



CPM 19 - 2025

Capacity building in plant health to strengthen research in the Mediterranean region

Anna Maria D'Onghia and Biagio Di Terlizzi

Centre International de Hautes Etudes Agronomiques Méditerranéennes of Bari (CIHEAM Bari), Via Ceglie 9, 70010 Valenzano (BA) - Italy

E-mail: donghia@iamb.it

Most pests and diseases affecting Mediterranean crops are seriously compromising food security and, consequently, the sustainability of rural populations in several countries in the Mediterranean region, neighbouring countries and in Central Africa. The United Nations clearly highlighted the importance of plant health with the declaration of 2020 as the International Year of Plant Health and the designation of 12 May as International Day of Plant Health.

CIHEAM Bari has gained more than 35 years of experience in plant health, implementing and supporting numerous international education and research initiatives in these countries through the combination of the tools of education, research and international cooperation. Research activities mainly concern the development and transfer of advanced detection methods and tools, characterization and epidemiological studies on major and new pests (e.g., Citrus tristeza virus, *Xylella fastidiosa*) affecting priority crops in this region (e.g., citrus, olive). In recent years, CIHEAM Bari has contributed to the development and integration of smart technologies in pest risk analysis, early surveillance and prediction for the implementation of precision Decision Support Systems.

Since 1985, many young researchers have been trained on different aspects of plant health through Master, Master of Science and PhD programs, and scientists have been connected through international cooperation programs to strengthen capacity and awareness on plant health in the Mediterranean region. Developing expertise in plant health to build a research area in the Mediterranean region has been the main mission of CIHEAM Bari. To this end, about 400 students obtained MSc degrees, with scholarships granted by the Italian Cooperation, conducting original research on phytosanitary issues of great relevance to the Mediterranean region. The main objective is to provide them with knowledge and practical skills on research methods and techniques, and to develop critical and analytical ability. Furthermore, the best students can also complete research started during their MSc thesis activities through PhD programs held in collaboration with Italian and foreign universities. Since 2000, approximately 60 CIHEAM MSc students have obtained a PhD degree (of which 52% are women): 42% come from the Maghreb (Algeria, Tunisia and Morocco), 39% from the Near and Middle East countries (Lebanon, Syria, Jordan, Egypt, Palestine, Iraq), 7% from the Balkans (Albania, Bosnia-Herzegovina) and 12% from EU countries (Italy, Spain). Approximately 290 scientific works have been published in peer-reviewed journals and almost half in scientific conference proceedings, with an average of 0.5 and 1.5 publications per MSc and PhD student, respectively.

These initiatives enabled the development of plant health research capacities for the benefit of national and local scientific and academic institutions in several Mediterranean countries. Furthermore, thanks to the financial support of international cooperation, research facilities and equipment have been provided to research institutions and administrations to allow young scientists to carry out research in their own countries, limiting the so called "brain drain".

To build the plant health research area in the Mediterranean region it is essential not only to strengthen research capacities but also collaboration at national and regional levels. To this end, CIHEAM Bari and Euphresco network launched in 2021 the first example of research coordination in the region through the "Phytosanitary research priorities for the Mediterranean region" initiative, whose model inspired the ongoing Euphresco III project toward a global research networking.