

Determination of Water Holding Capacity of Organics and Soil

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ABSTRACT

A laboratory experiment was conducted to assess the water holding capacity of different organic materials and soil during 2014-15 at Agronomy Laboratory, Regional Agricultural Research Station, Tirupati. The treatments consisted of ten, *i.e.*, Farm Yard Manure (T₁), Pressmud cake (T₂), Vermicompost (T₃), Soil (T₄), Farm Yard Manure (15%) + Soil (T₅), Pressmud cake (15%) + Soil (T₆), Vermicompost (15%) + Soil (T₇), Farm Yard Manure (30%) + Soil (T₈), Pressmud cake (30%) + Soil (T₉) and Vermicompost (30%) + Soil (T₁₀) and replicated thrice. Results were analysed in SPSS 20 using one way Analysis Of Variance technique (ANOVA) and Duncan's Multiple Range Test (DMRT) to know the significant variations among the treatments with respect to the water holding capacity. The experimental results revealed that different organic materials tested are having significantly higher water holding capacity compared to soil alone. The highest water holding capacity (68.35%) was recorded with pressmud cake alone (T₂) followed by Vermicompost (59.21%) and FYM (57.50%). While, the lowest water holding capacity (32%) was recorded with soil alone (T₄). When all these organic materials are combined with soil @ 15 and 30% on weight-by-weight basis, the water holding capacity of soil alone was enhanced from 32- 47.87 per cent and 32-57.49 per cent respectively. It can be concluded that organic materials alone or in combination with soil would enhance the water holding capacity.

Keywords: *Water holding capacity, organic FYM, Pressmud cake and Vermicompost and Alfisols.*