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# "HERBAL MEDNET" AN INNOVATIVE AND INTEGRATED E-LEARNING PROGRAMME ABOUT ORGANIC MEDICINAL AND AROMATIC PLANTS IN MEDITERRANEAN COUNTRIES

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***Abstract***

*Organic farming of herbs, medicinal and aromatic plants is of major importance for rural economy due to their contribution to agricultural diversification and better use of land. Herbs have been used by local populations in traditional ways for many centuries. Their novelty is thus not related to their introduction to new areas but rather to the ways in which old and new uses are being re-addressed to meet today's needs.*
*In this sense, Herbal.Mednet is a transfer of innovation project under LLP Leonardo da Vinci Program (TOI) targeting to develop an e-learning training on organic herbs, medicinal and aromatic plants. Existing e-learning content in the topics of organic farming of herbs, medicinal and aromatic plants needs to be appropriately adapted, transferred and validated in relation to the needs of the farmers, so that this area of farming is further understood and adopted. To this end, there is a clear need for targeting agricultural advisors and extension officers, in order to further educate them and prepare them to effectively guide, train, and support farmers. The design and the development of the proposed Herbal.Mednet training program is based on the needed and required competences and requirements of trainers, as well as the production of Vocational Education and Training (VET) Scenarios for professionals from Mediterranean countries (Spain, Greece, Italy), who are involved in cultivation, production and processing procedure of organic herbs, medicinal and aromatic plants. Herbal.Mednet training process will be elaborated and deployed by a consortium of specialists from Spain, Italy, Greece, Belgium and Romania. The Romanian contribution will be crucial for the project progress and success, having in mind the own expertise in medicinal and aromatic species biology and cultivation as well as in education and training based on on-line and digital educational resources.*

***Key words:*** *e-learning, organic agriculture, herbs, medicinal plants.*

## INTRODUCTION

Herbal, medicinal and aromatic plants have been an important resource for human healthcare from prehistoric times to the present day. According to the World Health Organization, the majority of the world's human population, especially in developing countries, depends on traditional medicine based on organic herbs. Between 50,000 and 70,000 plant species are known to be used in traditional and modern medicinal systems throughout the world (International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants, 2007).
These species are of major importance for rural economy due to their contribution to agricultural diversification and better use of land, their economic potential and the opportunities they provide for medicines' use diversification. They have been used by local populations in traditional ways for many centuries. Their novelty is thus not related to their introduction to new areas but rather to the ways in which old and new uses are being re-addressed to meet today's needs.
In this sense, "Herbal.Mednet" is a transfer of innovation project under LLP Leonardo da Vinci Program (TOI) targeting to develop an e-learning training on organic herbal, medicinal and aromatic plants. Existing e-learning content in the topics of organic farming of herbal, medicinal and aromatic plants needs to be appropriately adapted, transferred and validated in relation to the needs of the farmers, so that this area of farming is further understood and adopted. To this end, there is a clear need for targeting agricultural advisors and extension officers, in order to further educate them and prepare them to effectively guide, train, and support farmers. This project intends to give an original and efficient contribution to the agricultural sector promoting the specific focus

of organic herbal, medicinal and aromatic plants.

## MATERIALS AND METHODS

„Herbal.Mednet"-"Enhancing the Vocational Education and Training of Innovative Farming Trainers/Advisors in Area of Herbal, Medicinal and Aromatic Plants" is an EU project funded under the Leonardo da Vinci Programme that will focus on the professional training of agricultural advisors in the area of organic farming of herbs, medicinal and aromatic plants subjects has been identified on an EU level in order enhance the Vocational Education and Training (VET) opportunities of agricultural advisors and improve the linkage between VET and labour market.

The consortium includes partners that have diverse backgrounds and expertises, so that they deal successfully with the complexities of the proposed project: Sociedad Española de Agricultura Ecologica (Spain), coordinator; Universidad de Alcalá (Spain); University of Agronomic Sciences and Veterinary Medicine of Bucharest (Romania); Eummena Professional Organization in ICT (Belgium); University of Thessaly (Greece); Società di Servizi Reali Ricerca e Formazione – Settori Agricolo, Agroalimentare, Rurale e Ambientale (Italy); Apivita Organisation on Pharmaceutical Products (Greece). The collaboration of partners among countries with (i) common interest in organic agricultural topics like the herbs, medicinal and aromatic plants from a specific geographical region-Mediterranean, (ii) different experience in applying methods and techniques in organic cultivation, production and processing of herbs and (iii) different expertise in the continuous training of professional on the topics of organic farming of herbs, medicinal and aromatic plants, indicates the benefits from this transnational approach that aims to transfer knowledge, existing training based in competences and long-term experience among participating countries in the Herbal.Mednet initiative.

## RESULTS AND DISCUSSIONS

Conventional agriculture production has been applied through heavy reliance on non-renewable resources (mechanization, fertilizers, pesticides, etc.) resulting in numerous agricultural burdens such as soil degradation, water run-off, pollution, reduced biodiversity and landscape image, escalating production costs. Public awareness of the irreversible damage done to the environment has led to calls for a more responsible attitude towards our natural heritage (Toader et al., 2010). Against this background, herbs, medicinal and aromatic plants farming appear as an alternative agricultural approach that can not only produce valuable products but is environmentally sound too. The term "herbs" refers to the plants distributed from the ancient times until today in traditional stores and have, in a general sense, a beneficial effect in human health. These plants are known from the ancient years for their applications in pharmacy, cooking, distillery and perfumery. Their contribution to human is substantial because of specific components that defend the human health.

