UNIVERSITI TEKNOLOGI MARA

STUDY OF SOIL FERTILITY MOVEMENT OF HARUMANIS MANGO AFFECTED BY THE DIFFERENCE SLOPE

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requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this disertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Soil fertility very important to help the soil maintain in a good condition where it important for the growth of the crop. Fertilizer are used not only the crop planted at the flat area but also planted at the slope area. Thus, this study looks into the difference of slope that has been affected for the soil fertility movement used Digital Elevation Model (DEM) where generated by using UAV technology and also has used Hydrology tool in GIS. The main focuses are to generated flow accumulation from DEM data derived by using UAV technology related to the soil fertility movement. From the Hydrology flow accumulation, the analysis has been able to help to identify the soil fertility movement by difference of slope based on water flow. Soil sample also for each level of slope such as upper slope, middle slope and lower slope where it required to determines the value of soil texture, soil pH, Potassium (K) and soil salinity. Inverse Distance Weighted (IDW) tool in GIS also has been used to interpolate the rainfall data. Using regression method, relationship between each slope with value of soil pH, potassium, soil salinity and rainfall data has been generated. It was found that, upper slope were strong relationship to the 4 of element compared to the lower slope. This is because, the higher of slope has influenced more to the soil fertility.

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