

# Workshop | Promoting Gender Equality in R&I Projects to Drive the Mediterranean's Green Transition



6<sup>th</sup> June | 9h30 CET | Online event

*Gender influence on perceived risk and potent acceptance of biopesticides in crop production- an interdisciplinary approach*

*Kalliope K. Papadopoulou*



5 - 6

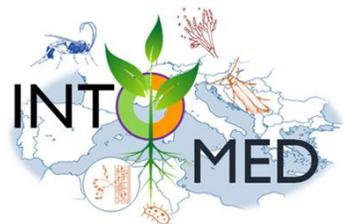
June

23

3-11 June 2023

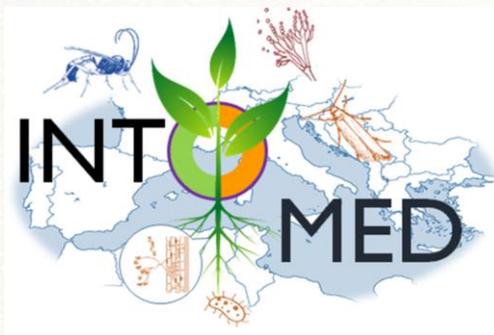
**#EUGreenWeek  
PARTNER EVENT**

Presented by



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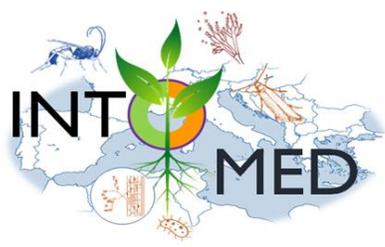
# Innovative tools to combat crop pests in the Mediterranean



[intomed.bio.uth.gr](http://intomed.bio.uth.gr)



The PRIMA programme is supported under Horizon 2020, the European Union's Framework Programme for Research and Innovation



University of Thessaly



Universitat Jaume I



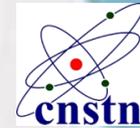
Democritus University of Thrace



National Institute of Agricultural Research of Morocco



Centre National des Sciences et Technologies Nucléaires



Centre Technique des Agrumes



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**WP1 Management and project coordination**



**Molecular Innovative Tools**

**Beneficial Organisms**

**Pests / Pathogens**

*B. tabaci*  
*T. absoluta*  
*A. lycopersici*  
*T. urticae*  
*C. michiganensis*  
*V. dahliae*

