

# Book of Abstracts

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**Editors: G. Lo Papa, C. Dazzi, S. Némethy**

**1<sup>st</sup> International Joint Congress on  
“Sustainable Management of  
Cultural Landscapes in the  
context of the European Green Deal”**

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editors

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## Sustainable agriculture and sustainability of water resources from the aspect of environmental protection

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**Keywords:** soil salinity, soil conservation, water quality, irrigation

The international community has recognized soil salinization as one of the biggest global problems when it comes to soil conservation and its fertility, where the quality of water used for irrigation is a very important factor.

Institute for Soil Science in Belgrade conducted research on the properties of agricultural soil and irrigation water sampled at locations under irrigation systems within 6 areas of central Serbia (Branicevska, Podunavska, Pomoravska, Moravica, Macvanska and Toplica) in the period 2015-2018. The soil from 134 pedological profiles was sampled and the basic parameters of fertility and water-physical characteristics were analyzed. Irrigation water was also sampled at the research sites, in which the parameters for assessing its quality were analyzed (pH, electrical conductivity, sodium adsorption ratio, fixed residue). Five different classifications of irrigation water, which define the degree of risk of salinization and alkalization of soil due to the use of water of a certain quality for irrigation purposes, were applied in the paper. It was observed that a number of samples fall into different classes of application possibilities for irrigation according to different classifications. In some areas, the percentage of samples where a mismatch among classifications was observed is not negligible (e.g. in the Podunavska area there is a discrepancy between FAO and US Salinity classifications in 95.8% of samples).

Worldwide, priority is given to different classifications depending on practical experience and scientific conclusions. Many factors affect the degree of risk of soil salinization that are subject to change in the conditions of climate change. Having in mind the importance and prevalence of soil salinization, we conclude that the practice of using a number of classifications and their revision over time is a positive example and useful tool in prevention and the combat against soil salinization.