

A Study on Soil Moisture and Root Distribution of Tea, Rubber and Oil Palm Crops at Different Maturity Stages

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Abstract

This study was conducted to compare soil moisture levels and root distribution of tea (*Camellia sinensis*), rubber (*Hevea brasiliensis*) and oil palm (*Elaeis guineensis*) cultivated in wet zone (WL2a) of Sri Lanka. Tea, rubber and oil palm cultivations were selected and soil moisture content and root dry weight were determined for crops (oil palm, rubber and tea), different soil depths (0-10 cm, 10-20 cm and 20-30 cm), maturity stages of crop (6-9 years and 17-20 years), slope of land (00-50cm, 100-150cm and 200-250cm) plant and inter row location. The same data were repeatedly taken three times and each data set was taken at four days after a rainfall. In the study the highest mean soil moisture content was recorded in Rubber lands and mean soil moisture content of rubber was significantly different from oil palm and tea. However, mean soil moisture content of both oil palm and tea were not significantly different from each other. Mean root dry weight was significantly different among crop species where the highest mean root dry weight was recorded in oil palm. The mean root dry weights of rubber and tea were not significantly different with each other.

Keywords– Inter-row distance, Oil palm, Root dry weight, Soil moisture content

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