# Training modules

## Deliverable D6.4

THIS PROJECT HAS RECEIVED FUNDING FROM
THE **EUROPEAN UNION' HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME**
UNDER GRANT AGREEMENT N. 101000339

---

**How to quote this document:**

Balduque-Gil, J. et al. (2023). *Training modules. Deliverable D6.4 of the Horizon 2020 project IMPWORKS (GA number 101000339)*, published on the project web site in October 2023: https://ipmworks.net/deliverables-milestones/.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N.101000339

**An EU-wide farm network demonstrating and promoting cost-effective IPM strategies**

**Coordination and Support Action (CSA)**

**01 October 2020 – 30 September 2024 (48 months)**

# Deliverable D6.4
# Training modules

**Due date (as in DOA)**: M30 (March 2023)

**Submission date**: 16/10/2023

**Revision date**: 31/01/2024

**Work package**: WP6 – Dissemination, Communication and Training

**Author List:** Joaquín Balduque (IAMZ-CIHEAM)

Alun Jones (IAMZ-CIHEAM)

Contributors: the following persons have been involved in the development of the training modules:

Antonio López-Francos (IAMZ-CIHEAM), Ramón Albajes, University of Lleida (external collaborator, IAMZ-CIHEAM), Per Kudsk (AU), Nicolas Munier-Jolain (INRAE), Mette Sønderskov (AU), Marleen Riemens (WR), Tito Caffi (UCSC), Mark Ramsden (ADAS), Eleanor Dearlove (ADAS), Calypso Picaud (APCA/CRAO), Laure Triste (EVILVO), Simon Lox (EVILVO), Seerp Wigboldus (WR) and Harm Brinks (DELPHY).

**Reviewed by**: Nicolas Munier-Jolain (INRAE)

**Type**: Report

**Version**: 0.2

| Dissemination Level | | |
|---|---|---|
| ☒ | **PU** | Public |
| ☐ | **CO** | Confidential, only for members of the consortium (including the Commission Services) |

# Abstract

The deliverable at hand is entitled D6.4. “Training modules”. This document is part of work package 6 Dissemination, Communication and Training (WP6). WP6 includes, among others, training activities, with the specific objectives to develop web-based training modules and organise face-to-face training sessions of farmers and advisers, to promote both advanced holistic IPM and the approach to foster its adoption. D6.4 is framed within Task 6.5, entitled “Training activities”. The aim of this task is to develop EU-wide IPM training for farmers and advisors, with modules adaptable to regional/national contexts, farmer profiles and advisory services. A training package, based on a blended training approach adaptable to national needs and local contexts, has been thus developed through an interactive training catalogue consisting of e-learning modules covering 8 thematic areas: i) Agrosystem/Agroecosystem: Concepts and theory. Holistic approach to IPM; ii) Plant health risk challenges and Policy context in the EU; iii) Integrated Weed Management (IWM); iv) Integrated Disease Management (IDM); v) Integrated Invertebrate Pest Management (IIPM); vi) Holistic IPM examples; vii) Assessment of an IPM system; and viii) Soft skills for facilitating interactive learning and demonstration on IPM. A pilot training was held in CIHEAM Zaragoza facilities with consortium members for testing and working on the IPMWORKS training materials, focusing on a Training of Trainers approach.

The training modules were produced in collaboration with project partners, and will help project members and Hub Coaches to design their training activities with farmers and with other advisors in their countries. Furthermore, at the end of IPMWORKS, they will be uploaded to the IPMWORKS Toolbox and will be fully accessible and usable for technicians and advisors, but also for any other stakeholders including farmers and teachers or students at agricultural schools.

# Contents

# 1. IPMWORKS: Summary

Integrated Pest Management (IPM) is based on a diversity of pest management measures (prevention, non-chemical control, best practices for optimizing pesticide efficiency, etc.). These are combined at the farm level to enable reduced reliance on pesticides, and therefore a decrease in the exposure of the environment and people to pesticides. Rare pioneer farmers throughout Europe are testing such IPM strategies and are succeeding in achieving good outcomes with low pesticide inputs. However the majority of European farmers still rely heavily on pesticides, with major environmental and societal impacts, because most of them have not adopted a comprehensive, farm-level and holistic IPM strategy so far.

