

## **Water quality as a limiting factor for irrigated agriculture**

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**Abstract** Water quality for irrigation is evaluated for specific watercourses in the area of Vojvodina, Serbia. The classifications used to assess the usability of irrigation water of various qualities are the FAO classification, USSL classification, the classification according to Neigebauer and the chloride classification of irrigation water. An additional assessment of the usability of irrigation water was also used and included determining the value of the sodium adsorption ratio (SAR), sodium percentage (SSP), residual sodium carbonate (RSC), residual sodium bi-carbonate (RSBC), magnesium content (MAR), permeability index (PI), and Kelly's ratio (KR). The overall assessment is that water analysed for the irrigation systems cannot be used because of its inappropriate effects on soil salinity. An analysis of the suitability of the phreatic aquifer for irrigation showed its inappropriate characteristics. Only a small number of water samples could be recommended for irrigation.

**Key words** Danube-Tisza-Danube Hydro System; water quality; irrigation; classification; sustainability