

INTEGRATION OF UAV WITH STRESS DETECTION LENS OVER OIL PALM PLANTATION

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ABSTRACT: Managing oil palm plantation to be stress free can be a difficult task. To avoid decrease of yield in the plantation industry, early detection of palm tree disease by monitoring the stressed palms. Monitoring stress palms can be done by using remote sensing technique. Plant stress detection lens integrated with the Unmanned Aerial Vehicle (UAV) can be used to monitor stressed palms. Stressed detection lens attached to the UAV will block certain wavelength to make monitoring palms easy. The precision of this integration method was evaluated by the Normalize Difference Vegetation Index (NDVI). Data of Oil Palm NDVI was taken by Green Seeker instrument. From the plant stress detection integrated with the UAV captures, showed a highlight of unhealthy canopy appearing coral pink/glowing peach. While the healthy part of the canopy was dim to dark purplish. Validation of the method with on ground NDVI over the same area showed the method to be reliable.