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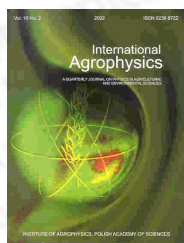
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Hydrophysical characteristics and evaporation of Haplic Luvisol and Mollic Gleysol aggregates

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abstract The influence of the size of Haplic Luvisol and Mollic Gleysol aggregates on soil water potential-moisture characteristics, saturated water conductivity, diffusivity and evaporation at different external conditions are presented. It has been found that size of aggregates strongly influenced hydrophysical characteristics and evaporation of investigated soils. The size of Haplic Luvisol and Mollic Gleysol aggregates had an impact on significant differentiation of the water bounded with the potential less than 10 kJ m⁻³ (pF 2). The saturated water conductivity increases significantly with the increase of aggregate size. The diffusivity coefficients of all the investigated aggregate fractions increased with the increase of moisture and they were higher for Mollic Gleysol aggregates than for Haplic Luvisol ones. The increase of evaporation under steady-state conditions was determined by the soil aggregation, i.e., the evaporation was always higher for fine- and medium-aggregated soil samples than for coarse-aggregated ones. This increase was very high and for the investigated soils it reached eleven times (Mollic Gleysol, Ep=4.5 mm day⁻¹).

keywords water, evaporation, soil aggregates

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