

Sustainable IPM Technologies for Mediterranean Fruit and Vegetable Crops 2018-2019 (77.0 ECTS)

Coordinator: Anna Maria D'ONGHIA

Tutor: Dajana FRASHERI

Aims

The Programme has been designed to train graduate agronomists, biologists and biotechnologists in modern and sustainable integrated management of economically important pests affecting Mediterranean fruit and vegetable crops.

The Programme is structured in 2 parts: the first part, the Master Programme, is based on an intensive learning course and on the elaboration of an IPM project; the second part, the Master of Science Programme (MSc), is dedicated to the acquisition of research methodologies and to the development of a scientific applied research work

Objectives

The main objective of the course is to prepare experts able to apply and transfer the IPM approach by combining all appropriate and innovative techniques in a total management system and by minimizing economic, health and environmental risks.

Students build capacity and develop skills in:

- Basic IPM principles and methodologies
- Preventive IPM measures: plant quarantine, pest risk analysis, certified propagating material, resistant/tolerant cultivars or graft combinations, biodiversity maintenance.
- Sustainable use of pesticides and relevant regulations; applications of alternative non-chemical pest management methods; food quality and safety.
- Sound management of biotic and abiotic disorders in pre- and post-harvest.
- Information technology, remote sensing, modelling and forecasting to support Decision Support Systems.
- Project design for developing innovative business ideas.
- Communication, training models and approaches.

A one-week **IPPC-FAO/CIHEAM Bari Diploming Course** is also organized as integral part of the programme. Such course is an opportunity for students to upgrade knowledge on the main principles and regulations on a proactive IPM approach and receive background information on trade facilitation, International Standards for Phytosanitary Measures (ISPMs) and guidance material on phytosanitary issues.

Programme contents

| | | | |
|------------|--|----------------------|-----------|
| IPM I | UNIT I: INTRODUCTORY COURSES | 01 Oct - 23 Nov 2018 | 3.0 ECTS |
| IMP I.1 | Information and Communication Technologies & Criteria for bibliographic research | 01 - 05 Oct 2018 | 1.0 ECTS |
| IPM I.2 | English language | 03 Oct - 23 Nov 2018 | 2.0 ECTS |
| IMP II | UNIT II: INTRODUCTION TO IPM | 08 Oct - 16 Nov 2018 | 11.0 ECTS |
| IPM II.1.1 | Lab safety procedures | 08 Oct 2018 | 1.0 ECTS |
| IPM II.1.2 | Basic principles of pathogens | 09 - 15 Oct 2018 | 1.0 ECTS |
| IPM II.1.3 | Basic principles and control of nematodes | 16 - 19 Oct 2018 | 2.0 ECTS |
| IPM II.1.4 | Basic principles of plant pests | 22 - 26 Oct 2018 | 2.0 ECTS |
| IPM II.1.5 | Basic principles and control of weeds | 29 Oct - 02 Nov 2018 | 2.0 ECTS |
| IPM II.1.6 | Physiological disorders of fruit and vegetable crops | 05 - 09 Nov 2018 | 2.0 ECTS |
| IPM II.2.1 | IPM concepts and regulations | 12 - 14 Nov 2018 | 1.0 ECTS |
| IPM II.2.2 | Project | 15 - 16 Nov 2018 | 0.0 ECTS |

