

**B-06 : EFFECT OF GRAVEL LAYER ON SOIL WATER  
RETENTION IN RHODUSTALFS**

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The presence of a gravel layer is one of the major limitations in the well-drained Reddish Brown Earths of Sri Lanka (RhodustalFs) for agricultural use. This gravel layer varies in thickness and is present from about 26 cm to 60 cm from the soil surface. This consists of about 65% of gravel and is packed with illuvial clay which effects soil water retention and flow. The objective of this study was to evaluate the differences of soil water retention of this gravel layer with relation to the overlying surface horizon and underlining decomposing parent material.

The water retention was characterized using soil core samples obtained from the middle of each horizon from a soil profile at Maha Illuppallama Sub Campus, University of Peradeniya. The results showed that the least water retention at any suction was in the gravel layer. The major differences were between the surface layer and the gravel horizon and were confined to suctions ranging from 25 cm to 100 cm of water. This reveals that the macro pores formed by the gravel particles are sealed by the deposition of clay reducing the porosity which in return effects water retention. This limits soil water availability of the profile for crop production in this area.