Training Meeting on *OliveFlyNet*

Commercialization of an Automated Monitoring and Control System against the Olive and Med Fruit Flies of the Mediterranean Region

FruitFlyNet-ii: STR_B_A.2.1_0043/2020-2023

MEDITERRANEAN SEA BASIN PROGRAMME 2014-2020

Deliverable: D.3.5.1.III-IV: Training – Technology Transfer of e-traps of *OliveFlyNet*.
Deliverable: D.3.6.1.III-IV: Training – Technology Transfer on LAS e-servises.
Output 3.5: Training – Technology Transfer (*OliveFlyNet*)
Submitted to the MA/JTS of ENICBCMed

Project Coordinator
Prof. Theodore Tsiligiridis
e-mail: tsili@aua.gr

Project Consortium

BEN: Agricultural University of Athens (AUA), Athens, Greece

PP1: University of Córdoba (UCO), Córdoba, Spain

PP2: University of Molise (UNIMOL), Molise, Italy

PP3: Lebanese Agricultural Research Institute (MPC), Zahle, Lebanon

PP4: Institut de l'Olivier–Tunisian Olive Institute (IO), Sfax, Tunisia

PP5: Regional Research Centre on Horticulture and Organic Agriculture (CRRHAB), Sousse, Tunisia

Team Members	
BEN (AUA)	Theodore Tsiligiridis (PC)
	Dionysios Perdikis (TM)
	Costas Pontikakos (
	Marios-Ioannis Sotiras
PP1 (UCO)	Meelad Yousef
	Emilio Calvo Cerezo (TM1)
	Flora Moreno Alcaide (TM2)
PP2 (UNIMOL)	Andrea Sciarretta (LPC)
PP3 (LARI)	Ahmad ELBITAR
	Linda KFOURI (TM)
	Elia CHOUEIRI (AS)
PP4 (IO)	Ines Ksentini (LPC)
	Mohieddine Ksentini (AS)

PC: Project Coordinator
LPC: Local Project Coordinator
TM: Technical Manager
AS: Agricultural Assistant

WP3: LAS Deployment and Operation in the Experimental Sites
A3.5.1: Training-Technology Transfer: The *OliveFlyNet*
A3.6.1: Training-Technology Transfer: LAS e-services

Training Meeting
AGRICULTURAL UNIVERSITY OF ATHENS
Athens, June 15-17, 2022

General information:

The *Training Meeting* on *OliveFlyNet* took place in Athens, Greece on the 15th - 17th June 2022 within the framework of the Activity 3.6.1 of *FruitFlyNet-ii* project. This was an in-person meeting, preceded by a one-day online meeting, organized by the Agricultural University of Athens (AUA) and held on 24th February 2022. Participated to the meeting the partners PP01, PP02, PP03, and PP04.

The meeting was carried at the premises of the Agricultural University of Athens, organizing partner. The main objective was to provide a detailed technical description of the *OliveFlyNet* prototype, for both the e-trap and e-services, including practical training and field demonstration. In more details, the 3 days meeting was organized in 5 sessions: session A on *OliveFly* e-trap prototype, session B on *OliveFlyNet* Monitor Module; session C on *OliveFlyNet* Mobile GIS Module, session D on *OliveFlyNet* assisted e-services, and finally, in the last day session E on In-field demonstration.

Agenda
of the Training Meeting on *OliveFlyNet*

Wednesday 15th of June 2022
At Amphitheatre of AUA Library

Moderator: **Theodore Tsiligiridis (AUA)**
09:30 -10:00   Welcome – Registration

Session A: OliveFlyNet e-trap prototype

Moderator: *Prof. Theodore Tsiligiridis*
10:00 -11:00   *OliveFlyNet* e-trap structure and function.
Part A: Update of component procurements per partner – next steps.
11:00-11:15 **Break**
Moderator: *Prof. Theodore Tsiligiridis*
11:15 -12:15 *OliveFlyNet* e-trap structure and function
Part B: Demonstration of *OliveFlyNet* e-trap.

12:15 -12:45 **Coffee break**

Moderators: *Prof. Dionysios Perdikis* and *Prof. Theodore Tsiligiridis*
12:45-14:00   Planning of e-trap field deployment.
14:00 -15:30 **Lunch break**

Session B: OliveFlyNet Monitor Module

Moderator: *Prof. Dionysios Perdikis* and *Dr Costas Pontikakos*
15:30 -16:30 The *OliveFlyNet* geodatabase.
16:30 -16:45 **Break**
Moderator: *Prof. Dionysios Perdikis and Prof. Theodore Tsiligiridis*
16:45 - 18:00 Mobile GIS assisted field data collection.
18:00   **Closing**