*C. capitata*  
*T. urticae*  
*E. ceratoniae*

*B. oleae*  
*V. dahliae*  
*P. savastanoi*

**WP3** Biological control at multi-trophic levels

**WP4** Molecular mechanisms

**WP5** Development of molecular innovative tools

**WP6** Demonstration and pilot application by end-users

**WP7** Socio-economic analysis of current situation and acceptance

**WP2** Dissemination & Communication

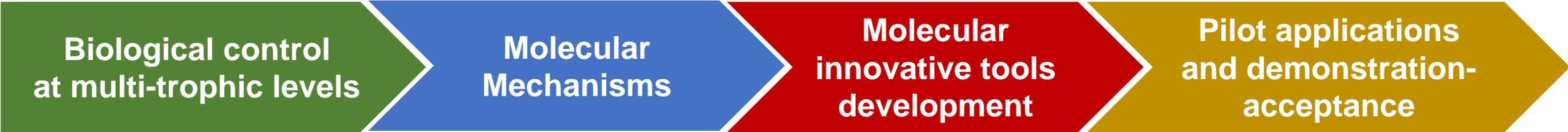
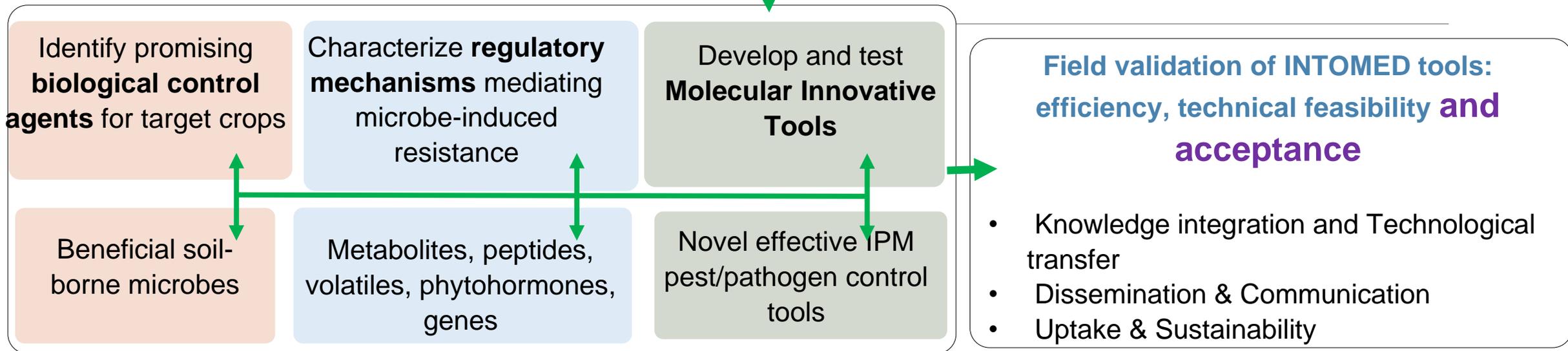
**AMF:** *R. irregularis*, *F. mosseae*, *C. etunicatum*, *C. lalamellosum* **PGPF:** *Trichoderma* sp., *F. oxysporum*, *P. lilacinum*, *E. nigrum*, *B. bassiana*, *F. solani* **PGPR:** *Pseudomonas* spp.

**Predators:** *M. pygmaeus*, *N. tenuis*, *E. stipulatus*, *P. persimilis*, *A. swirskii*,  
**Parasitoids:** *P. concolor*, *E. eremicus*



**Goal: identify, develop, validate and promote molecular innovative tools to enhance the resistance of Mediterranean crops against key pests and pathogens**

Objectives  
Targets



# Expected impacts:

the INTOMED toolbox (knowledge, products, tools and processes) contributes to

Scientific impacts

## SUSTAINABLE APPLICATIONS

Enhance the efficacy of biological control in crop production

## RATIONAL IPM

Integration of crop resistance-inducing tools

## INNOVATION

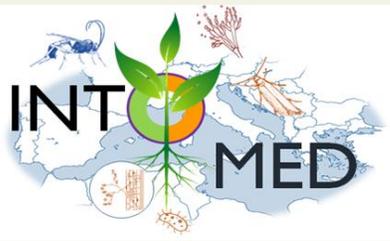
Innovation capacity (platforms, hubs, etc.) and new market opportunities

Environmental impacts

- food security
- the build-up of resilience in agricultural ecosystems
- minimizing risks for public health and reducing ecological footprint

Socio-economic and policy impacts

- agricultural production and development in rural areas
- sustained and inclusive economic growth
- creating **new market opportunities**,
- **strengthening the competitiveness**
- supporting the immediate stakeholders in their role as **managers of natural resources**



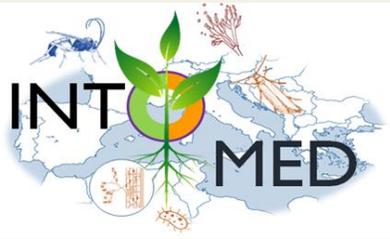
9 Partners

5 Females

4 Males



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9 Partners

5 Females

4 Males



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Morocco



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Centre Technique des Agrumes

## Engaged Researchers (Staff Members)

Research staff members are expert persons with appropriate training to support the planned experimental approaches and help early career scientists, or

are early or mid stage researchers with previous experience in the subject; they have experience with running field and pilot scale experimental set ups; they have connections with the stakeholders and end-users