| | | | |
|----------------|--|------------------------------|--------------|
| | Seminar | 16 Nov 2018 | 0.0 ECTS |
| IPM III | UNIT III - PEST/PATHOGEN CONTROL | 19 Nov 2018 - 18 Jan 2019 | 15.0 ECTS |
| IPM III.1.1 | Semiochemicals: formulation and application | 19 - 23 Nov 2018 | 2.0 ECTS |
| IPM III.1.2 | Biopesticides & Botanicals: formulation and application | 26 - 30 Nov 2018 | 2.0 ECTS |
| IPM III.1.3 | Natural enemies application | 03 - 07 Dec 2018 | 2.0 ECTS |
| IPM III.2.1 | Breeding for plant resistance to pests and diseases | 10 - 14 Dec 2018 | 2.0 ECTS |
| IPM III.2.2 | Biotech. Resistance | 17 - 18 Dec 2018 | 1.0 ECTS |
| IPM III.3.1 | Pesticides, regulation, application & impact | 19 - 22 Dec 2018 | 1.0 ECTS |
| IPM III.3.2 | Sustainable use of pesticides | 02 - 04 Jan 2019 | 1.0 ECTS |
| IPM III.3.3 | Formulation & application of fungicides | 07 - 10 Jan 2019 | 2.0 ECTS |
| IPM III.3.4 | Individual project | 11 Jan 2019 | 0.0 ECTS |
| IPM III.3.5 | Formulation and application of insecticides | 14 - 18 Jan 2019 | 2.0 ECTS |
| IPM IV | UNIT IV - INFORMATION TECHNOLOGIES IN IPM | 21 Jan - 15 Feb 2019 | 7.0 ECTS |
| IPM IV.1.1 | Remote sensing technology. GPS/GIS & spatial distribution analyses | 21 - 25 Jan 2019 | 2.0 ECTS |
| IPM IV.1.2 | Statistical analysis | 28 Jan - 01 Feb 2019 | 2.0 ECTS |
| IPM IV.2.1 | Disease forecasting modeling | 04 - 06 Feb 2019 | 1.0 ECTS |
| IPM IV.2.2 | Project | 07 Feb 2019 | 0.0 ECTS |
| IPM IV.2.3 | Seminar | 08 Feb 2019 | 0.0 ECTS |
| IPM IV.2.4 | Decision support system | 11 - 15 Feb 2019 | 2.0 ECTS |
| IPM V | UNIT V - IPM OF VEGETABLE CROPS IN PRE-HARVEST | 18 Feb - 22 Mar 2019 | 8.0 ECTS |
| IPM V.1.1 | Key pests and IPM | 18 - 22 Feb 2019 | 2.0 ECTS |
| IPM V.2.2 | Bacterial diseases & IPM | 25 Feb - 01 Mar 2019 | 2.0 ECTS |
| | Technical trip | 04 - 08 Mar 2019 | 0.0 ECTS |
| IPM V.2.1 | Fungal diseases & IPM | 11 - 15 Mar 2019 | 2.0 ECTS |
| IPM V.2.3 | Virus & virus - like diseases | 18 - 20 Mar 2019 | 1.0 ECTS |
| IPM V.2.4 | Certification of vegetable propagating material | 21 - 22 Mar 2019 | 1.0 ECTS |
| IPM VI | UNIT VI - IPM OF FRUIT CROPS IN PRE-HARVEST | 25 Mar - 19 Apr 2019 | 8.0 ECTS |
| IPM VI.1 | Key pests and IPM | 25 - 29 Mar 2019 | 2.0 ECTS |
| IPM VI.2.1 | Fungal diseases and IPM | 01 - 05 Apr 2019 | 2.0 ECTS |
| IPM VI.2.2 | Bacterial diseases and IPM | 08 - 12 Apr 2019 | 2.0 ECTS |
| IPM VI.2.3 | Virus and virus-like diseases | 15 - 19 Apr 2019 | 2.0 ECTS |

| | | | |
|--------------|--|----------------------|-----------|
| IPM VII | UNIT VII - IPM OF FRUITS AND VEGETABLES IN POST- HARVEST | 23 Apr - 04 May 2019 | 4.0 ECTS |
| IPM VII.1 | Post-harvest diseases of fruit & vegetable crops | 23 - 27 Apr 2019 | 2.0 ECTS |
| IPM VII.2.1 | Food contamination and regulations | 29 - 30 Apr 2019 | 1.0 ECTS |
| IPM VII.2.2 | International food standards | 02 - 04 May 2019 | 1.0 ECTS |
| IPM VIII | UNIT VIII - COMMUNICATION, ENTREPRENEURSHIP, GLOBAL MARKET & PROJECT | 06 - 28 May 2019 | 10.0 ECTS |
| IPM VIII.1.1 | Communication tools | 06 - 10 May 2019 | 2.0 ECTS |
| IPM VIII.1.2 | Social Innovation and Entrepreneurship | 13 - 17 May 2019 | 2.0 ECTS |
| IPM VIII.1.3 | Good Agriculture Practices and certification in the global market | 20 - 22 May 2019 | 1.0 ECTS |
| IPM VIII.2.1 | Project | 23 - 28 May 2019 | 5.0 ECTS |
| IPM X | UNIT X FINAL EXAM | 14 - 15 Jun 2019 | 0.0 ECTS |
| IPM X | Final exams | 14 - 15 Jun 2019 | 0.0 ECTS |
| IPM IX | UNIT IX. IPPC/CIHEAM Bari Training Course on "Developing phytosanitary capacity: plant quarantine & certification of plant propagating material" | 29 May - 11 Jun 2019 | 6.0 ECTS |
| IPM IX.1 | IPPC-FAO/CIHEAM Bari short course on developing phytosanitary capacity | 29 May - 11 Jun 2019 | 6.0 ECTS |
| | From a business idea to its project design: the enterprise culture in the innovation process management | 18 - 21 Jun 2019 | 5.0 ECTS |
| | Innovation processes: the design and development phases of an innovative idea | 18 Jun 2019 | 2.0 ECTS |
| | Final exam: presentation (pitch) of an innovative entrepreneurial idea. | 19 Jun 2019 | 0.0 ECTS |
| | The Lean business model Canvas | 19 Jun 2019 | 2.0 ECTS |
| | The WEB as tool to develop and communicate the entrepreneurial idea | 21 Jun 2019 | 1.0 ECTS |