Abstract

The exploitation of the production capacity of the agricultural fields and mainly of the arable areas was performed over the time by their improvement with drainage, banking-regulation, underground drainage, soil erosion control and other types of works. According to the data supplied by A.N.I.F., in Suceava County, there is a surface of 44,904 ha with drainage works, of which 27,455 ha with drain works. The results of the research carried out in the pedoclimatic conditions of the Moldova riverbed proved that within 5 days of circa 30 mm rainfall, in the case of absorbing drain lines spaced 15 m and 20 m apart, respectively, on an area of terrain not modeled in strips with ridges, the mean value of soil water content decrease from the median between the drains towards the drainage line. For the drains that service the area of terrain modeled in strips with ridges the lowest value was recorded on the drainage trench, whereas the highest value was measured 2 m from the drainage line due to the surface flow that occurs throughout torrential rain. Concerning the momentary soil water content, categorized by depth, in points situated 2 m from the drainage line and upon the median between drains, the highest value was recorded 40-50 cm deep, whereas for the drain located upon the area modeled in strips with ridges, the highest value was recorded 50 to 70 cm deep, due to the higher elevation of the terrain and to the contribution of rougher soil material resulted from modeling the terrain. Upon the drainage trench the soil water content increases with depth due to the water influx towards the drain's filter during the 34 years of operation.

Keywords: humidity in excess, desiccating- draining system, modeling in strips with ridges, soil water content