The objective of IPMWORKS is to promote the adoption of IPM strategies, based on a EU-wide network of farmers, who both progress further in the adoption of IPM – through peer-to-peer learning, and joint efforts – and demonstrate to other farmers that holistic IPM "works"; i.e. allows a low reliance on pesticides with better pest control, reduced costs and enhanced profitability. IPMWORKS coordinates existing networks promoting IPM and launched new hubs of farms in regions or sectors where IPM pioneers were not yet engaged in a relevant network.

Advisors coordinating hubs have a major role in facilitating knowledge sharing, coaching farmers to find their own IPM solutions, and organising local demonstration activities. IPMWORKS stimulates access to the 'IPM Decisions' platform and provides information on the IPM methods. It collects data for comparing IPM strategies, and shares results and dissemination material through channels widely used by farmers, broadcasting IPM success stories. It organises training, and produces training material, targeting both farmers outside the network and advisory services, in order to prepare for the future dissemination of the peer-to-peer learning approach and the general adoption of IPM throughout the EU.

The demonstration of cost-efficiency of IPM is based on data describing the details of cropping systems and pest management in farms involved in the network. IPMWORKS is also producing a range of data of various nature for dissemination and communication purpose: videos of farmers' testimonies, videos of demonstration events, leaflets describing cost-effective IPM-based strategies, etc.).



| Project Acronym | IPMWORKS |
|---|---|
| **Project title** | An EU-wide farm network demonstrating and promoting cost-effective IPM strategies |
| **Grant agreement No.** | 101000339 |
| **Project co-ordination** | Dr Nicolas MUNIER-JOLAIN, INRAE, Dijon |
| **Email** | nicolas.munier-jolain@inrae.fr |

# 2. Introduction

This deliverable D6.4 “Training modules” is part of work package 6 Dissemination, Communication and Training (WP6). The overall aim of WP6 is to develop awareness and encourage the engagement of farmers, farmer associations, producer organisations, advisors, companies, researchers, consumers, retailers and any other stakeholders of the project, promoting the exchange of knowledge on IPM and increasing its adoption by farmers. WP6 includes, among others, training activities, with the specific objectives to develop web-based training modules and organise face-to-face training sessions of farmers and advisers, to promote both advanced holistic IPM and the approach to foster its adoption.

D6.4 is framed within Task 6.5, entitled “Training activities”. The aim of this task is to develop EU-wide IPM training for farmers and advisors, with modules adaptable to regional/national contexts, farmer profiles and advisory services. A training package, based on a blended training approach adaptable to national needs and local contexts, has been thus developed through an interactive training catalogue.

# 3. Training activities



The training activities included within Task 6.5 are based on a train of trainers approach. The main target audience are farm advisors/technicians. The training programme is organised in 8 modules, which can be re-used and adapted by advisors on their own activities as trainers of farmers or other technicians. Secondarily, farmers, professors at agricultural technical schools and students can also use the e-learning modules materials for their own purposes.

According to the DoA, and in the framework of Task 6.5, these training activities consist of:

- On-line modules for advisors and farmers, adaptable to regional/national contexts, farmer profiles and advisory services, also targeting higher education professionals involved in IPM. See section *4. IPMWORKS e-learning training modules*.
- 2-day face to face pilot training for 35-40 participants, including a practical half-day demonstration activity (CIHEAM Zaragoza 20-21 June). See section *5. Pilot training. 20-21 June, 2023*.
- A minimum of 3 training events organized in each partner country, 2 of which targeted at advisors and one at farmers, following a "train the trainers" approach. See section *6. Usage of the training modules*.
- Training seminars covering 5 countries not participating in IPMWORKS. See section *6. Usage of the training modules*.

# 4. IPMWORKS e-learning training modules

The IPMWORKS e-learning modules have been prepared based on successful experiences within the project network, including technical aspects of IPM strategies, farm performance or co-innovation and method for farm hub coaching, targeting both farmers and advisers. Modules on agroecosystem approach, on holistic pest management examples and on the key topic of policies are also included to frame the technical ones.

In this vein, the materials that compose the modules focus on IPM technical aspects, IPM efficiency to gain sustainability, and methods for coaching farmers towards the adoption of cost-effective IPM strategies, based on both existing IPM resources and holistic management examples produced by the IPMWORKS network. These materials consist of, on the one hand PowerPoint presentation reflecting the theoretical content and the selected resources for each theme, and, on the other hand, recorded videos of the lectures of these presentations.

