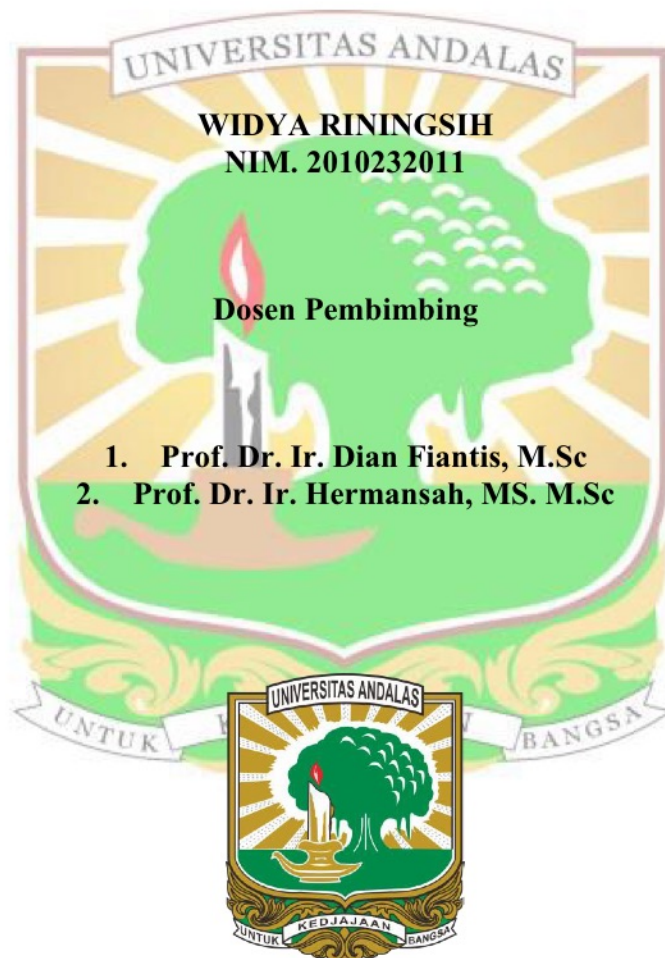


**KAJIAN BEBERAPA SIFAT KIMIA LAPISAN BAWAH
(KEDALAMAN 20 – 40 CM) PADA SAWAH
FISIOGRAFI ALUVIAL DI KABUPATEN SOLOK**

SKRIPSI

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**FAKULTAS PERTANIAN
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ABSTRAK

Sawah fisiografi aluvial di Kabupaten Solok (3.953 ha) yang tersebar di Kecamatan Junjung Sirih, X Koto Singkarak, Kubung, dan Bukit Sundi belum diketahui sifat kimia tanahnya. Penelitian ini bertujuan untuk mengkaji dan memetakan beberapa sifat kimia lapisan bawah (kedalaman 20 – 40 cm) serta menganalisis air sawah dan air irigasi pada sawah fisiografi aluvial di Kabupaten Solok. Penelitian menggunakan metode survei, sampel tanah diambil dengan metode *Stratified Random Sampling* berdasarkan fisiografi. Sampel tanah diambil sebanyak 22 sampel pada lahan sawah saat pasca panen dengan kondisi sawah masih sedikit berair, serta sebanyak 22 sampel air sawah dan 22 sampel air irigasi. Parameter yang dianalisis di laboratorium meliputi pH (H_2O dan KCl, pH air sawah dan air irigasi), DHL dan TDS (elektrometrik) C-Organik (*Walkley and Black*), N-total (*Kjeldahl*), Rasio C/N, P-tersedia (Bray I) dan K-dd (*Leaching*). Hasil penelitian menunjukkan pH H_2O tanah berkisar antara 4,29 - 7,55 dan pH KCl tanah 3,04 - 6,97, pH air sawah 5,24 - 7,22, pH air irigasi 5,25 - 7,01, DHL tanah 44 - 1.521 $\mu S/cm$, DHL air sawah 68 - 464 $\mu S/cm$, DHL air irigasi 78 - 396 $\mu S/cm$, TDS tanah 33 - 743 ppm, TDS air sawah 34 - 231 ppm, TDS air irigasi 39 - 184 ppm, C-Organik 0,15 - 2,64%, N-total 0,06 - 0,85%, Rasio C/N 1,02 - 10,41, P-tersedia 1,44 - 8,63 ppm, dan K-dd 0,52 - 1,15 me/100g. Sebaran spasial beberapa sifat kimia lapisan bawah tanah sawah fisiografi aluvial menunjukkan bahwa rata-rata sifat kimia terbaik terdapat pada wilayah Utara.

Kata kunci : *Fisiografi Aluvial, Lahan Sawah, Pemetaan Tanah, Sifat Kimia Tanah Sawah*



STUDY OF SEVERAL CHEMICAL PROPERTIES OF THE SUBSURFACE LAYER (DEPTH 20 - 40 CM) IN PADDY FIELDS WITH ALLUVIAL PHYSIOGRAPHY IN SOLOK REGENCY

ABSTRACT

The chemical properties of paddy fields with alluvial physiography in Solok Regency (3.953 ha), distributed across Junjung Sirih, X Koto Singkarak, Kubung, and Bukit Sundi districts, are still not well-documented. This study aims to examine and map several chemical properties of the subsurface layer (depth 20 - 40 cm) and to evaluate the quality of paddy field and irrigation water in these areas. The research used a survey method, with soil samples collected through Stratified Random Sampling based on physiographic zones. A total of 22 soil samples were taken after harvest from slightly waterlogged fields, along with 22 samples each of paddy field water and irrigation water. The parameters analyzed in the laboratory included pH (H₂O and KCl, paddy field and irrigation water), EC and TDS (Electrometric), organic-C (Walkley and Black), Total-N (Kjeldahl), C/N Ratio, available-P (Bray I), and exchangeable-K (Leaching). The research results showed that the pH values of soil were between 4,29 - 7,55 for H₂O and 3,04 - 6,97 for KCl. The pH of paddy field water were 5,24 - 7,22, and the irrigation water were 5,25 - 7,01. The EC values of the soil were between 44 - 1.521 μ S/cm, while for the paddy field water it ranged from 68 - 464 μ S/cm, and for irrigation water from 78 - 396 μ S/cm. TDS values of the soil were 33 - 743 ppm, the paddy field water were 34 - 231 ppm, and the irrigation water were 39 - 184 ppm. Organic carbon content ranged from 0,15 - 2,64%, total-N from 0,06 - 0,85%, C/N ratio from 1,02 - 10,41, available-P from 1,44 - 8,63 ppm, and exchangeable-K from 0,52 - 1,15 me/100g. The spatial distribution of several chemical properties of the subsurface layer in alluvial physiographic paddy fields indicated that the best average chemical properties were found in the Northern region.

Keywords : *Alluvial Physiography, Chemical Properties of Paddy Soil, Paddy Fields, Soil Mapping*