



Phytosanitary control of plant pests in the Mediterranean region: harmonisation, tools and techniques

Zaragoza (Spain) • 11-15 November 2024



CIHEAM
ZARAGOZA



Objective

The Mediterranean region grapples with increasing challenges in agricultural productivity due to the persistent threat of plant pests affecting fruit and vegetable crops. Recent developments in phytosanitary control have become essential to mitigate these negative economic and environmental impacts on agriculture. Harmonisation strategies have emerged as an innovative approach, in response to the multifaceted nature of the problem. These strategies involve a holistic understanding of the agroecosystem, integrating biological, cultural, and chemical control measures to manage pests sustainably. Innovative technologies, such as molecular diagnostics, play a crucial role in early detection and monitoring, enabling rapid responses to emerging threats. Moreover, collaborative efforts among Mediterranean countries have facilitated the exchange of knowledge, expertise, and resources, fostering a regional approach to address shared phytosanitary challenges.

The course will explore these latest developments in depth, providing participants with a comprehensive overview of essential phytosanitary strategies to protect the agricultural landscape in the Mediterranean region.

Through this course, participants will:

- have a comprehensive understanding of the risks associated with pests affecting Mediterranean agriculture;
- understand the factors contributing to the spread and impact of pathogens on crops;
- address the aetiology and epidemiology of major pests affecting fruit and vegetable crops;
- be aware of the importance of coordinated action at regional and international levels to address phytosanitary issues;

- understand the key role of correct, early detection, and identification of causal agents for effective pest management;
- explore advanced techniques and technologies for early detection;
- learn more about sustainable control strategies to effectively manage agricultural pests.

Organisation

The course is organised by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), through the Mediterranean Agronomic Institute of Zaragoza (CIHEAM Zaragoza), in collaboration with the Spanish Ministry of Agriculture, Fisheries and Food (MAPA) and will take place at the Mediterranean Agronomic Institute of Zaragoza.

The course will be held in morning and afternoon sessions for one week from 11th to 15th November 2024, and will be given by well qualified lecturers from universities and research centres from different countries. The programme will be delivered in Spanish and English. The Organisation will provide simultaneous interpretation of the lectures in these two languages.

The course requires personal work and interaction among participants and with lecturers. The international characteristics of the course favour the exchange of experiences and points of view. The programme has an applied approach. Lectures are complemented by applied examples, case studies and a round table discussion.

Participants will be invited to present a case study about their experience in phytosanitary control of pests and diseases in their country of origin.

Programme

0. Opening session and programme presentation (1 hour)
1. Harmonization in phytosanitary control in the Mediterranean region (1 hour)
2. Impact of plant pests (1 hour)
 - 2.1. Damages and losses
 - 2.2. Economic and environmental impact of management policies
 - 2.3. Cost-effectiveness
 - 2.4. Ranking risks
3. Quarantine pests (2 hours)
 - 3.1. Definition and general issues
 - 3.2. Legal and policy aspects
 - 3.3. Institutional framework
 - 3.3.1. European and Mediterranean Plant Protection Organization (EPPO) and other Regional Plant Protection Organisations (RPPOs)
 - 3.3.2. EUPHRESKO and other EU-funded initiatives
4. Pathways for entry and establishment of plant pests (1 hour)
 - 4.1. Epidemiological factors for fungi and nematodes transmission
 - 4.2. Epidemiological factors of plant pests transmitted by vectors
 - 4.3. Risks associated with international exchanges of material and commodities
5. Inspection tools and surveys (2 hours)
 - 5.1. Organisation at national and regional scale
 - 5.2. Surveillance at the Border Control Post (BCP)
 - 5.3. Eradication vs containment. Organisation of buffer zone
 - 5.4. Visual and multispectral camera inspection
 - 5.5. Detection of symptoms and preliminary identification
6. Laboratory diagnosis (1 hour)
 - 6.1. Plant health laboratories network: official, reference and European reference labs
 - 6.2. Standard methods and techniques
 - 6.3. Validation and verification of the diagnostic methods. Ring tests
7. Fungi (4 hours)
 - 7.1. Introduction to phytopathogenic fungi
 - 7.2. Observation of symptoms. Sampling
 - 7.3. Storage and shipping to the laboratory
 - 7.4. Quarantine diseases: recognition and identification
 - 7.5. Practical work: Identification of fungi. Sample processing
8. Nematodes (3 hours)
 - 8.1. Overview
 - 8.2. Extraction techniques
 - 8.3. Assembly and preparation
 - 8.4. Referral of samples to the laboratory
 - 8.5. Practical work: Identification of nematodes
9. Virus (2 hours)
 - 9.1. Overview
 - 9.2. Identification, inspection techniques and sampling for virosis in woody species
 - 9.3. Identification of viruses, viroids that are harmful to plants (non-woody species)
10. Bacteria (3 hours)
 - 10.1. Overview
 - 10.2. Symptoms on host plants of quarantine bacteria
 - 10.3. Detection and identification methods
 - 10.4. Sampling and shipping to lab
 - 10.5. Practical work: Identification of bacteria
11. Arthropods: Overview, identification and classification, preparation of specimens, sampling, and shipping to the lab (8 hours)
 - 11.1. Tephritidae/Whiteflies
 - 11.2. Coleoptera
 - 11.3. Lepidoptera
 - 11.4. Acari/Thysanoptera
 - 11.5. Hemiptera
 - 11.6. Practical work
 - 11.6.1. Identification of Tephritids
 - 11.6.2. Identification of Coleoptera/Lepidoptera
 - 11.6.3. Identification of Acari/Thysanoptera
12. Case studies: Experience of participants in phytosanitary control of pests and diseases in their country of origin (2 hours)
13. Final discussion: Innovative strategies and collaborative approaches for phytosanitary control in the Mediterranean region (1 hour)

In collaboration with:



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Guest lecturers

Berbegal, Mónica - Universidad Politécnica de Valencia (Spain)

Foissac, Xavier - INRAE, Bordeaux (France)

Goldaracena, Arturo - Museo Nacional de Ciencias Naturales, CSIC, Madrid (Spain)

Navas, Alfonso - Museo Nacional de Ciencias Naturales, CSIC, Madrid (Spain)

Olmos, Antonio - Instituto Valenciano de Investigaciones Agrarias (IVIA) (Spain)

Suárez, Irene - Laboratorio Nacional de Sanidad Vegetal (LNSV)-MAPA, Lugo (Spain)

Admission

The course is designed for 25 participants with a university degree, and is aimed at public and private managers and decision-makers, agronomists, environmentalists, technical advisors and experts from R&D institutions involved in pest and disease control in the Mediterranean and other regions.

Given the diverse nationalities of the lecturers, knowledge of English and Spanish will be valued in the selection of candidates, since they will be the working languages of the course.

Registration

- Candidates may apply online at the following address: <http://www.admission.iamz.ciheam.org/en/>
- Applications must include the curriculum vitae and copy of the supporting documents most related to the subject of the course.
- The deadline for the submission of applications is 15 July 2024. The deadline may be extended for candidates not applying for a scholarship if there are free places available.
- Applications from those candidates requiring authorisation to attend the course may be accepted provisionally.
- Registration fees for the course amount to 500 euro. This sum covers tuition fees only.

Scholarships

Candidates from CIHEAM member countries (Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Türkiye), may apply for scholarships covering registration fees, and for scholarships covering the cost of travel and full board accommodation in Zaragoza.

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 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 Organisation, upon payment of the stipulated sum.

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<https://edu.iamz.ciheam.org/PhytosanitaryControl/en/>

