



Master of Science Programme in MEDITERRANEAN ORGANIC AGRICULTURE

Academic Year 2023 - 2024

DESCRIPTION

The Master of Science Programme aims at creating the next generation of professionals able to foster development of organic agriculture and meet sustainability goals. The master program proposes a system-oriented approach in organic agriculture as a complex and dynamic process that requires careful management to ensure long-term sustainability and resilience. It integrates knowledge and methods from multiple disciplines to create sustainable organic food systems that match with the needs of local communities and territories in a range of bio-physical and socio-economic contexts. Learning and teaching strategies are combined to advance students technical and analytical skills together with the important soft skills of communication, collaboration, creativity and critical thinking.

At the end of the course, MOA students will be able to promote processes for the development of organic agriculture aimed at agroecological transition and sustainable food systems development. Students will be able to:

- ❖ Apply the principles and practices of organic agriculture, including crop management, soil health, and pest and disease management;
- ❖ Plan and promote conversion to organic agriculture and adopt a value chain perspective;
- ❖ Assess the environmental, social, and economic dimensions of organic farming and food production;
- ❖ Understand policy and regulatory frameworks that govern organic agriculture at the local, national, and international levels;
- ❖ Identify and apply innovative solutions that promote sustainability and resilience of organic farming and food systems;
- ❖ Apply collaborative problem-solving approach and system thinking to address complex challenges in organic agriculture.

The programme involves CIHEAM Bari staff and international scientists and practitioners who have made exceptional contributions to the organic sector. The first year of MOA programme is composed of eight thematic units followed by an applied project. During the second year students will carry out the research project on specific topics.

ORGANIZATION

First Year: 60 ECTS

Diploma: Master of CIHEAM Bari

Duration: from October 2023 to June 2024

Second Year: 60 ECTS

Diploma: Master of Science (MSc)

Duration: from November 2024 to October 2025

CANDIDATES' PROFILE

The course is addressed to new graduate students and young professionals with a university background related to agronomic, horticultural, agricultural marketing and socio-economic issues.

Requirements:

- Three years (180 ECTS) or four years (240 ECTS) of university studies;
- Four years out of five of university studies (240 ECTS), upon agreement between the sending University and CIHEAM Bari;
- Five years of university studies (300 ECTS);
- Professionals having a degree (3-4 years) and at least 2 years of experience in a field related to the Master Programme;
- Good Knowledge of spoken and written English;
- Personal access to computer facilities.

ADMISSION

Selection of students is based on:

1. Screening of documents uploaded online by candidates to support their application.
2. Online interviews.

APPLICATIONS through the **CIHEAM Bari Platform**
(<https://online-application.iamb.ciheam.org>)

Deadline: 31 May 2023

COSTS

Registration fee: 200.00€/year

Tuition fee: 500.00€/month (travel, accommodation and insurance expenses not included)

SCHOLARSHIPS

CIHEAM Bari grants **full** or **partial scholarships** to candidates according to a ranking list.

LANGUAGE OF INSTRUCTION: English

For further information and application procedure: www.iamb.it

First-year programme

Unit I - Sustainability and resilience in agriculture and food systems (distance learning): the unit frames the concepts of sustainability, sustainable development and resilience of agriculture and food systems; describes elements and activities from food production to consumption relevant to achieve more sustainable and resilient systems; and presents policies, strategies and initiatives to foster transformation and transition processes. A multi-dimensional framework for sustainability assessment is introduced with real-life examples. The organic food system is considered a pilot model and living laboratory to understand the drivers of sustainable food production and consumption.

Unit II - Agroecology: this unit focuses on the ecological processes and principles to design a sustainable farming system that promotes agroecological transition; describes the range of ecosystem services from an agroecosystem perspective, framing them in farming activities and practices with a special focus on biodiversity and climate change; provides tools and approaches to quantify and understand the value of ecosystem services that influence the sustainability of agroecosystems; and explains interconnections between organic agriculture and agroecology.

Unit III - Organic agriculture principles, concepts and legislations: the unit provides an overview of the history of organic farming and philosophy, principles and legal frameworks; explains legislation governing the production, processing, distribution and marketing of organic food products; and describes the certification schemes and inspections under specific regulations and standards based on case studies.

Unit IV - Soil management and fertility: the unit provides principles and practices for soil management and fertility in organic farming system; considers organic farms as a potential self-sustaining biological system that adopt sustainable practices to improve soil health and fertility and boost productivity by reducing external inputs; explains what are the differences between organic vs regenerative vs carbon farming practices; offers hands-on experiences on nutrients dynamic in soil and plant under different management systems; and describes the principles of circular economy and demonstrates technological approaches for biomass recycling and nutrient cycling on a farm scale.

Unit V - Pests and diseases management: this unit emphasizes the importance of a holistic approach to pest and disease management in organic agriculture, where prevention, monitoring, and the use of multiple control methods are key to achieving sustainable and healthy crop production; describes innovative approaches applied to assess and study disease spread, transmission and control of the most common pests and diseases that affect organic crops; and applies the multi-level approach to agroecosystem health as essential for a successful plant healthcare strategy in organic agriculture.

Unit VI - Sustainable farm management and agribusiness: this unit provides principles of agricultural economics, farm financial accounting and business planning with a focus on improving environmental, economic and social sustainability. Integrated methods for sustainability assessments are considered decision-making tools towards more competitive and sustainable organic agribusiness. The case studies are used to assess multi-dimensional and multi-scale sustainability with practical examples of innovative social and environmental certification schemes for more sustainable and inclusive organic agribusiness.

Unit VII - Organic food value/supply chains and marketing strategies: the unit focuses on developing short, transparent and sustainable organic value/supply chains by analysing their components, actors and services and by fostering interactions. It analyses organic food consumption consumer demands and markets focusing on strategies. It provides a holistic concept to define and evaluate organic food quality and safety. Innovative technologies that create added value during the processing, packaging and post-harvesting are described.

UNIT VIII - Policies and local development: it provides a comprehensive understanding of national and international policy frameworks and local development opportunities for organic agriculture. It explain how policies and multi-actors involvement contribute to development of organic sector and agricultural policy towards 2030. It presents organic farming and food systems as a catalysts for participation in a local territory and promotion of knowledge, skills and values (economical, social and cultural). It focuses on relations between territorial and socio-economic features and importance of community participation and stakeholder networking for future development. Examples of interconnection between social innovations and policies in organic agriculture are explained. It demonstrates successful case studies and best practices at the local level.

Applied Project: Collaborative problem solving and system thinking

Students will have the opportunity to participate in experimental activities addressing the main challenges of the organic sector. Understanding the main problems of a local organic enterprise is crucial to address the challenges along the whole value chain and food systems. The activities are designed to develop the students' capacity to observe, analyse and propose solutions to complex problems by applying combined approaches from different disciplines. Project aims at developing the collaborative problem-solving skills of students to effectively engage in a process to solve a 'real live' problem by sharing the understanding, pooling their knowledge and effort while providing innovative and system solutions.

Second-year programme

Students who have successfully completed the first year are admitted to the second-year programme to carry out research under the academic supervision of experts and in collaboration with national and international research and innovation institution and organic enterprises. Students can choose projects which link to their interests for future career development. Main topics available for Master of Science are: Cropping systems, soil fertility, products quality and by-product managements; Biological control and natural compounds for plant health; Farm management and food system sustainability assessments; Consumers and marketing research; Socio-economic and support policies impacts; Post harvesting, packaging and processing of organic food and added-value products development.