DEVELOPMENT OF EXPERIMENTAL AGROFORESTRY SYSTEMS ALONG IRRIGATION DEVELOPMENT AND FORESTRY RESEARCH GOALS

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In Hungary, agricultural professionals, researchers and farmers alike have to face worsening drought damage, inland excess water inundation and the consequences of multiple soil degradation, which make farming conditions more difficult as a combined consequence of climate change and anthropogenic impacts. The aim of our research is to provide an alternative option for farmers to irrigate reused water (in case of temporary or regional water shortage), which would not otherwise meet the requirements in terms of soil protection based on water quality recommendations. One of the objectives of the project is to promote the irrigation utilization of reused waters, especially for waters with high Na concentrations (> 500 mg/l), to promote the function of agroforestry systems in agricultural production in the context of changed climate and water scarcity as well. The co-cultivation of woody plants and arable crops has a positive effect on, among other things, the microclimate, thereby having a positive effect on crop production. The aim of the research is to investigate the role of agroforestry systems in the light of agrometeorological factors and the preservation and improvement of biomass production and soil quality. The international significance of the project is demonstrated by the fact that the research topic is related to SDG6-12-13-15 sustainable development goals. The diversity of the project, which results from the complexity of the researches' goals covering each slice of the biosphere, hydrosphere, lithosphere and atmosphere, requires that the topic have dealt with consortium level (the Hungarian University of Agriculture and Life Sciences and the University of Sopron).