fisheries or aquaculture) and geographical origin, each with different risks concerning quality, safety and traceability. It is vital to have precise knowledge of fish composition and alterations that occur during handling, processing, conservation, distribution and sale so as to adopt appropriate quality and safety assessment approaches. Fish safety issues may be related to the rapid decomposition of fish or the presence of heavy metals, parasites, toxins or drug residues. Moreover, fish and fish products are among the most internationally traded food commodities and is one of the food groups most likely to face authenticity challenges. Handling, processing and trade may also differ among species, origins and production systems.

To ensure sustainability and to meet the current demands of the global seafood marketing chain, seafood inspectors and sector professionals should be acquainted with the use of a wide variety of reference methods and innovative approaches (sensorial, microbiological, chemical, physical, etc.) to ensure better control of fish safety, quality and traceability.

The course aims to reinforce knowledge on quality standards and on the current challenges facing the fish value chain, and provides practical, up-to-date insights into fish quality, safety and traceability methods.



The course provides:

- up-to-date insights into the challenges of fish safety and quality;
- in-depth knowledge of international regulations and standards for fish quality, safety and traceability;
- comprehension of the chemical and biochemical changes that occur in fish after capture;
- knowledge of potential biological, chemical and physical hazards and of the most suitable methodological tools to assess fish quality, safety and labelling;
- information on traceability and authentication tools to combat fraud throughout the value chain;
- an idea of the importance of labelling and traceability tools to combat fraud, through real case studies from the value chain;
- skills to analyse or supervise fish quality, safety and labelling.

Organization

The course is jointly organized by the Spanish Ministry of Agriculture, Fisheries and Food (MAPA) through the General Secretariat for Fisheries (SGP), and the International Centre for Advanced Agronomic Mediterranean Studies (CIHEAM) through the Mediterranean Agronomic Institute of Zaragoza (CIHEAM Zaragoza).

The course also counts on the collaboration of the Institute for Marine Research of Vigo (IIM-CSIC) and the Spanish Navy. Carmen González Sotelo (IIM-CSIC) is the scientific coordinator of the programme.

The course will run for 1 week, in morning and afternoon sessions, and will be held on board the Intermares fisheries cooperation and training ship, equipped with lecture rooms and laboratories for conducting practicals. The ship will be moored in the Port of Vigo.

The course requires individual work and active participation. Lectures will be combined with practicals on fish quality, safety and traceability. English will be the working language of the course.

Programme

1. Welcome. Introduction of the course (1 hour)
2. Quality, safety and traceability in international fish trade (3 hours)
 - 2.1. Fish production, consumption and international trade. Seafood supply chains
 - 2.2. Fish quality, safety and traceability. Main challenges and emerging risks
 - 2.3. Codex Alimentarius, recommendations and best practices in fishery and aquaculture products
3. Fish characteristics and post-mortem changes (2 hours)
 - 3.1. Proximate composition, nutritional features
 - 3.2. Fish preservation and post-mortem changes
4. Assessment of fish quality and safety (6 hours)
 - 4.1. Reference methods, applications, and standards
 - 4.2. Chemical analysis
 - 4.3. Microbiological analysis
 - 4.4. Sensorial analysis (fish quality index method, QIM)
 - 4.5. Physical analysis
 - 4.6. Parasite analysis
5. Fish traceability: standards, digital tools and implementation (2 hours)
6. Labelling of fish and fish products (3 hours)
 - 6.1. Standards
 - 6.2. Authenticity control methods: species, production method, geographical origin
7. Practicals (13 hours)
 - 7.1. Quality and safety assessment
 - 7.1.1. Chemical analysis: Determining histamine. Quick strips
 - 7.1.2. Physical analysis (fat, water, etc.)(portable NIR)
 - 7.1.3. Quality Index Method
 - 7.2. Quality and safety assessment
 - 7.2.1. Microbiological analysis: Test strips
 - 7.2.2. Parasite analysis
 - 7.3. Traceability and authenticity
 - 7.3.1. RT-PCR, Isotherm
 - 7.3.2. Authentication: quick methods, e.g. quick strips to distinguish octopus, tunas, etc.
 - 7.4. Assessing labels of seafood and aquaculture products
8. Technical visit. Fish market at the Port of Vigo (2 hours)
9. Conclusions and final session (1 hour)

Guest lecturers

Aubourg, Santiago – IIM-CSIC Vigo, Spain
Formoso Estévez, Lorena – ANFACO-CECOPESCA, Vigo, Spain
Garrido, Esther – FAO, Roma, Italy
González Sotelo, Carmen – IIM-CSIC Vigo, Spain
Losada Iglesias, Vanesa – ANFACO-CECOPESCA, Vigo, Spain
Olabarrieta, Idoia – AZTI, Derio, Spain
Pardo, Miguel Ángel – AZTI, Derio, Spain
Pérez Martín, Ricardo – IIM-CSIC Vigo, Spain
Sende, José María – Sanidad exterior, Vigo, Spain

In collaboration with:



Admission

The course is designed for 30 participants with a university degree and will be targeted to food safety officers as well as quality managers from the seafood industry involved in fish quality assessment and assurance.

Registration

- Candidates may apply online at the following address: <http://www.admission.iamz.ciheam.org/en/>
- Applications must include a curriculum vitae and copy of the supporting documents most related to the subject of the course.
- The deadline for the submission of applications is 12 July 2023. The deadline may be extended if places are available.
- Registration fees for this course are free of charge.

Financial support

The organization will cover the expenses of full-board accommodation on the Intermares ship in shared two-berth cabins, if required.

Candidates from CIHEAM member countries (Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Turkey) may apply for scholarships covering the cost of travel. Preference will be given to applicants from low and middle income countries. If you wish to request a scholarship, please complete the relevant section when you make your application online to participate in the course.

Candidates from other countries who require financial support should apply directly to other national or international institutions.

Insurance

It is compulsory for participants in face-to-face modality to have medical insurance valid for Spain. Proof of insurance cover must be given at the beginning of the course. Those who so wish may participate in a collective insurance policy taken out by the Organization, upon payment of the stipulated sum.

Contact:

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