Co-funded by the European Union

Project ERASMUS K2: "*Cooperation to implement innovative methods for the assessment of medicinal plants with central roles in pharmaceutics, agriculture and nutrition*" (EURO-PLANT-ACT)

KA220-HED - Cooperation partnerships in higher education

Contract No. 2022-1-RO01-KA220-HED-000088958

REPORT - TRAINING FOR EXPERTS

Sveuciliste Josipa Jurja Strossmayera u Osijeku / Faculty of Agrobiotechnical Sciences Osijek (P2)

20.02.2023 – 24.02.2023

Between February 20-24, 2023, the expert training took place at Sveučilište Josipa Jurja Strossmayera u Osijeku / Faculty of Agrobiotechnical Sciences Osijek, P2, Osijek, Croatia. Nineteen specialists participated in this session: four specialists from each university involved in the project and two specialists from the industry partner, as follows:

- Coordinator (UMFVBT) - Cristina Adriana Dehelean, Iulia Andreea Pînzaru, Ioana Gabriela Macașoi, and George Andrei Drăghici (4 specialists in pharmacy/medicine and toxicology (pharmacological-toxicological evaluations)).
- P1 (USVT) - Ersilia Alexa, Isidora Radulov, Ileana Cocan, and Cornelia Creț (4 specialists in the food industry).
- P2 (UNIOS) - Karolina Vrandecic, Daniel Haman, Maria Ravlic, Jasenka Cosic, and Renata Balicevic (5 specialists in agriculture).
- P3 (UNICAL) - Filomena Conforti, Giancarlo Statti, Fedora Grande, and Francesco Russo (4 specialists in pharmacy and nutrition).
- P4 (ROMPAN) - Daniela Voica and Dana Avram (2 specialists from the food industry).

In accordance with the activities outlined in the project proposal, theoretical and practical training sessions were conducted involving all attendees. The focus was on the cultivation analysis and identification of organic medicinal plants and innovative

methods for antifungal characterization of products derived from medicinal plants (extracts - PE, essential oils - OE). The event agenda included theoretical sessions during the first three days and practical sessions in the last two days.

The first day of the event included: Participant registration, a welcome speech by the coordinator from P2, Prof. Karolina Vrandecic; Presentation of the host institution Sveučilište Josipa Jurja Strossmayera u Osijeku, Faculty of Agrobiotechnical Sciences Osijek; Discussions about the event program and organizational issues. A brief presentation of the EURO-PLANT-ACT project followed by the presentation "Plant *diseases of vegetable, medicinal, and aromatic plants in integrated and ecological production*" (Coordinator P2 Prof. Karolina Vrandecic).

On the second day, presentations continued as follows: *The pharmaco-toxicological approach of medicinal plants with a central role in pharmaceutics* (Project Director Prof. Cristina Dehelean), *Medicinal plants from the spontaneous flora and cultivated in Romania* (Coordinator P1 Prof. Ersilia Alexa), *Methods to obtain finite plant-based products (extracts, essential oils)* (Coordinator P3 Prof. Filomena Conforti), *Implementing the efficient use of plant-derived products in the bakery and flour products industry* (Coordinator P4, Engineer Daniela Voica).

The third day brought discussions on: *Experimental methods applied in the pharmaco-toxicological screening of vegetal active principles* (Coordinator CO, Prof. Cristina Dehelean), *Methods to characterize finite plant-based products (extracts, essential oils) with a central role in agronomy* (P1 – USVT, Prof. Isidora Radulov), *Innovative methods for the physicochemical characterization of plant extracts and essential oils with a central role in pharmaceutics and nutrition* (P3 – UNICAL, Prof. Giancarlo Statti), *The role and influence of products derived from medicinal plants on the physico-chemical and organoleptic characteristics of flour products* (P4 – ROMPAN, Dana Avram).

At the end of each theoretical day, a working group meeting took place, and the days concluded with discussions and conclusions related to the topics covered.

In the last two days of the training, practical activities were coordinated by Prof. Karolina Vrandecic: *The identification of ecological medicinal plants* (EMP) – Part 1 (Marija Ravlić), *Innovative experimental methods related to antifungal, herbicidal, and allelopathic effects in agriculture* (Marija Ravlić), *The identification of ecological*

medicinal plants (EMP) – Part 2 (Marija Ravlić), *Innovative methods for antifungal characterization of medicinal plant products (extracts - PE, essential oils - OE) from plants with a central role in agriculture* (Prof. Karolina Vrandecic).

The expert training program achieved its goal of exchanging best practices and training specialists from complementary fields in managing the central role of medicinal plants. Thus, agricultural specialists presented data on the cultivation and characterization of medicinal plant species in the current context of globalization and climate change, pharmacists and toxicologists shared knowledge on human health management based on medicinal plant products (plant extracts, essential oils, dietary supplements, etc.), while food specialists presented data related to the preparation of healthy foods, nutritional characterization, and the relationship with medicinal plants and their products.

Practical and didactic activities were ensured with the participation of professors and specialists from each project team. Emphasis was also placed on the importance and development of entrepreneurship for more active participation in society and increasing professional development opportunities. Following the training activities, knowledge assessment tests were developed, participation certificates were issued, and each participant completed a questionnaire to evaluate the actions and knowledge gained.

The associated partners played a key role in these activities, acting as the link between proper professional training and the labor market. Both E-lite Nutrition and Favisan supported the theoretical activities aimed at consolidating theoretical and practical knowledge and significantly developing skills in innovation and specific use in the field of medicinal plants, including their incorporation into final products with multiple uses: phytotherapy, nutraceuticals, agriculture (through actions protecting the environment and natural resources).

The direct beneficiaries of the expert training program were project members selected during the project submission, based on skills in managing medicinal plants through rational cultivation, using plant products in food, nutrition, and agriculture. The outcome of this learning activity, the expert training programs, is also reflected in the deepening of knowledge among specialists in complementary fields, thanks to the interdisciplinary and multicultural exchange of knowledge.