Europe holds the first position globally in Aromatic and Medicinal Plants imports with a percentage of 49%. The second place goes to Asia with 19%, Japan with 16%, and North America with 11% while the entire remaining regions together amount to 7% (Figure 1). The increase rate in Europe reaches 10% both because of the consumers turning towards healthy nutrition and alternative forms of therapy, as well as because of the fact that the financial benefit from the herbs, medicinal and aromatic plants farming has become tangible (FAO, 2011).

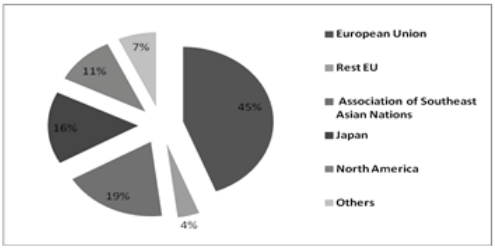


Figure 1. Global herbal markets
(source: FAO report, 2011)

The global commerce of these plants has a total value of 62 billion $, 28 billions of which is located in Europe (Figure 2).

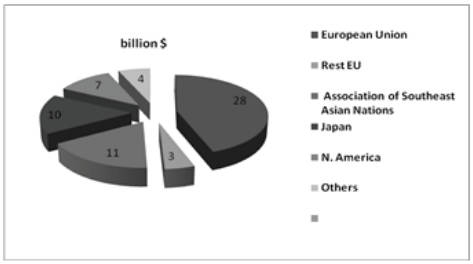


Figure 2. Value of global herbal markets (source: FAO report, 2011)

In the context of the new globalised agriculture economy, a new agricultural environment is formed and a swift adoption of appropriate practices has to take place. In the next few years the traditional crops (grain, tobacco, cotton etc) are expected to be replaced by new. However, the herbs, medicinal and aromatic plants are still hampered by lack of clarity: both consumers and the agricultural professionals are not always sure what herbs, medicinal and aromatic plants are, what are it benefits, which products are covered by herbs, medicinal and aromatic plants farming, and which restrictions of these species implies (World Trade Organisation, 2009).

Agricultural universities around the world are slowly including related courses in their educational programs, aiming to prepare agricultural professionals so that they can appropriately support and guide farmers through a transition to herbal, medicinal and aromatic plants farming. Furthermore, various European and national efforts are now increasing the production of relevant e-learning content in a digital format. Such initiatives have various goals and are implemented in different socio-cultural and linguistic contexts. For instance, they may aim at promoting herbal, medicinal and aromatic plants farming and educating producers/farmers and consumers about its benefits, or at training agricultural professionals on the theory, methods and practices of this field. On the other hand, these constitute dispersed resources that are individually listed in separate sites, and their exploitation in actual training scenarios in European, national, regional, local and/or sectoral training systems and practices remains to be seen. Existing e-learning content needs to be appropriately adapted, transferred and validated in relation to the needs of the farmers, so that herbs, medicinal and aromatic plants farming is further understood and adopted. To this end, there is a clear need for targeting agricultural advisors and extension officers, in order to further educate them and prepare them to effectively guide, train, and support farmers in selecting and applying herbs, medicinal and aromatic plants farming products.

To address the above need, “Herbal.Mednet” project aims to achieve the following objectives: identifying and analyzing targeted needs and competences in order to prepare a set of highly-qualified agricultural advisors and extension officers, who can serve as trainers in adopting and applying organic herbal cultivations and producers/processors of extracts from medicinal and aromatic plants in Mediterranean countries; developing a training program that will particularly enhance and address the targeted competences for the advisors of organic herbs farmers and processors as well as specific case studies that apply for the specificities of the participating Mediterranean countries, Spain, Italy and Greece.

The Romanian contribution being crucial for the project progress and success, having in mind the own expertise in medicinal and aromatic species biology and cultivation as well as in education and training based on on-line and digital educational resources. University of Agronomic Sciences and Veterinary Medicine of Bucharest (USAMVB) will lead the work package on the design, development of the “Herbal.Mednet” curriculum and its appropriate localisation and adaptation in all user countries (Spain, Italy, and Greece) of Herbal.Mednet. Also, USAMVB will support the objectives of the Herbal.Mednet on the delivery of the training content in the field of organic herbs, medicinal and aromatic plants in the online course management platform. As part of the project, a training program will be designed and developed. This program will depart from a study on how experts-advisors in medicinal and aromatic plants (like agronomists) can train/support farmers, producers and processors of herbs, and will address all issues related to the use of new methods and techniques on organic farming of herbs, medicinal and

aromatic plants through innovative training techniques (including online training and tutoring), participatory techniques and specific professional training scenarios. The innovation of the proposed program is (a) that it integrates components and best practices from previous successful initiatives and case studies, (b) includes pedagogical components on how advisors should approach and train farmers/producers and processors of organic herbs, (c) adopts a blended training approach, since it combines physical training and real-life examples with a variety of digital training resources that can be accessed online, and (d) provides candidate advisors with a suggested curriculum framework that they can appropriately adapt and specialize for approaching the farmers in their regions.

## CONCLUSIONS

The "Herbal.Mednet" project intends to evaluate, implement and improve the current training methods and contents, included those coming from previous innovative initiatives, for the design of a on-line training program directed to the advisers of organic herb farmers and processors.

In conclusion, the selection and categorization of training content and identification of innovative training techniques through the Herbal.Mednet project will enhance the continuous training of agricultural advisors in topics of organic farming of herbs, medicinal and aromatic plants and improve the linkage between Vocational Education and Training opportunities and labour market for Spain, Italy and Greece (and with Romania in a second step) in an easy way that it could be easily transferred and adapted in all the EU countries with specific interest in herbs, medicinal and aromatic plants.

## ACKNOWLEDGEMENTS

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