

Title Estimation of Above-ground Carbon Storage of Rubber Tree
Using Remote Sensing Techniques

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ABSTRACT

This study aimed to figure out the relationship between (I) The leaf area index (LAI) and aboveground carbon storage of rubber tree with 5-9 years age classes. (II) The relationship between LAI and aboveground carbon storage with vegetation indices derived from THEOS satellite digital image. The study showed that the relationship between (I) LAI with aboveground carbon storage was in form of polynomial equation with R^2 of 0.813 to 0.968 and all age R^2 of 0.704. (II) LAI with vegetation indices (NDVI, TNDVI, SR, MSR, SAVI) form of polynomial equation with R^2 of 0.851 to 0.994 and all age R^2 of 0.7309. (III) Vegetation indices with carbon storage form equation of 5 years, 6 to 8 years and 9 years was exponential, polynomial, and power equation respectively with R^2 of 0.718 to 0.940 and all age was in form polynomial equation with R^2 of 0.710. Results of analysis, with relatively high R^2 if separately analyzed by each age class but relatively low if analyzed by all age and carbon storage on field survey, carbon storage on LAI in form of vegetation indices and carbon storage in form of vegetation indices was 15.85, 17.17 and 16.34 ton/ha respectively.