

ABSTRAK

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Program Studi : Teknik Geodesi
Judul : Identifikasi Kesehatan Tanaman Akasia Berdasarkan Indeks Vegetasi Yang Diturunkan Dari Data Citra Wahana *Unmanned Aerial Vehicle*
Pembimbing I : Dr. Dewi Kania Sari, Ir., M.T.

Tanaman akasia menjadi komoditas yang sangat penting di kawasan hutan tanaman industri yang berada di Provinsi Sumatera Selatan karena hasil produk olahannya memiliki manfaat dalam kehidupan masyarakat. Maka perlu dilakukan pemantauan kesehatan tanaman akasia guna menjaga kualitas dan hasil produksi. Penelitian ini dilakukan sebagai upaya mengetahui kesehatan tanaman akasia dengan menerapkan teknik penginderaan jauh. Analisis dilakukan dengan identifikasi kondisi tanaman menggunakan indeks kehijauan tanaman yaitu *Normalized Difference Vegetation Index* (NDVI). Data yang digunakan adalah data citra ortofoto RGB dan citra ortofoto NIR yang telah terkoreksi geometrik. Data citra ortofoto UAV *band* RGB dan NIR diakuisisi pada bulan Maret 2019. Didapatkan bahwa secara keseluruhan kesehatan tanaman akasia di kawasan HTI masih didominasi oleh tingkat kesehatan rendah dengan persentase sebesar 46%, tanaman yang memiliki tingkat kesehatan tinggi hanya 1% dari total jumlah pohon sebanyak 25.906. Hasil sebaran pohon akasia menunjukkan bahwa tanaman dengan kondisi tidak sehat berada dibagian barat lokasi penelitian. Kesehatan tanaman akasia dipengaruhi oleh beberapa faktor, seperti kondisi air di Kawasan HTI yang mengalami kondisi masam yang tidak cocok dengan tanaman akasia. Serta kondisi disekitar tanaman akasia adanya semak belukar atau gulma yang dapat mempengaruhi pertumbuhan karena dapat mengganggu asupan nutrisi tanaman akasia.

Kata Kunci : Kesehatan tanaman, Pengideraan Jauh, NDVI

ABSTRACT

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Title : *Health Identification of Acacia Plants Based on the Vegetation Index derived from the Wahana Unmanned Aerial Vehicle Image Data*
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Acacia plants are a very important commodity in industrial forest plantations in South Sumatra Province because their processed products have benefits in people's lives. So it is necessary to monitor the health of acacia plants in order to maintain quality and production results. This research was conducted as an effort to determine the health of acacia plants by applying remote sensing techniques. The analysis was carried out by identifying plant conditions using a plant greenness index, namely the Normalized Difference Vegetation Index (NDVI). The data used were orthophoto RGB and NIR orthophoto data which had been geometrically corrected. UAV orthophoto data of RGB and NIR bands were acquired in March 2019. It was found that the overall health of acacia plants in the HTI area was still dominated by a low level of health with a percentage of 46%, plants with a high health level were only 1% of the total number of trees of 25,906 . The results of the distribution of acacia trees showed that plants with unhealthy conditions were in the western part of the study site. Acacia plant health is influenced by several factors, such as water conditions in HTI areas which experience acidic conditions that are not suitable for acacia plants. As well as conditions around acacia plants, there are shrubs or weeds that can affect growth because they can interfere with the acacia plant's nutritional intake.

Keywords : *Plant Health, Remote Sensing, NDVI*