EFFECT OF OIL PALM CULTIVATION ON GROUND WATER TABLE

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Oil Palm *Elaeis guieensis*, occur naturally in western central Africa. They are now been planted in many parts of the tropics. It gives much oil per hectare than any other oil crop. Present extent of oil palm in Sri Lanka is more than 2500 ha. It is mainly distributed in Galle, Kalutara and Matara Districts.

Main objectives of the present study was to find out the effect of oil palm cultivation and ground water depletion. A field experiment was carried out at Thalgaswala estate in the Galle District in tea, oil palm and bare land situated within close proximity to each other. Experiment was replicated three times covering all elevational differences ie. high slope, mid slope and lowland. The size of each plot was 2 m X 2m.

After measuring the initial water levels all experimental plots were fully saturated with water over a period of seven days. After saturation, water depletion pattern was measured daily at 7 a.m.

Data was collected from three water depletion cycles (Starting from September 2003 to January 2004). In each cycle, regression coefficient was measured (ß) for understanding the water depletion rate using these ß values T test was carried out to analyze, significant differences between in treatments.

Results showed that there was no significant differences ($p < 0.05$) among the treatments on water depletion during the study period in Thalgaswala estate.