THE DEPENDENCE OF FILTRATION COEFFICIENT IN SOILS MADE OF DUSTY FORMATIONS ON THEIR PHYSICAL PROPERTIES

Key words: draining, dusty soils, filtration coefficient

Summary

This paper presents results of a study on the dependence of the filtration coefficient on grain size, bulk density and porosity of soils made of dusty formations.

Studies were carried out separately for the active layer (depth of 0.5 m) and for the substratum (1.1 m). Analyses were performed on the random sample of 150 measurements in soils taken in Lublin Voivodship. Linear, multiple and exponential regressions were used in statistical data processing.

Studies showed no significant relationship ($\alpha = 0.05$ and $\alpha = 0.01$) between the coefficient of filtration and analysed physical soil properties in the active layer (0.5 m). Mean and SD of the coefficient were 0.36 and 0.36$m\cdot$day$^{-1}$, respectively. There was, however, significant ($\alpha = 0.01$) relation-ship between the coefficient and percent content of clay fraction, geometric mean diameter of soil particles, bulk density, porosity and percent content of fine dust particles (the latter at $\alpha = 0.05$).

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