

## عنوان مقاله:

EFFECTS OF WATER QUALITY ON INFILTRATION RATE AND SURFACE PONDING/RUNOFF

## محل انتشار:

مجله تحقیقات کاربردی، دوره 1، شماره 3 (سال: 1394)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Accurate description of infiltration, ponding/runoff is very critical in soil management. A laboratory column studies was designed to investigate the effects of water quality on infiltration rate and time-to-incipient ponding or runoff generation- time. Clear water, and muddy water comprising sand, silt and clay at different concentrations of 10, 20, 30 and 40 g in 400 cm<sup>3</sup> of water were used as the test fluids. Physical and hydraulic properties of the soil columns before and after the infiltration studies were determined. Severe modifications to the soil physical and hydraulic properties were observed following the infiltration experiments. The results of the study on saturated hydraulic conductivity were used to predict the relative time-to-incipient ponding of the various sediment surface seals. Sand suspension at 10 g produced the longest time-to-incipient ponding due to an immense increase in the saturated hydraulic conductivity. Again, unrealistic parameter values signifying that the occurrence of ponding/runoff was observed for some of the test fluids at certain rainfall rates. Overall, clay suspension at all concentrations gave the .shortest time to cause surface ponding and/or runoff

## کلمات کلیدی:

Infiltration rate, Ponding, Runoff, Sediment, Water quality

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