1st day, Wednesday, June 15, 2022

List of participants in the Training Meeting on *OliveFlyNet*

No	PARTICIPANTS	Organization
1	Theodore Tsiligiridis (PC)	BEN (AUA): Agricultural University of Athens
2	Dionysios Perdikis (TM)	
3	Costas Pontikakos (Geoinformatics)	
4	Marios-Ioannis Swtiras (AS)	
5	Meelad Yousef (LPC)	PP01 (UCO): University of Cordoba
6	Emilio Calvo Cerezo (TM1)	
7	Flora Moreno Alcaide (TM2)	
8	Andrea Sciarretta (LPC)	PP02 (UNIMOL): University of Molise
9	Ahmad ELBITAR (LPC)	PP03 (LARI): Lebanese Agricultural Research Institute
10	Linda KFOURI (TM)	
11	Elia CHOUEIRI (AS)	
12	Ines Ksentini (LPC)	PP04(IO) : Institute de l'Olivier
13	Mohieddine Ksentini (AS)	

PC: Project Coordinator
LPC: Local Project Coordinator
TM: Technical Manager
AS: Agricultural Assistant

09:30-10:00 Welcome – Registration
After the registration of participants, Prof. Theodore Tsiligiridis welcomed the participants and briefly resumed the aims of the training dedicated to the *OliveFlyNet* prototype.

Session A: *OliveFlyNet e-trap prototype*
10:00-12:15 *OliveFlyNet* e-trap structure and function
Part A: Update of component procurement per partner – next steps**.**

Part B: Demonstration of *OliveFlyNet* e-trap**.**

The first session was dedicated to the *OliveFlyNet* e-trap. Prof. Theodore Tsiligiridis explained the structure of the delta e-trap, showing all the various electronic components inside it.

FruitFlyNet II

Afterwards, each partner explained the difficulties they encountered in procuring the electronic components needed to build the e-trap. Shortages at international level included the raspberry microprocessors and the USB 3G/4G dongles, the procurement of batteries and solar panels were less problematic. It was concluded that a general discussion on this topic would have been taken in the Consortium Meeting, because the problem was general for all partners. However, partners have already been advised to use conventional traps instead, as the price of raspberry microprocessors are extremely high, increasing the cost of e-traps at unacceptable levels.

Professor Theodore Tsiligiridis proceeded to assemble the various components *OliveFly* e-trap and showed how it works. Also, he explained the settings and the software needed in order to make operating the device. Questions and clarifications on this point have also provided.

Photo1: Prof. Theodore Tsiligiridis explains the olive fly e-trap components and assembly.

12:15 - 13:00 Planning of e-trap field deployment
In the last part of the session the training was focused on the planning of e-trap field deployment, by means of selecting the positions for the placement of the olive traps in the field at the large sites. E-services for semi-automatic trap positioning developed by BEN were presented by Dr Costas Pontikakos.

Session B: *OliveFlyNet* **Monitor Module**
15:30 -16:30   The *OliveFlyNet* geodatabase. Dr Costas Pontikakos presented the *OliveFlyNet* geodatabase. First the template (geodatabase visualization) was shown and then maps of the geospatial layers were presented such as the Olive groves, Olive trees, the Traps, the Sensors, the Protected areas etc for the BEN *OliveFlyNet* site. The data structure of each geospatial layer was given in detail. Finally, additional uses of the geodatabase were presented.
16:45 - 18:00   Mobile GIS assisted field data collection. Dr Costas Pontikakos presented the mobile GIS and its functionalities in uploading georeferenced data from the field associated to the digitization of the site (borders, olive groves, land uses, etc..), the trees, the traps, the data collection of the alive infestation in olive fruits, trap monitoring (conventional traps), tracking the spraying paths, view geospatial data (i.e. risk maps).

Photo 2-3: Dr Pontikakos presents the OliveFlyNet geodata base and the mobile assisted field data collection.

Photo 4: The OliveFlyNet training team at the Agricultural University of Athens meeting.

Agenda

of the Training Meeting on *OliveFlyNet*

Thursday 16th of June 2022
At Multiple Purpose Hall (Main Building of AUA, 3rd floor)

Moderator: **Theodore Tsiligiridis (AUA)**

09:00 -09:30   Registration

Session C: OliveFlyNet Mobile GIS Module

Moderator: *Prof. Dionysios Perdikis*

09:30 - 11:30 *OliveFlyNet* decisional procedures

11:30-12:00 ***Coffee Break***

Moderators: *Prof. Dionysios Perdikis and Prof. Theodore Tsiligiridis*

12:00-13:30: *OliveFlyNet* spraying process

13:30 -15:00: **Lunch break**

Session D: OliveFlyNet assisted e-services.

Moderators: *Prof. D. Perdikis, Dr Costas Pontikakos and Prof. T. Tsiligiridis*

15:00 - 15:30: *OliveFlyNet Introduction to assisted e-services*

15:30 - 17:00 Organization of ongoing field work.

17:00-17:15 ***Coffee Break***

Moderator: *Prof. Andrea Sciarretta, Prof. D. Perdikis*

17:15 - 18:00: Summary, Final remarks.

