

RESEARCH OF WATER LOSSES IN THE PIPE NETWORK OF THE SPRINKLER IRRIGATION PLOT

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Abstract

The paper presents the results of research on water losses from the pipe network of irrigation plots still in the exploitation phase in Romania. These plotters have a long service life, considering their creation about 40-50 years ago. The advanced degree of wear and tear of network components, especially pipes and hydrants, led to the occurrence and maintenance of water losses. The assessment of water losses is done directly on site by measurements on the pipe network. The simulation of water losses is carried out by using appropriate calculation programs in this field (Epanet and its extensions, Hydra, AutoCad, ArcMap), with the use of databases created in Excel and Word. The simulation requires a complex data base collected from the field, from the design documentation and from the network operation process. The input data required in the analysis program are represented by sets of word, excel, .xls and .dxf files and so on. The results obtained by simulation are exported in tables, graphs, curves of variation of hydraulic parameters and other.

Key words: flows, hydrants, pipes, pressure, simulation, water losses