These IPMWORKS e-learning modules have a dual function. Firstly, they are going to be used until the end of the project to carry out specific training activities on IPM both in the 16 countries of the consortium as well as in countries outside the project. These activities will be aimed at advisors, technicians and farmers. In addition to this, all the materials generated for the modules will be openly accessible to the public and freely available through the IPMWORKS Toolbox, within the project website, as a lasting resource and an IPMWORKS legacy.



## 4.1. Thematic areas covered by the training modules

The themes of the 8 modules are listed below:

1. Agrosystem/Agroecosystem: Concepts and theory. Holistic approach to IPM.
2. Plant health risk challenges and Policy context in the EU.
3. Integrated Weed Management (IWM).
4. Integrated Disease Management (IDM).
5. Integrated Invertebrate Pest Management (IIPM).
6. Holistic IPM examples.
7. Assessment of an IPM system.
8. Soft skills for facilitating interactive learning and demonstration on IPM.

Module 1 is focused on the concepts and theory of the agroecosystems, including the holistic approach to IPM. Module 2 presents the Plant health risk challenges and Policy context in the EU. Module 3, 4 and 5 scope weeds, diseases and invertebrate pest management respectively.

The 5 agricultural sectors (arable crops, vineyard, orchards, vegetables, and horticulture) are covered in Module 6, which includes different examples of holistic IPM. Module 7 cover the Assessment of an IPM system. Finally, Module 8 is dedicated to technical methods of implementation of IPM, social skills and group coaching for advisors and collective coaching of farmers through peer-to-peer learning and in-farm co-innovation processes.

## 4.2. Structure of the modules

These module packages can be adapted to national needs and local contexts, since they have been produced to be used like an interactive training catalogue. In line with this purpose, the modules are divided in short chapters of around 15-20 minutes length, enabling the access to specific chapters according to the national needs and local contexts of the modules' users.

The structure of each module and its content is outlined below.

### *Module 1: Agrosystem/Agroecosystem: Concepts and theory. Holistic approach to IPM.*

Module 1 focuses on the concepts and theory of agro-ecosystems, including the holistic approach of IPM. It begins by outlining what an agro-ecosystem is and what the objectives are for the progress of agriculture in the world. It also introduces the three groups of organisms that cause crop losses along with the impact of arthropod pests, diseases and weeds on crop yields. In addition, it introduces landscape ecology and epidemiology and agro-ecosystem management and the holistic concept of IPM. The module contains a case study: protected crops, which exposes the evolution of pest control in EU greenhouses, and the introduction of biological control. The case presents, in terms of the Agroecosystem and the limitations for IPM implementation, tools for managing the landscape around the greenhouses in order to facilitate the colonisation by beneficial insects.



1.0. Introduction

1.1. What an agroecosystem is

1.2. Objectives for the progress of agriculture in the World: simultaneous increase of the productivity and sustainability

1.3. The three groups of organisms that cause crop losses

1.4. Impact of arthropods pests, diseases, and weeds on crop yield

1.5. Landscape ecology & epidemiology and agroecosystem management

1.6. A general survey of agroecosystem management for IPM. Holistic IPM concept

1.7. A case study: protected crops

1.8. Open questions for reflection and discussion

Module leaders: Joaquín Balduque (IAMZ-CIHEAM), Antonio López-Francoas (IAMZ-CIHEAM) and Ramón Albajes, University of Lleida (external collaborator, IAMZ-CIHEAM).

### *Module 2: Plant health risk challenges and Policy context in the EU.*

Module 2 presents the Plant health risk challenges and Policy context in the EU. It starts presenting the risks and challenges for Plant Health in the present decade, including pest resurgence and emerging risks and also addressing the current EU legislation. Examples of resurgent pests are included for arthropod pests (*Frankliniella occidentalis*), plant pathogens (*Xylella fastidiosa*) and weeds (*Amaranthus palmeri*), including the risk factors for each of them. Furthermore, Module 2 presents a case study based on how the SUD has been implemented in Denmark and exposes new and future EU legislation on pesticides and a closer look on the IPM principles.

