

UP-TO-DATE TECHNOLOGIES OF MEDICINAL PLANT PRODUCTION

Teaching program
for the academic year of 2020/2021 (1st/ fall semester)

Time of lectures: on Tuesdays, 8.00-10.00 h

Date	Lectures	Lecturer
8th September	-	
15th September	1. Basic terms of medicinal plant production. The most important medicinal and aromatic plant crops of the world. Significance of medicinal plant production in national and international level. Main herb producing regions. Logistic tasks of small and large scale production. Legal regulation forms of production and distribution of medicinal plants. Variety use in medicinal plant production	Éva Zámoriné Németh
22th September	2. Significance of growing area in medicinal plant production (soil type, location, exposure, direction of wind, duration of sunshine, precipitation, etc.). Fitting of ecological demands of herbs to the environmental conditions of the growing site. Soil tillage technologies and machines applied in medicinal plant production during soil preparation and plant care.	Beáta Gosztola
29th September	3. Introduction and discussion on project tasks (homeworks): presentation of the medicinal plant sector of the countries, where the students come from. Propagation technologies applied in herb production. Quality requirements and standards of medicinal plant propagation materials. Propagation media, plant growing structures and plant care activities used during raising young plantsIntroduction	Zsuzsanna Pluhár
6th October	4. Methods for establishing herb fields. The role of planting scheme and plant density in drug yield and quality. Plant care procedures during and after establishing fields (thinning, supplementig, pruning, mulching, intercropping, etc.)	Zsuzsanna Pluhár
13th October	5. Nutrient supply applied in annual, biennial and perennial cultures. Significance of the soil nutrient capacity and role of certain elements in rising yields and improving drug quality. Forecrop fertilizing, soil improving crops, basic, starter and crop fertilizing sytems. Chemical fertilizers, manures and other crop enhancement agents. Irrigation technics, timing (phenological phases) and equipments.	Éva Zámoriné Németh
20th October	6. Modern methods and equipments of plant protection and weed control in integrated cropping systems of medicinal plant production as well as in organic farming. The most important pests and diseases appearing in medicinal plant cultures. Evaluation of medicinal plant based crop enhancing agents.	Péter Radácsi
	Autumn holiday	
3rdnd November	7. Modern technologies and machines of medicinal plant harvest. Aspects of choosing harvesters (growing scale, cropping technology, morphology of plant organs harvested, ripening stages, phenology).	Péter Radácsi
10th November	8. Modern post harvest technologies (drying, cooling, freezing, freeze-drying, etc.). Special treatment of harvested medicinal plant crops. Evaluation of new primary processing methods. Influence of post harvest procedures on the quality of end product.	Szilvia Tavaszi-Sárosi
17th November	9. Secondary processing of medicinal plant drugs. Final product manufacture. Up-to-date storage technologies and trading possibilities of medicinal plant products.	Szilvia Tavaszi-Sárosi
24th November	10. Traditional and modern industrial scale extraction technologies of medicinal plants (pressing, solvent extraction, SFE, distillation, etc.). The effect of extraction method on the quality of final product.	Zsuzsanna Pluhár
1st December	11. Quality assurance systems in medicinal plant sector (GAP, GACP, GMP, GLP, stb.). Further possibilities for quality certification	Zsuzsanna Pluhár
8th December	12. Oral presentation of projects prepared by students	Zsuzsanna Pluhár

Teaching form

In the scheduled timeframe of the course, **online lecturing** will be available on the e-learning platform of the university <https://elearning.szie.hu/course/view.php?id=5649> (because of the COVID19 pandemic situation), using BigBlueButton for 'lectures'

Literature recommended

- Hornok, L. (ed): Cultivation and processing of medicinal and aromatic plants. Academic Publisher, Budapest, 1991.
- Electronic version of lectures will be available in pdf on the e-learning platform created for the course: <https://elearning.szie.hu/course/view.php?id=5649>
- e-book (www.kertesztananyag.hu)
- http://www.tankonyvtar.hu/hu/tartalom/tamop412A/2011-0028_up_to_date_technologies/up_to_date_technologies_of_medicinal_plant_production_1_1.html

Requirements (terms to fulfill before exam):

- Preparation and oral presentation of the homework (ppt), while the text version (doc or pdf) is to be submitted prior to the written exam by email to Pluhar.Zsuzsanna@szie.hu

Exam:

- written exam will be performed on the e-learning platform

Budapest, 27th August, 2020

Prof. Dr. Zsuzsanna Pluhár
course instructor