

UNIVERSITI TEKNOLOGI MARA

**APPLICATION OF REMOTE SENSING IN THE
INVESTIGATION OF MATURITY AGE OF OIL
PALM TREES IN PASIR PUTEH, KELANTAN**

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ABSTRACT

The determination of oil palm age is essential for the plantation industry as it influences the growth and yield production of the plantation. The aim of this study is to identify the maturity age of oil palm trees using remote sensing technique. Satellite image, SPOT 7 with resolution of 6 meter is used in the determination of oil palm age. Ground data is collected to know the height, age and production of the oil PALM plantation. Satellite image data is obtained from Malaysian Remote sensing Agency (MRSA) while the ground data is gotten from Malaysian Palm Oil Board (MPOB). The study is conducted to propose a new method of managing and identifying the age of plantation with the use of remote sensing. Processing is carried out via Erdas Imagine and ArcGIS software. The digital number for three different ages of oil palm trees, 1, 2 and 5 are observed to detect the digital number of the different ages. The spectral reflectance of the trees are observed for each of the age. Vegetation indices of NDVI and SAVI are carried out to observe the health of the plantation. Regression model between age and palm oil growth is modelled. The regression shows the relationship of the age and growth. The final result is the map showing the healthy level of oil palm trees using Normalized Difference Vegetation Index (NDVI) and Soil Adjusted Vegetation Index (SAVI).

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