2.1. Risks and Challenges for Plant Health in the present decade. Pest resurgence and emerging risks

2.2. Current EU legislation

2.3. Case study: How the SUD has been implemented in Denmark

2.4. New and future EU legislation on pesticides and a closer look on the IPM principles

Module leaders: Per Kudsk (AU) and Ramón Albajes, University of Lleida (external collaborator, IAMZ-CIHEAM).

### *Module 3: Integrated Weed Management (IWM).*

Module 3 starts presenting the principles of IWM and the biology of weeds. It also includes the introduction and access to the resources generated by the H2020 IWMPRAISE project, presenting several IWM tactics, accessible for the IPMWORKS e-learning modules users. These resources include available IWM tools for Perennial crops / Narrow row crops / Broad row crops and perennial weeds / annual weeds. The IWMPRAISE booklets of experimental trials in Europe are also presented, including results, tools and strategies identified in Denmark, Spain, France, Switzerland, Italy, Netherlands, Slovenia, and United Kingdom. Furthermore, IWMPRAISE sheets, made as one-pagers, which give a short and concise description of each IWM tool or tactic, are also introduced. The IPM strategy of cultivar choice is also exposed, in the case study of winter wheat, and the case study of arable vegetables outlines a number of IPM tools for preventing establishment and competition and reducing multiplication.

1.1. Introduction to integrated weed management

1.2. Principles of IWM, triangles and hexagons

1.3. The biology of weeds

1.4. Individual IWM tactics

1.5. Case study #1 French case, arable crops

1.6. Case study #2 Dutch case, arable vegetables

Module leaders: Nicolas Munier-Jolain (INRAE), Mette Sønderskov (AU) and Marleen Riemens (WR)

### *Module 4: Integrated Disease Management (IDM).*

Module 4 focuses on diseases management and on the challenges we are facing in agriculture, considering three main aspects, which are of climate change, the need and request to reduce the use of plant protection products, and last but not least, the resistance management. The module gets into the context of Sustainable Agriculture and applied epidemiology for disease control. In addition, it presents 3 cases studies: Arable crops (wheat), Horticultural crops (processing tomato) and Perennial crops (grapevine). This module introduces the multiple modelling approach Decision Support Systems (DSSs). The content present different IPM tools for the following crops / diseases with 3 cases studies: i) Wheat / Fusarium head blight, ii) Tomato / Downy mildew, Alternaria leaf blight and Bacteriosis and iii) Grapevine / Downy mildew.

4.1. Current challenges in disease control

4.2. Disease management in the context of Sustainable Agriculture

4.3. Applied epidemiology for disease control

4.4. Case study. Arable crops: wheat

4.5. Case study. Horticultural crops: processing tomato

4.6. Case study. Perennial crops: grapevine

Module leader: Tito Caffi (UCSC)

### *Module 5: Integrated Invertebrate Pest Management (IIPM).*



Module 5 focuses on invertebrate pest management. This module introduces the concept of the art of doing nothing as a core philosophy for pest management. And finally, the wide range of IPM tactics available for invertebrate pest management are introduced. Specific examples on IPM tactics are provided in the rest of the module.

5.1. Introduction to Invertebrate Pest Management

5.2. Injury and damage caused by invertebrate pests

5.3. Agronomic, mechanical, and physical management options

5.4. Decision Support Systems and monitoring as part of Invertebrate IPM

5.5. Biocontrol of invertebrate pests

5.6. Synthetic Chemical Pesticides Resistance Management

Module leader: Mark Ramsden (ADAS) and Eleanor Dearlove (ADAS).

### *Module 6: Holistic IPM examples.*

Module 6: Holistic IPM examples presents one chapter per each of the 5 agricultural sectors represented in IPMWORKS: arable crops, vineyard, orchards, vegetables, and horticulture, including different holistic IPM strategies in each of these sectors.

6.1. Orchards. Carlos Lozano, Aragon Government (external collaborator, IAMZ-CIHEAM).

6.2. Arable crops. Geert Kessel (WUR).

6.3. Vineyards. David Lafond (ACTA/IFV).

6.4. Outdoor vegetables. Dieter Depraetere (INAGRO).

6.5. Greenhouse – horticulture. Eduardo Crisol (COEXPHAL).

Module leaders: Joaquín Balduque (IAMZ-CIHEAM), Antonio López-Francos (IAMZ-CIHEAM).