Total Number of Engaged Researchers 34

# Permanent Staff 29

# Female Staff Members 8 **24%**

# Youth Staff Members (22-30 years) 2

## # New Jobs Created

Mostly early stage researchers

Total Number of (Green) Jobs created 22

# Pre Doctoral/PhD/Post Doctoral 19

# Females 17 **77%**

# Youth (22-30 years) 19



# Dissemination Activities

Women of INTOMED / Twitter

## •International Women day/Women in Science

WOMEN  
OF  
INTOMED



I am an entomologist focusing on the development of sustainable biocontrol solutions in pest control. In INTOMED, I lead WP3 'Biological control at multi-trophic levels' and in collaboration with the consortium partners work on the development of environmentally friendly tools against key pests and diseases in the Mediterranean and to increase public awareness about their benefits.



Dr Maria Pappas, Assistant Professor in Entomology and Acarology

Greece



WOMEN  
OF  
INTOMED



General engineer and head of the plant protection service at the Citrus Technical Center -Tunisia. My contribution to the "INTOMED" project consists of carrying out field surveys among citrus growers to collect information on their attitudes as producers with regard to pest control tools.



Ms Salma Ben Romdhane

Tunisia



WOMEN  
OF  
INTOMED



I work mainly with EEPF. My challenge is to identify beneficial microorganisms whose effectiveness can replace chemical pesticides or reduce their use. My motivation is to create my own start-up.



Ms Wafa Mimouni, contract technician INTOMED

Tunisia



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## •Podcast on Youtube *Meet our partners*

The screenshot shows the YouTube interface for the channel 'INTOMED PRIMA'. The search bar contains 'intomed'. The channel name is 'INTOMED PRIMA' with 5 subscribers. The navigation menu includes 'ACCUEIL', 'VIDÉOS', 'PLAYLISTS', 'CHAÎNES', 'DISCUSSION', and 'À PROPOS'. The 'Vidéos en ligne' section shows two videos:

- #MeetOurPartners | Paula Baptista**: 1:09, 13 vues • il y a 1 mois
- #MeetOurPartners | Kalliope Papadopoulou**: 1:03, 42 vues • il y a 2 mois

# Stakeholders Advisory Board

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- (1) Jennifer Lewis, *International Biocontrol Manufacturer's Association*
- (2) Soraya Franca, *Biobest*
- (3) Elena Batzogianni, *ThesGi*
- (4) Magali Deloge, *Elephant-Vert*

SYMPOSIUM

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Gender impact on acceptance and adoption of agricultural innovation

30 May 2023  
Online

The PRIMA programme is an Art.188 initiative supported and funded under Horizon 2020, the European Union's Programme for Research and Innovation.



# *Gender influence on perceived risk and potent acceptance of biopesticides in crop production- an interdisciplinary approach*

## **WP7: Socio-economic analysis and acceptance**

### Objectives

7.1. To evaluate the current status and acceptance (by consumers, farmers and other actors) of pest control tools widely applied to control INTOMED arthropod pests and pathogens in olive, tomato and citrus in all INTOMED countries.

7.2. To assess the economic impact of the proposed tools on end-users **by gender**: Farmers, consumers, SME.

7.3. To propose gender-sensitive policies to incentivise the acceptability and use of the tools and provide case studies **comparing relevant opinions, intentions and attitudes** between women and men.

