

## **STUDIES AND RESEARCH ON WATER LOSSES FROM IRRIGATION SYSTEMS**

**Ștefan-Andrei STICEA<sup>1</sup>, Alexandru-Lucian LUCA<sup>2</sup>, Nicolae MARCOIE<sup>1</sup>, Mihail LUCA<sup>1</sup>**

e-mail: mluca2015@yahoo.com

---

### **Abstract**

The advanced degree of wear of the irrigation system infrastructure determines the occurrence and maintenance of water losses. The research was conducted in irrigation systems located in the eastern part of Romania and which have different periods of operation, but all performed before 1990. The research highlighted the complexity of the process of degradation of structural elements and the development of water loss. The structural degradation of the canals and pipes under the action of natural and anthropogenic factors determined the appearance of water losses and, implicitly, the decrease of the hydraulic efficiency. The research highlighted a degree of degradation of the supply and distribution channels of about 40-60%. An important influence in the degradation action was the absence of maintenance and repair works. Significant water losses are recorded in the pipelines. Their value reaches 18 - 27% of the transported flow, being determined by the wear of the material and the aging of the components of the hydraulic installations. Water losses are of the visible, hidden and background type. The use of European funds to rehabilitate irrigation systems requires reducing water losses.

**Key words:** basins, canals, hydraulic efficiency, monitoring, water leaks

---