

Precision Integrated Pest Management (IPM) for fruit and vegetable crops 2019-2020 (72.0 ECTS)

Coordinator: D'Onghia Anna Maria

Tutor: Frasheri Dajana

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

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| IPM I | UNIT I: INTRODUCTORY COURSES | 30 Sep - 11 Oct 2019 | 4.0 ECTS |
| IPM I.2 | Institute & course presentation | 30 Sep 2019 | 0.0 ECTS |
| IPM I.3 | Visit to the campus facilities | 30 Sep 2019 | 0.0 ECTS |
| IPM I.1 | Welcome & registration | 30 Sep 2019 | 0.0 ECTS |
| IPM I.4 | Former Trainees Network (FTN) | 30 Sep 2019 | 0.0 ECTS |
| IPM I.6 | Information and Communication Technologies / Criteria for bibliographic research | 01 - 03 Oct 2019 | 1.0 ECTS |
| IPM I.5 | Climate change & agriculture / Biodiversity & crops / Transboundary plant pests & diseases | 01 - 03 Oct 2019 | 0.5 ECTS |
| IPM II.1 | Communication skills / High technologies for agriculture: Geographical Information Systems / High technologies for agriculture: Remote Sensing / High technologies for agriculture: Information Technology | 07 - 10 Oct 2019 | 0.5 ECTS |
| IPM II.2 | English language. Entry test | 07 Oct 2019 | 0.0 ECTS |
| IPM II.4 | English language | 08 - 10 Oct 2019 | 2.0 ECTS |
| IPM II.7 | Test | 11 Oct 2019 | 0.0 ECTS |
| IMP II | UNIT II: INTRODUCTION TO IPM | 14 Oct - 21 Nov 2019 | 11.0 ECTS |

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| IPM | Lab safety procedures | 14 Oct 2019 | 1.0 |
| II.1.1 | | | ECTS |
| IPM | Pathogens | 15 - 21 Oct | 1.0 |
| II.1.2 | | | 2019 ECTS |
| IPM | Weeds and control | 22 - 26 Oct | 2.0 |
| II.1.3 | | | 2019 ECTS |
| IPM | Nematodes and control | 28 - 31 Oct | 2.0 |
| II.1.4 | | | 2019 ECTS |
| IPM | Pests | 04 - 08 Nov | 2.0 |
| II.1.5. | | | 2019 ECTS |
| IPM | Physiological disorders of fruit and vegetable crops | 11 - 15 Nov | 2.0 |
| II.2.1 | | | 2019 ECTS |
| IPM | IPM concepts and regulations | 18 - 20 Nov | 1.0 |
| II.2.1 | | | 2019 ECTS |
| IPM | Project & seminar | 21 Nov 2019 | 0.0 |
| II.2.2 | | | ECTS |
| IPM III | UNIT III - PEST/PATHOGEN CONTROL | 22 Nov 2019 - | 16.0 |
| | | 30 Jan 2020 | ECTS |
| IPM III | Basic genetic in plants | 22 Nov 2019 | 1.0 |
| 1.1 | | | ECTS |
| IPM | Breeding for Plant resistance to pest and diseases & Biotech. resistance | 25 - 29 Nov | 2.0 |
| III. | | | 2019 ECTS |
| 1.2. | | | |
| IPM | Biotech. Resistance | 02 - 05 Dec | 1.0 |
| III.1.3. | | | 2019 ECTS |
| IPM III | Project /Seminar | 06 Dec 2019 | 0.0 |
| 1.4. | | | ECTS |
| IPM | Biopesticides & Botanicals: formulation and application | 09 - 13 Dec | 2.0 |
| III. | | | 2019 ECTS |
| 2.1. | | | |
| IPM | Natural enemies application | 16 - 19 Dec | 2.0 |
| III:2.2. | | | 2019 ECTS |
| IPM III | Project& Seminar | 20 Dec 2019 | 0.0 |
| 2.3. | | | ECTS |
| IPM III | Project & Seminar | 02 - 03 Jan | 0.0 |
| 2.4 | | | 2020 ECTS |
| IPM | Semiochemicals | 07 - 10 Jan | 2.0 |
| III.2.5. | | | 2020 ECTS |
| IPM III | Pesticides & regulations | 13 - 17 Jan | 2.0 |
| 3.1. | | | 2020 ECTS |
| IPM III | Formulation and application of fungicides | 20 - 24 Jan | 2.0 |
| 3.2. | | | 2020 ECTS |
| IPM III | Formulation and application of insecticides | 27 - 30 Jan | 2.0 |
| 3.3. | | | 2020 ECTS |
| IPM | UNIT IV - SMART-DECISION SUPPORT TOOLS IN IPM | 31 Jan - 28 | 8.0 |
| IV | | Feb 2020 | ECTS |
| IPM | Project / Seminar | 31 Jan 2020 | 0.0 |
| IV.1.1. | | | ECTS |
| IPM | Remote sensing technology. GPS/GIS and spatial distribution analyses | 03 - 07 Feb | 2.0 |
| IV 1.2. | | | 2020 ECTS |
| IPM | Statistical analysis | 10 - 14 Feb | 2.0 |
| IV 1.3. | | | 2020 ECTS |
| IPM | Forecasting modelling | 17 - 20 Feb | 2.0 |
| IV 2.1. | | | 2020 ECTS |
| IPM | Project & Seminar | 21 Feb 2020 | 0.0 |
| IV 2.2. | | | ECTS |
| IPM | DSS and Application of Decision support system | 24 - 28 Feb | 2.0 |
| IV 2.3. | | | 2020 ECTS |
| IPM V | UNIT V - IPM OF VEGETABLE CROPS IN PRE-HARVEST | 02 - 27 Mar | 8.0 |
| | | | 2020 ECTS |
| IPM V | Key Pests & IPM | 02 - 06 Mar | 2.0 |
| 1.1. | | | 2020 ECTS |