### *Module 7: Assessment of an IPM system.*

Module 7 covers the Assessment of an IPM system. It presents how, when redesigning cropping and farming systems to adopt more IPM so as to reduce pesticides use, we need to be aware of the diversity of assessment topics. This is important, both to convince farmers to adopt IPM and to inform policymakers about the consequences of promoting the adoption of IPM.

7.1. Introduction

7.2. Measuring pesticide use and impact

7.3. Assessment of cost-efficiency of low-pesticide IPM-based cropping systems

Module leader: Nicolas Munier-Jolain (INRAE).

### *Module 8: Soft skills for facilitating interactive learning and demonstration on IPM.*

Module 8 is dedicated to technical methods of implementation of IPM, social skills and group coaching for advisors and collective coaching of farmers through peer-to-peer learning and in-farm co-innovation processes. Given the changes in practices, it is important to ensure how they can be facilitated with farmers. So there is a new kind of rule that is given to advisors, which is a balance between being an expert and being a facilitator. Specifically in the IPMWORKS project, we are working within farmer groups that we call hubs.

8.0. Introduction

8.1. Changing role of advisors

8.2. Tools for developing and facilitating a meeting

8.3. Facilitation of group meeting

8.4. Let's talk about IPM

8.5. Soft skills for facilitating interactive learning and demonstration of IPM

Module leaders: Calypso Picaud (APCA/CRAO), Laure Triste (EVILVO), Simon Lox (EVILVO), Seerp Wigboldus (WR) and Harm Brinks (DELPHY).

# 5. Pilot training. 20-21 June, 2023

The e-learning modules pilot training was held on 20-21 June, 2023, in CIHEAM Zaragoza facilities, according to the activities foreseen within Task 6.5. Training activities.

31 consortium members joined the IAMZ-CIHEAM staff for this pilot training with the aim of working on the IPMWORKS training materials carried out within the project. These materials consist of e-learning modules on IPM, which will be openly and publicly accessible when completed and finalised as a lasting resource, with the intention of demonstrating and promoting effective IPM strategies.


*Figure 1. IPMWORKS partners participating in the e-learning modules pilot training on 20-21 June, 2023, in CIHEAM Zaragoza facilities.*

This meeting was focused on a Training of Trainers approach, since the materials from these modules will be used by IPMWORKS partners to perform 3 training events in each partner country, targeting advisors and farmers. IAMZ-CIHEAM will also use the modules to reach up to 5 countries not participating in the project.

During the training, the following actions were carried out:

- Openly review the modules and how to use the materials
- Conduct short training simulations
- Gather feedback from simulated audience
- Ensure the usability and adaptability of the modules
- Agreement on a practical guide for training replications
- Expose and review steps after pilot training

## 5.1. Programme

| Day 1 | | |
|---|---|---|
| **8:15 – 8:45** | Bus from meeting point to CIHEAM Zaragoza | |
| **8:45 – 9:00** | Registration & Reception | |
| **9:00 – 9:10** | **Welcome by Raúl Compés, Director of CIHEAM Zaragoza** | RC |
| **9:10 – 9:30** | **Meeting introduction [Joaquín B., Antonio L.F. & Alun Jones]**<br>• Purpose<br>• e-learning modules overview<br>• Agenda | AJ/ALF/JB |
| **9:30 – 10:10** | **Module 1 brief presentation** (10 min) **[R. Albajes]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 1 simulation** (30 min) **[R. Albajes]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M1 |
| **10:10 – 10:50** | **Module 2 brief presentation** (10 min) **[Per K.]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 2 simulation** (30 min) **[Per K.]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M2 |
| **10:50 – 11:20** | Coffee break | |
| **11:20 – 12:00** | **Module 3 brief presentation** (10 min) **[Nicolas M-J]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 3 simulation** (30 min) **[Nicolas M-J]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M3 |
| **12:00 – 12:40** | **Module 4 brief presentation** (10 min) **[Margherita F.]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 4 simulation** (30 min) **[Margherita F.]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M4 |
| **12:40 – 13:00** | Go to the canteen | |
| **13:00 – 14:30** | Lunch | |
| **14:30 – 15:10** | **Module 5 brief presentation** (10 min) **[Ellie D.]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation | M5 |