18:00: **Closing**

2nd day, Thursday, June 16, 2022

List of participants in the Training Meeting on *OliveFlyNet*

No	PARTICIPANTS	Organization
1	Theodore Tsiligiridis (PC)	BEN (AUA): Agricultural University of Athens
2	Dionysios Perdikis (TM)	
3	Costas Pontikakos (Geoinformatics)	
4	Marios-Ioannis Swtiras (AS)	
5	Meelad Yousef (LPC)	PP01 (UCO): University of Cordoba
6	Emilio Calvo Cerezo (TM1)	
7	Flora Moreno Alcaide (TM2)	
8	Andrea Sciarretta (LPC)	PP02 (UNIMOL): University of Molise
9	Ahmad ELBITAR (LPC)	PP03 (LARI): Lebanese Agricultural Research Institute
10	Linda KFOURI (TM)	
11	Elia CHOUEIRI (AS)	
12	Ines Ksentini (LPC)	PP04(IO) : Institute de l'Olivier
13	Mohieddine Ksentini (AS)	

PC: Project Coordinator
LPC: Local Project Coordinator
TM: Technical Manager
AS: Agricultural Assistant

09:00-09:30 Welcome – Registration
After the registration of participants, Prof. Theodore Tsiligiridis introduced the sessions of the second day.

Session C: *OliveFlyNet* Mobile GIS Module

09:30 - 11:30   *OliveFlyNet* decisional procedures DSS stages for Olive Fly were explained as to decide when, where and how to spray and the spraying action. First the Web based semi-automatic trapping was presented. The flowchart for the Decision Support System to decide when, where and how to spray, the parameters and inputs of each one DSS and thresholds used based on IPM were presented. The use of the mobile GIS to run the algorithms and produced decisions and maps was given. Each partner presented its DSS and discussion followed.

12:00-13:30: *OliveFlyNet* **spraying process.**
The spraying action presented as guided by the system in real time regarding where and how to spray, the spraying density, the respect of the protected areas and the climatic critical conditions during spraying. Finally the tracking mode of the sprayings was shown.

Session D: OliveFlyNet assisted e-services
15:00 - 15:30: *OliveFlyNet* **Introduction to assisted e-services.**
15:30 - 17:00: Organization of ongoing field work. The organization of each project Activity was presented and explained. A discussion followed so that all partners to realize what are the next steps in field work in their wide area sites.
17:15 - 18:00: Summary, Final remarks. A discussion among the partners about the e-services took place at the end of the session.

Agenda

of the Training Meeting on *OliveFlyNet*

Friday 17th of June 2022
At the Experimental OliveFlyNet site of AUA, Koropi

09:30-10:00 Welcome – Registration

Session E: In-field demonstration

Moderators: *Prof. D. Perdikis, Dr Costas Pontikakos and Prof. T. Tsiligiridis*

09:30 - 11:30 In-field Monitoring: Mobile GIS assisted field data collection.

11:30 -12:00 ***Coffee Break***

12:00 - 13:00 In-field spraying: Spraying process.

13:00 -15:00 **Light Lunch**

15:00: **Closing**

3rd day, Friday, June 17, 2022

List of participants in the Training Meeting on *OliveFlyNet*

No	PARTICIPANTS	Organization
1	Theodore Tsiligiridis (PC)	BEN (AUA): Agricultural University of Athens
2	Dionysios Perdikis (TM)	
3	Costas Pontikakos (Geoinformatics)	
4	Marios-Ioannis Swtiras (AS)	
5	Meelad Yousef (LPC)	PP01 (UCO): University of Cordoba
6	Emilio Calvo Cerezo (TM1)	
7	Flora Moreno Alcaide (TM2)	
8	Andrea Sciarretta (LPC)	PP02 (UNIMOL): University of Molise
9	Ahmad ELBITAR (LPC)	PP03 (LARI): Lebanese Agricultural Research Institute
10	Linda KFOURI (TM)	
11	Elia CHOUEIRI (AS)	
12	Ines Ksentini (LPC)	PP04(IO) : Institute de l'Olivier
13	Mohieddine Ksentini (AS)	

PC: Project Coordinator
LPC: Local Project Coordinator
TM: Technical Manager
AS: Agricultural Assistant

09:30-10:00 Welcome – Registration
After the registration of participants, Prof. Theodore Tsiligiridis introduced the sessions of the second day.

Session E: In-field demonstration
09:30 - 11:30 In-field Monitoring: Mobile GIS assisted field data collection.
In the morning, participants moved in the nearby municipality of Koropi to visit the small-scale experimental site of BEN. This is an olive orchard. During this session the functionalities of the mobile GIS regarding field data collection (i.e., enter and upload georeferenced data for the trees, the traps, the site characteristics, the pest monitoring etc.), were shown to the partners by Dr Costas Pontikakos. The partners were separated in small groups to facilitate the process. The partners had given the chance to practice i.e. in recording the pests captured at the front of the trap. The partners interacted with Dr Pontikakos, with questions and clarifications.

12:00 - 13:00 In-field spraying: Spraying process

The use of mobile GIS to guide and record spraying was explained and shown to the partners by Dr Costas Pontikakos. The risk maps and their use in the field and the other parameters to be considered during spraying as appear in the mobile GIS screen were explained. The questions of the partners were addressed and a final discussion was made. The trip terminated at 19:00.

Photos 5-6: Dr Costas Pontikakos explains the details of the LAS system in action.

Photo 7: Moments from the field-training in the experimental olive fruit fly site in Koropi, Athens, Greece