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| IPM V Bacterial diseases & IPM 2.1. | | 09 - 13 Mar 2020 | 2.0 ECTS |
| IPM V Fungal diseases & IPM 2.2. | | 16 - 20 Mar 2020 | 2.0 ECTS |
| IPM V Virus & virus - like diseases 2.3. | | 23 - 24 Mar 2020 | 2.0 ECTS |
| IPM V Certification of vegetable propagating material 2.4. | Technical visit | 25 - 27 Mar 2020 | 0.0 ECTS |
| IPM VI | UNIT VI - IPM OF FRUIT CROPS IN PRE-HARVEST | 30 Mar - 24 Apr 2020 | 8.0 ECTS |
| IPM VI.1 | Key Pests & IPM | 30 Mar - 03 Apr 2020 | 2.0 ECTS |
| IPM VI 2.1 | Virus and Virus-like diseases | 06 - 09 Apr 2020 | 2.0 ECTS |
| IPM VI 2.2 | Project & Seminar | 10 Apr 2020 | 0.0 ECTS |
| IPM VI 2.3. | Bacterial diseases and IPM | 15 - 17 Apr 2020 | 2.0 ECTS |
| IPM VI 2.4. | Fungal diseases and IPM | 20 - 24 Apr 2020 | 2.0 ECTS |
| IPM VII | UNIT VII - FOOD SAFETY | 27 Apr - 15 May 2020 | 4.0 ECTS |
| IPM VII.1 | Post-harvest pest management of fruits | 27 - 30 Apr 2020 | 2.0 ECTS |
| IPM VII 1.2 | Post-harvest pest management of vegetables | 04 - 05 May 2020 | 0.0 ECTS |
| IPM VII 2.1. | Food contamination & regulations | 06 - 08 May 2020 | 1.0 ECTS |
| IPM VII 2.2. | International food standards | 11 - 13 May 2020 | 1.0 ECTS |
| IPM VII 2.3 | Project & Seminar | 14 - 15 May 2020 | 0.0 ECTS |
| IPM VIII | UNIT VIII - IPM GUIDELINES, COMMUNICATION, ENTERPRENERSHIP & PROJECT | 18 May - 05 Jun 2020 | 10.0 ECTS |
| IPM VIII.1 | Communication tools | 18 - 21 May 2020 | 2.0 ECTS |
| IPM VIII.2. | Social Innovation and Entrepreneurship | 25 - 29 May 2020 | 2.0 ECTS |
| IPM VIII.3. | Good Agriculture Practices and certification in the global market | 01 - 04 Jun 2020 | 1.0 ECTS |
| IPM VIII.4 | Project evaluation | 05 Jun 2020 | 5.0 ECTS |
| IPM IX | UNIT IX. IPPC/CIHEAM Bari Training Course on "Developing phytosanitary capacity: plant quarantine & certification of plant propagating material" | 08 - 12 Jun 2020 | 3.0 ECTS |
| IPM IX.1 | Plant Quarantine | 08 Jun 2020 | 0.5 ECTS |
| IPM IX.2 | European Mediterranean Plant Protection Organization | 09 Jun 2020 | 0.5 ECTS |
| IPM IX.3 | Pest Monitoring programmes | 10 Jun 2020 | 0.5 ECTS |
| IPM IX.4 | Certification of propagating plant material | 11 Jun 2020 | 0.5 ECTS |
| IPM IX.5 | International Plant Protection Convention & International Standards | 12 Jun 2020 | 1.0 ECTS |
| IPM X | UNIT X FINAL EXAM | 15 - 16 Jun 2020 | 0.0 ECTS |
| IPM X.1. | Final Examination | 15 - 16 Jun 2020 | 0.0 ECTS |