| | | |
|---|---|---|
| | **Module 5 simulation** (30 min) **[Ellie D.]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | |
| **15:10 – 15:50** | **Module 6 brief presentation** (10 min) **[Joaquín B. & E. Crisol]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 6 simulation** (30 min) **[E. Crisol]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M6 |
| **15:50 – 16:30** | **Module 7 brief presentation** (10 min) **[Nicolas M-J]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 7 simulation** (30 min) **[Nicolas M-J]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M7 |
| **16:30 – 17:10** | **Module 8 brief presentation** (10 min) **[Calypso P.]**<br>• Introduction & objectives of the module<br>• Chapter selection for simulation<br>**Module 8 simulation** (30 min) **[H. Brinks]**<br>• Chapter presentation (video/PPT presentation)<br>• Audience feedback (answer questions via LimeSurvey)<br>• Open discussion → how to use the material<br>• Module session outcomes | M8 |
| **17:10 – 17:30** | **Modules presentations and simulations wrap up** | AJ/ALF/JB |
| **17:30** | End of Day 1 - Bus from CIHEAM Zaragoza to meeting point | |

**IPMWORKS Social dinner**
**Hotel Palafox, Zaragoza**
**Marqués de Casa Jiménez, s/n. Google Maps**
**Tel: +34 976 23 77 00**
**E-mail: hotelpalafox@palafoxhoteles.com**

| Day 2 | | |
|---|---|---|
| | | |
| **8:15 – 9:00** | Bus from meeting point to BIOSANZ (Épila) | |
| **9:00 – 12:00** | **Field demonstration activity**<br>BIOSANZ (Épila)<br>Fruit production under IPM Partnership – Aragon Government<br><br>Module 8 Soft skills on the field [M8] | |
| **12:00 – 13:00** | Bus from BIOSANZ (Épila) to CIHEAM Zaragoza | |
| **13:00 – 14:30** | Lunch | |
| **14:30 – 15:00** | **Next steps: materials [Joaquín B. & Antonio L.F.]**<br>• Temporary storage → Share-Point<br>• Edition & translation<br>• Freely available e-learning training tools → TOOLBOX | JB |
| **15:00 – 17:00** | **Next steps: training events [Joaquín B. & Antonio L.F.]**<br>• Training events in each partner country<br>  ○ Set strategy<br>  ○ Practical guide proposal<br>  ○ Reporting template<br>  ○ Training events schedule table follow up<br>• Trainings in non-partner countries by CIHEAM Zaragoza | ALL |
| **17:00 – 17:30** | **Meeting wrap up & outcomes**<br>• Conclusions and action points | JB |
| **17:30** | End of Day 2 - Bus from CIHEAM Zaragoza to meeting point | |



