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BSc in Horticulture

Topics of thesis in Specialisation for Floriculture and Woody Plant Nursery

MSc in Horticulture

Topics of thesis in Floriculture

2020. Autumn

1. Cultivation and use of ornamental plants

No.	Topic	Topic leader
1.	<del>Drought stress tolerance of some perennial species native on saline meadow</del> (already chosen: Velavali Shaik Shaz Ahammed, 20-10-2020)	Assoc. Prof. Dr. Andrea Tilly-Mándy
2.	<del>Cold tolerance of some perennial species native on saline meadows</del> (already chosen: Batool Fu'ad Gharaibeh, 12-10-2020)	Assoc. Prof. Dr. Andrea Tilly-Mándy
3.	<del>Effect of different biostimulator treatments on young shrubs' cultivars</del> (already chosen: Kishore Palpurtha, 09-10-2020)	Assist. Prof. Dr. Veronika Szabó
4.	<b>The ability of urban trees to sequest heavy metals from airborne dust</b> The main objective of this research work is to continue the evaluation of urban trees, in particularly their ability of accumulating heavy metals. Previously we evaluated the dust and heavy metal deposit on the leaves of three different deciduous urban tree species ( <i>Fraxinus excelsior</i> , <i>Acer pseudoplatanus</i> and <i>Tilia tomentosa</i> ). Our previous results prove that different tree species „capture” the heavy metals differently. We are planning to study the distribution of these heavy metals (Pb, Fe, Ni, Zn and Cu) within the tree and the soil by taking leaf, crop, branch, root and soil sample. These samples will be analyzed in the laboratory of the Soil Science Department at the University. The study will be carried out on selected urban tree species at the Arboretum of our University Campus and in the laboratory.	Assist. Prof. Dr. Márta Gyeveki
5.	<b>Evaluation of four <i>Tilia</i> species for urban planting against urban and drought stress</b> <i>Tilia</i> is a commonly planted urban tree in most European cities therefore it provides opportunity to study different plant adaptational strategies to environmental stress, especially to drought. In a typical urban environment with the anthropogenic-modified climatic circumstances, it is very important to evaluate different adaptation strategies. One of the most important strategies is the planting and maintenance of trees and other green spaces. The main objective of this study is to collect data on the parameters of growth rate, leaf surface temperature, the rate of photosynthesis, the rate of transpiration, water usage, shading capabilities and stomatal conductance of the leaves of <i>Tilia americana</i> 'Redmond', <i>T. platyphyllos</i> 'Favorit', <i>T. cordata</i> 'Greenspire' and <i>T. tomentosa</i> 'Szeleste' which are 10-year old trees in Soroksár Research Farm in Budapest.	Assist. Prof. Dr. Márta Gyeveki

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## 2. Tissue culturing, micropropagation

No.	Topic	Topic leader
6.	<b>Possibility of the <i>in vitro</i> propagation of 'Sophia Loren' rose cultivar</b> (already chosen: Tran Thi Anh Thao, 23-09-2020)	Assist. Prof. Dr. Máté Ördögh
7.	<b>Review of <i>in vitro</i> propagation technology in <i>Dieffenbachia</i> and <i>Aglaonema</i> taxa</b> <i>Dieffenbachia</i> and <i>Aglaonema</i> cultivars are highly important leaf ornamental plants for indoor use. Their propagation material is produced mainly with micropropagation in laboratory environment. This thesis topic covers the literature review of <i>in vitro</i> propagation of these cultivars. The student who chooses this topic is expected to collect previously and recently published articles and protocols from the scientific literature and prepare a summary of the different techniques and methods used for propagation of these cultivars, summarizing the available data with special focus on the problems and on the fields which could be developed further.	Assist. Prof. Dr. István Dániel Mosonyi

## 3. Woody Plant Nursery

No.	Topic	Topic leader
8.	<b>Effects of different biostimulator treatments on cutting of vegetative propagated shrubs' cultivars</b> In every year we chose some cultivars to propagate by softwood (leafy) cutting. After cutting we make groups of propagation material and treat them with different biostimulators to improve rooting. Under rooting period we spray cuttings with biostimulator solutions once a week, four times. After 6-8 weeks later we estimate the rooted cuttings. Before rooting we measure starting weight of a cutting (in given repeating) and in the end, we measure separately the rooting mass and shoot mass. In both case (starting and final measuring) we measure the drought mass too. We count the rooting rate, compare the different treatments.	Assist. Prof. Dr. Veronika Szabó