

Rate of water absorption by soil clods under confined and unconfined conditions

ABSTRACT

Experiments were conducted to study the rate of water absorption by clod of different sizes and initial moisture content using the capillarity method. Clods were prepared by molding wet clay soil into cubes for easy contact with the wet surface of a water-conducting material. Prepared samples exposed to wetting were examined by cutting 5-mm thick slices, starting the base. For confined conditions, a measured load was applied on every clod tested. The results of the clod-wetting experiments show that the rate of water absorption by capillarity was greatest when clods were initially very dry and that smaller clods tended to absorb water faster than bigger clods confined. However, confining had no significant effect on absorption when the initial condition was very wet.

Keyword: Water absorption; Soil clods; Confined and unconfined conditions