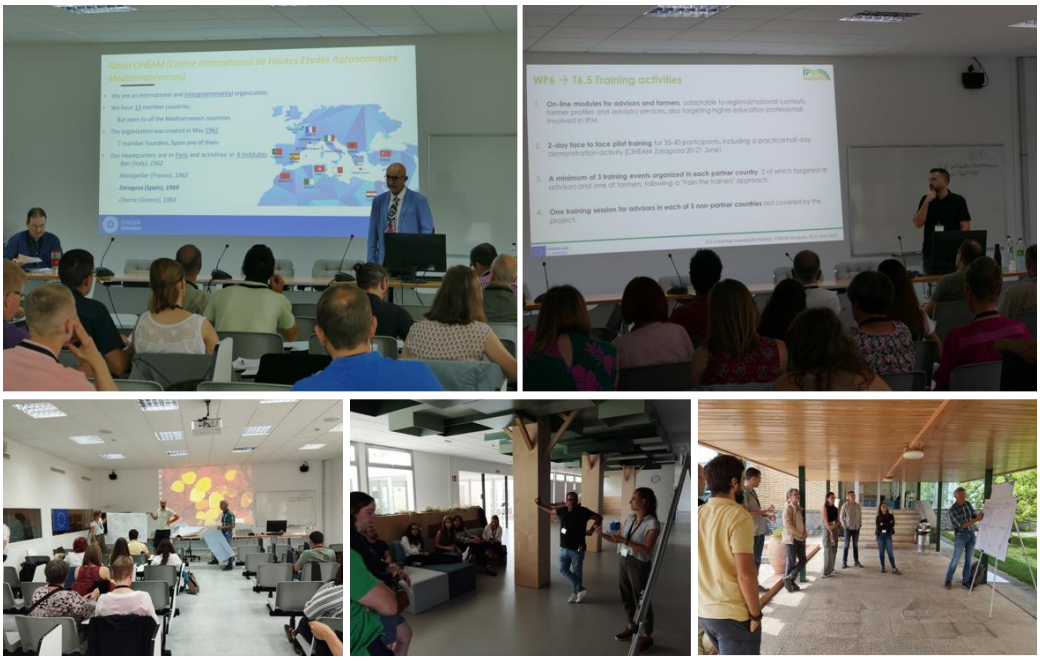

*Figure 2. Theoretical session of the pilot training*

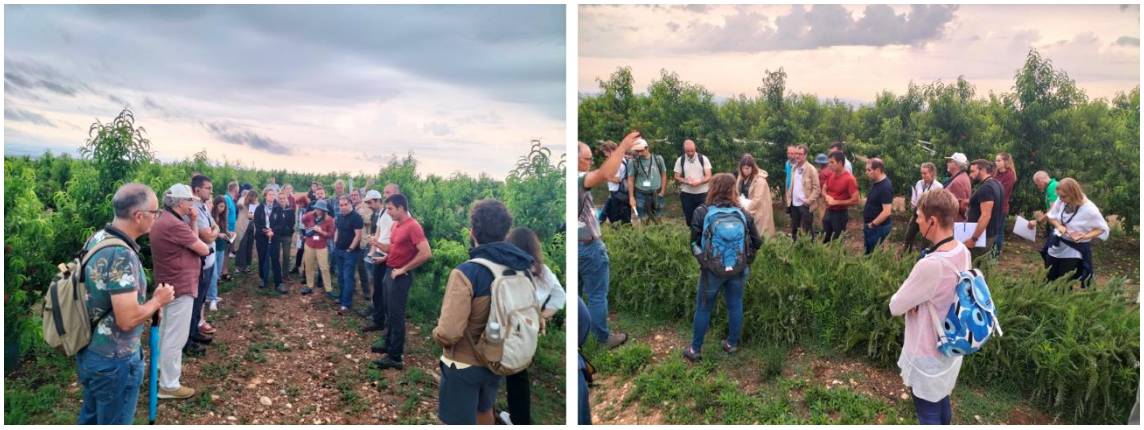

*Figure 3: Field visit to BIOSANZ farm, Fruit production under IPM Partnership – Aragon Government*

## 5.2. Outcomes

As presented before, following the pilot training, a minimum of 3 training events shall be organized during the rest of the project in each IPMWORKS partner country, following a "train the trainers" approach. During the pilot training, the participants in charge of replicating these events in their countries became familiar with the materials created for the e-learning modules. The strategy for adaptation and implementation of training events in partner countries was agreed upon, including a practical guide for training replications.



The key to this implementation of training events is adaptability. IPMWORKS partners who implement the trainings shall be the ones to decide the topics, the timing and total length of the trainings and select the target public for the trainings, in order to respond to the specific needs of the stakeholders.

To this end, the following issues need to be addressed when planning and organising these training events:

- **Who** – profile of your trainees: other advisors, farmers, students at agricultural schools
- **What** – choose the topics to develop in the training, depending on needs of the target public and your own capacities
- **When** – training events can be distributed into days/half days/hours. Conciliate with public availabilities
- **How** – choosing format, sessions preparation and planning

# 6. Usage of the training modules

Within WP6 Dissemination, Communication and Training, Task 6.5 is explicitly aimed at creating a cohort of future IPM ambassadors promoting IPM adoption, and preparing future new hubs of IPM demo farms, hence extending the strength and geographical cover of IPMWORKS impacts.

According to DoA, on the one hand, a minimum of 3 training events will be organized in each partner country, 2 of which targeted at advisors and one at farmers. The National Focal Points together with the Hub Coaches and the Sector Leaders would be in charge of organising the national trainings (3 trainings/country). On the other hand, IAMZ-CIHEAM will organize training seminars covering 5 countries not participating in IPMWORKS.

In addition to this, IAMZ-CIHEAM will consolidate the edition of the training modules recorded presentations and work together with ADAS, leader of WP4 IPM Resource Toolbox, for the uploading of the videos to the IPMWORKS Toolbox, within the project website, together with the Presentations in protected .pdf format.