7.4. To provide a list of actions for rural development to show end-users the feasibility of INTOMED tools



# Assessment of the socio-economic impact and acceptance of the INTOMED-like tools



ELENI ZAFEIRIOU



CHRISTOS KARELAKIS

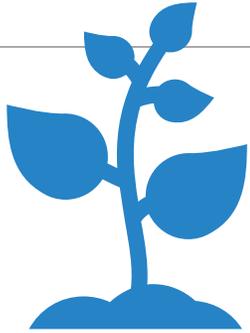


MARIA PAPPAS



Democritus University of Thrace

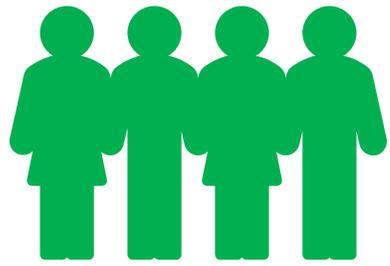
# METHODOLOGY



Quantitative research targeting consumers,  
producer associations of relevant agricultural products,  
farmers



Primary data via structured  
questionnaires  
(translated in Greek, Spanish,  
Portuguese, French, Arabic)



## DATA Number of questionnaires



Consumers 474  
Producers 77  
Farmers 8



Consumers 69  
Farmers 20



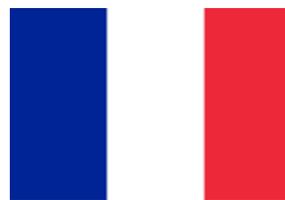
Consumers 344  
Producers 17  
Farmers 85



Consumers 100  
Farmers 60



Consumers 20  
Farmers 53





# PRODUCERS' QUESTIONNAIRE

Developed between July and August 2020, (relevant international literature).

Five sections for producers of olives, tomatoes, and citrus crops.

demographic data

questions on production and various economic factors

producers' attitudes towards environmentally friendly methods and sources of information on these methods

producers' attitudes towards pesticide use

producers' attitudes towards environmental protection, sustainable farming practices, and climate change.





## CONSUMERS' QUESTIONNAIRE

Twenty-eight closed-ended questions referring to consumers' attitudes and perceptions towards innovative environmentally friendly plant protection tools (EFPPs).

Specifically, questions were formulated regarding consumer purchasing behavior towards products produced with the help of such tools, their attitudes toward food, related to the environment and climate change control

The second section contained questions about consumers' demographic characteristics and education levels.



# Gender and attitude towards pesticides interlinkages: an empirical survey for consumers and producers in Greece (*under preparation*)

Objective of the study

To identify the impact of gender to the attitude towards climate change and innovative plant protection tools for enhancing the resilience of Mediterranean crops against enemies and pathogens through plant-microorganism interactions and bioactive molecules of plant origin



To unveil the differences between the two groups consumers and producers in the attitude toward climate change and the adoption of environmentally friendly practices

# Data Analysis

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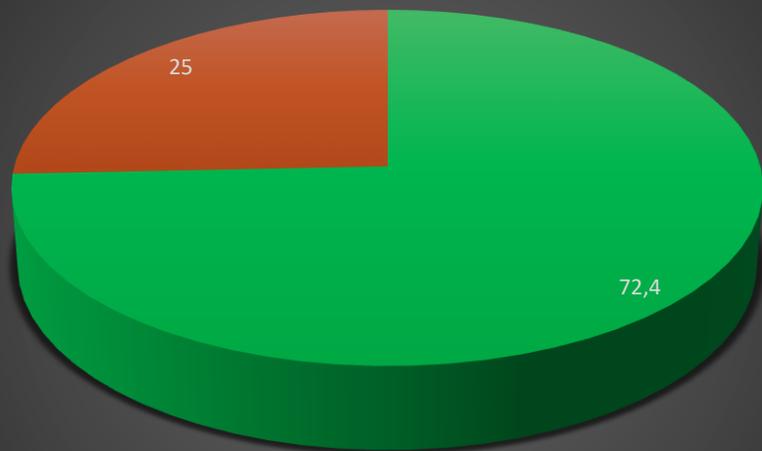
Descriptive analysis of the variables employed

