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TITLE - Harmonization and Innovation In PhD Study Program for Plant Health in Sustainable Agriculture
ACRONYM - HarlSA
GRANT HOLDER - University of Zagreb Faculty of Agriculture
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PROJECT LEADER - Prof. Renata Bažok, Ph.D.
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PROJECT PARTNERS

Country	University
Croatia	J.J. Strossmayer University of Osijek, Faculty of Agrobiotechnical Sciences Osijek
Italia	University of Bari Aldo Moro
Bulgaria	Agriculture University Plovdiv
Greece	Agriculture University of Athens
Albania	Agriculture University of Tirana "Fan S. Noli" University
Bosnia and Herzegovina	University of Sarajevo University of Mostar
Serbia	University of Belgrade Faculty of Agriculture University of Novi Sad Faculty of Agriculture
Montenegro	University of Montenegro

In today's sustainable agricultural production, comprehensive care for plant health is essential. Apart from modern diagnostic methods, it includes the application of sophisticated plant protection methods based on the latest scientific. knowledge . Without the highly educated experts who are well acquainted with the issue of all aspects of plant health in sustainable agricultural production, it is impossible to achieve required goals. The HarlSA project (Harmonization and Innovation in PhD Study Programs for Plant Health in Sustainable Agriculture) was approved under the Erasmus+ program in the field of Strengthening Capacities in Higher Education on the European Movement politics and culture (EACEA) . This project has the ambition to harmonize and modernize doctoral education in the Western Balkans countries and to create a network of researchers capable of responding to current challenges in plant health. The project aims to provide support for modernization and internationalization of higher education in the field of plant health and to contribute to co-operation between the European Union and the countries of Western Balkans in implementing the European Union's policy on plant health. It also seeks to ensure the acquisition of scientific knowledge and the transfer of skills and competences to achieve sustainable use of pesticides and the application of the major principles of integrated plant protection in agricultural production. The project was submitted by the University of Zagreb, Faculty of Agriculture, in cooperation with partners from the EU countries (Croatia, Italy, Bulgaria and Greece) and countries of the so-called Western Balkans (WBC) (Bosnia and Herzegovina, Serbia, Montenegro and

Albania). The project will achieve specific goals such as: harmonize, improve and modernize doctoral programs in the area of plant health among partner universities, to increase the ability of the PhD to respond to global health problems; to develop a common framework and a draft curriculum for an international joint doctoral study in plant health; to foster regional integration in the field of research and education of plant health within the Western Balkan countries and between the countries of the Western Balkans and the EU countries.

PROJECT BACKGROUND

Consumers in the EU and beyond are increasingly concerned about the impact of pesticides on the environment and human health. These concerns are reflected in EU's 6th Environment Action Program, and Thematic Strategy on the Sustainable Use of Pesticides, whose key objectives include substitution of harmful substances by safer alternatives, encouragement of low input/low-pesticide crop cultivation and re-inforce integrated pest management applications. Increasing concerns of consumers about chemical pesticides have resulted in " EU pesticides package" (Regulations 1107/ 2009/ EEC and 1185/ 2009,Directives 2009/128/EC and 2009/127) which regarded stress upon the environment, residuals in the food chain, human health issues and impact on evolutionary pressure. Moreover, the 7th Environmental Action Program includes an "enabling framework" with four priority objectives to help EU deliver on these goals: better implementation of legislation, better information by improving the knowledge base, more and wiser investment for the environment, and full integration of environmental requirements into other policies.

Consortium members have special interest in taking part in the project as it is a unique opportunity to bring together a wide expertise in the field of plant health doctoral education and research. The project provides a great potential to generate synergies to help overcome the current challenges and build human capacities in plant health in the Western Balkan countries (WBC). All HarlSA partner countries are candidates for entering EU. The common challenges for them is to implement EU policy in plant health, and develop and establish all necessary conditions for the application of innovative plant health measures that fits with the principles of sustainable agriculture. The implementation of "EU pesticides package" requires highly educated professionals with deep understanding on this matter. They must be capable to transfer knowledge, skills and competences in the biological, biotechnological and agronomic control means and in applying strategies at pesticide application which can reduce environmental and human risk. This project has the ambition of harmonizing and modernizing doctoral education at Pls and crating a network of researchers that is capable to respond to the above mentioned challenges. HEIs will benefit by improving human potential and its success for conduction of competitive research in the field of plant health. At the same time this will ensure preconditions in partner countries to improve productivity and resilience of sustainable agriculture in the context of evolving climate. Finally, it will impact on a range of agricultural production (in chains context) and risk management practices, and will result with safeguarding of biodiversity (particularly near NATURA 2000 natural areas). Regional and partner country national priority is to improve quality of education and teaching by developing learning and teaching tools, methodologies and pedagogical approaches including learning outcomes and ICT- based practices. HarlSA project proposes the modernization of curriculum by developing new and innovative courses and methodologies. Therefore, the aims of the HarlSA project are entirely compatible with regional and partner national priorities in the field of education. The same time HarlSA

covers the field of agriculture which is also defined as national priority by all partner countries as well as for the region of WBCs. The strategic research agenda and project results of the “C-IPM - Coordinated Integrated Pest management in Europe" ERA- NET was activated to favor exchange and identification of IPM research and development priorities in order to face European challenges of responding to the mandatory implementation of the principles of integrated pest management (IPM). Proposed project is in line with numerous EU founded projects as are PURE-IPM, ENDURE, BIOFECTOR, BIOCOMES, BIOGUARD, Best Pass, XF-ACTORS, Al-Tree, EUFRUIT, EMPHASIS, BIOCOMES, etc. All these projects are (or were) research projects related to plant health issues as emerging pest and diseases, sustainable use of pesticides, developing new products and methodologies for pest control .

Until now, all completed and ongoing curricula reform EU projects on plant health topic were focused on undergraduate and graduate programs. The aims were to develop modern teaching contents at the agricultural faculties, to improve the quality and modularization of their curricula to improve the teaching skills of staff or to develop strategic planning management. Some of them aimed to develop and improve Master study programs in plant health (International Joint Master Degree in Plant Medicine and Plant Health project) but no projects and activities are carried out to harmonize the doctoral education neither in agriculture nor in plant health