

Title: Effect of cultivation on soil moisture content in University of Embu.

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Abstract

Soil moisture is one of the major components of soil fertility. It plays a key role in the growth of plants. A clear indication of soil water significance to plants. To achieve high farm productivity, plants will require adequate supply of water from the soils. However, Soils with very high levels of water inhibit the growth and developments of roots due to aeration restriction . Tillage is one of the core practices for agricultural production predominantly used to control weeds and consequently foster plant growth. It is a form of deep cultivation which will affect soil moisture content. This may be through alteration of soil structure that influences soil moisture content . Also, the tools used during tillage and cultivation processes may lead to soil disturbance which may accelerate soil moisture loss from the surface (Al-kaisi et al., 2009).Soil management practices on the other hand such as no-till farming have been assessed with efficacy to retain soil moisture content. Land sizes in the central highlands of Kenya (where the site is located) are small. This leads to demand for continuous cultivation to feed the dense population of the area. Research has showed that in Mbeere Kenya cultivation expansion by 70% was recorded between 1958 and 2001. With the increased population density in University of Embu (UoEm), many parts of undisturbed land will be affected by cultivation due to increased agricultural projects and also the necessity for crop farming. There exists a gap in information about variation of soil moisture content between cultivated and non-cultivated areas of UoEm. Moreover, the effects of soil moisture in this institution's farm is not very well known. This research study seeks to contribute to the knowledge and understanding of soil moisture content variation across different cultivation regimes. Determination of this will be of great importance given the construction activities taking place in the university since earth fill compaction (a crucial process in construction) is dependent on soil moisture. Besides, microbial populations living in the soil depend on moisture for their metabolic activities (Buttery et al., 1998).