Reliability Analysis

PCA/Analysis

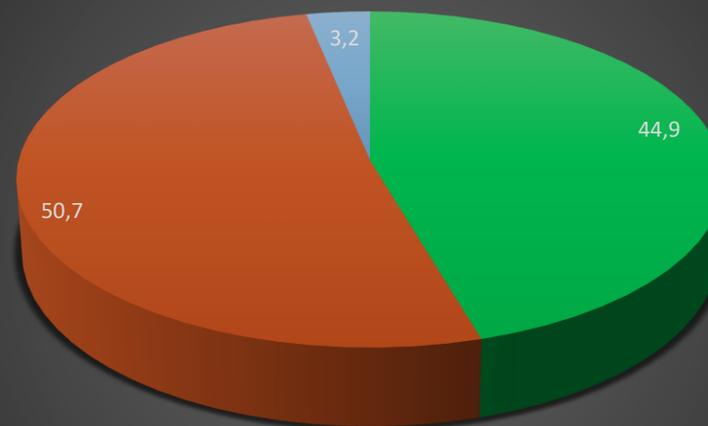
Logit Model

### Gender Producers



■ ΑΝΔΡΑΣ ■ ΓΥΝΑΙΚΑ

### Gender Consumers



■ Ανδρας ■ Γυναίκα ■ Άλλο

$$\log it[P(Y = 1)] = \beta_0 + \beta_1 X_{1i} + \dots + \beta_n X_{ni}$$

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$$\log it[P(Y = 1)] = \log \frac{P(Y = 1)}{1 - P(Y = 1)}$$

$\frac{P(Y = 1)}{1 - P(Y = 1)}$  reflects the yield probability (odds) and represents the ratio of the probability of environmentally friendly divided by the probability of no adoption

# The Logit Model

As determinants, we surveyed factors affecting the respondents' perception on the adoption of innovative tools.



The factors studied include the demographic factors and determinants of the respondents perception (consumers and producers) on climate change and innovative plant protection tools



the novelty of the specific model incorporates the gender interactions with other factors being generated by PCA/FA analysis



i.e. Including environmental oriented factors, economic factors

# Conclusions

## PRODUCERS

Gender interaction with

Cost production change due to adoption of environmentally friendly practices

Perception on change of income due to climate change

Perception of the PPP on the environmental and social impact

Perception of the social economic and environmental impact

**The women – produces are mainly environmental oriented and less economically oriented**

# Conclusions

## CONSUMERS

Gender interaction with  
Worry for PPP (their environmental and economic impacts)  
Indifference (regarding the priorities employed on food buying preferences)  
perception on Active environmentally friendly practices adoption by farmers

sensitivity of females towards climate change and their agony to protect their family from climate change /repercussions on health and food security / as well as their greater intervention in the household organization

may well lead to a change in the practices adopted to more environmental friendly even at the expense of a higher cost

# Suggestions for consumers

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Gendered participation in community policy and community development (decision making, representation, participation in development)

- Gendered information and knowledge (both directions: providing information and knowledge – taking knowledge into account)

- Traditional norms and socially constructed ideologies (exclusion of women from the public sphere, male role expectations to represent the household)

# Suggestions for producers

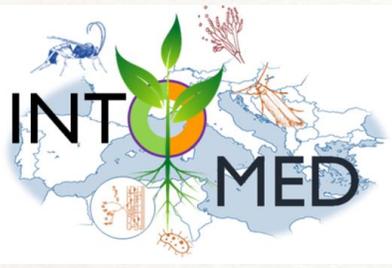
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More motives should be provided in order women to be empowered in their own voice

- Gendered participation in project planning (decision making, participation in project development)

- Recognition of gendered needs and interests (valuation of work and products, which situations are taken to be superior)

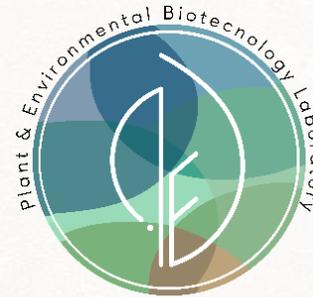
Access to financial and technological support (e.g. for adaptation efforts, that is relief assistance, recovery/reconstruction assistance)



*Thank you for your attention*

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