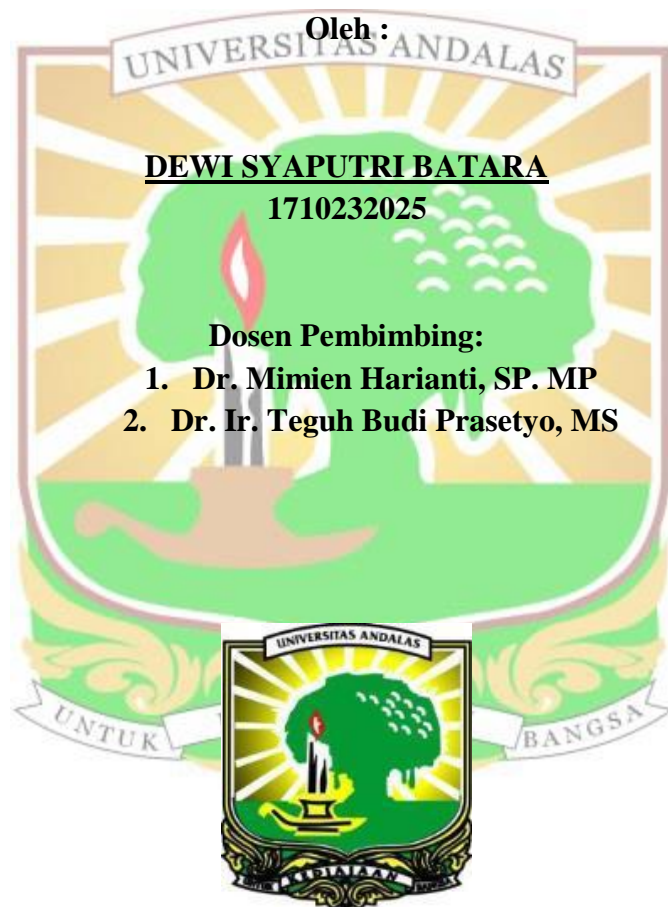


**PERUBAHAN SIFAT KIMIA GAMBUT PADA LAHAN  
KONVERSI KELAPA SAWIT MENJADI PERTANAMAN  
JAGUNG DI KINALI KABUPATEN PASAMAN BARAT  
SUMATERA BARAT**

**SKRIPSI**



**PROGRAM STUDI ILMU TANAH  
FAKULTAS PERTANIAN  
UNIVERSITAS ANDALAS  
PADANG  
2021**

# **PERUBAHAN SIFAT KIMIA GAMBUT PADA LAHAN KONVERSI KELAPA SAWIT MENJADI PERTANAMAN JAGUNG DI KINALI KABUPATEN PASAMAN BARAT SUMATERA BARAT**

## **Abstrak**

Penurunan harga produksi dan peralihan kepemilikan lahan menyebabkan masyarakat memilih untuk mengkonversi perkebunan kelapa sawit menjadi pertanaman jagung. Perubahan tutupan lahan dari tanaman tahunan ke tanaman semusim berpotensi menurunkan kualitas lahan gambut. Penelitian ini bertujuan untuk mengidentifikasi perubahan sifat kimia gambut pada lahan konversi kelapa sawit menjadi pertanaman jagung. Penelitian ini dilaksanakan dari bulan Mei sampai September 2021. Pengamatan dan pengambilan sampel dilakukan dengan menggunakan metode Transek, tegak lurus dari saluran drainase berdasarkan jarak 2m, 200m, dan 400m dari saluran utama di jagung umur konversi < 2 tahun, (3) pertanaman jagung umur konversi  $\geq 2$  tahun. Masing-masing transek umur konversi < 2 tahun dan umur konversi  $\geq 2$  tahun diambil 3 titik sampel dengan 2 ulangan di kedalaman 0-20 cm dan 20-40 cm. Sifat kimia pada lahan gambut yang sudah dikonversi dari perkebunan kelapa sawit menjadi pertanaman jagung diantaranya pH 4,18-4,98, kadar air 163,76-495,81%, kadar abu 15,5-72,12%, C-Organik 16,18-49,02%, N-Total 1,25-6,92%, P-Total 5,56-255,87 ppm, P-Tersedia 0,63-157,43 ppm, K-dd 0,38-1,98 me/100g, Na-dd 3,97-13,84 me/100g, Ca-dd 12,26-23,12 me/100g, Mg-dd 14,66-50,84 me/100g, KTK 63,30-498,16 me/100g, keasaman total 570-600 cmol/kg<sup>-1</sup>. Setelah dilakukan konversi lahan kualitas lahan gambut mengalami kenaikan yaitu pada umur konversi <2 tahun dan menurun semakin bertambahnya umur konversi lahan yaitu umur konversi  $\geq 2$  tahun. Disarankan untuk menjaga dan mempertahankan tinggi muka air gambut, serta perlu dilakukan penggunaan pupuk sesuai dosis dan penggunaan amelioran yang baik untuk mendapatkan hara pada gambut namun tidak merusak gambut itu sendiri.

*Kata kunci : Lahan jagung, Konversi lahan, Kualitas lahan, Sifat kimia gambut*

# CHANGES IN THE CHEMICAL PROPERTIES OF PEAT LAND AS LAND CONVERTED FROM OIL PALM TO CORN PLANTATION IN KINALI, PASAMAN BARAT REGENCY, WEST SUMATERA

## Abstract

The decline in price and the change in land ownership caused people to convert oil palm into corn plantation. Changes in land cover from perennial crops to annual crops have potential to reduce the quality of peatlands. This study was aimed to identify changes in the chemical properties of peat land as oil palm was converted to corn plantation. This research was carried out at field from May to September 2021. Field observation and soil sampling was conducted by using transect method, perpendicular to the drainage channel 2 m, 200 m, and 400 m distance from the main canal for two different ages of land conversion ( $<2$  y, and  $\geq 2$  y). For each points in the transect, soil samples were taken with 2 replications at two different depth (0-20 cm and 20-40 cm). The parameters of chemical properties analyzed were soil pH, water content, ash content, org-C, total N, total-P, available-P, cation exchangeable, CEC, and total acidity. The results showed that the soil had pH 4.18-4.98, the water content was 163.76-495.81%, the ash content was 15.5-72.12%, the organic-C was 16.18-49.02%, the total-N was 1.25-6.92%, the total-P was 5.56-255.87 ppm, the available-P was 0.63-157.43 ppm, the K-exch was 0,38-1.98 cmol/kg, the Na-exch was 3.97-13.84 cmol/kg, the Ca-exch was 12.26-23.12 cmol/kg, the Mg-exch was 14.66-50.84 cmol/kg, the CEC was 63.30-498.16 cmol/kg, the total acidity was 570-600 cmol/kg<sup>-1</sup>. After land conversion, the quality of peatland increased, (at  $<2$  years old conversion) and decreased again with increasing age of land conversion. It was recommended to maintain the water level of the peat, to fertilize land base on recommendation, as well as to apply a good ameliorant to obtain nutrients in the peat.

*Keywords: Corn field, Land conversion, Land quality, Peat chemical properties*