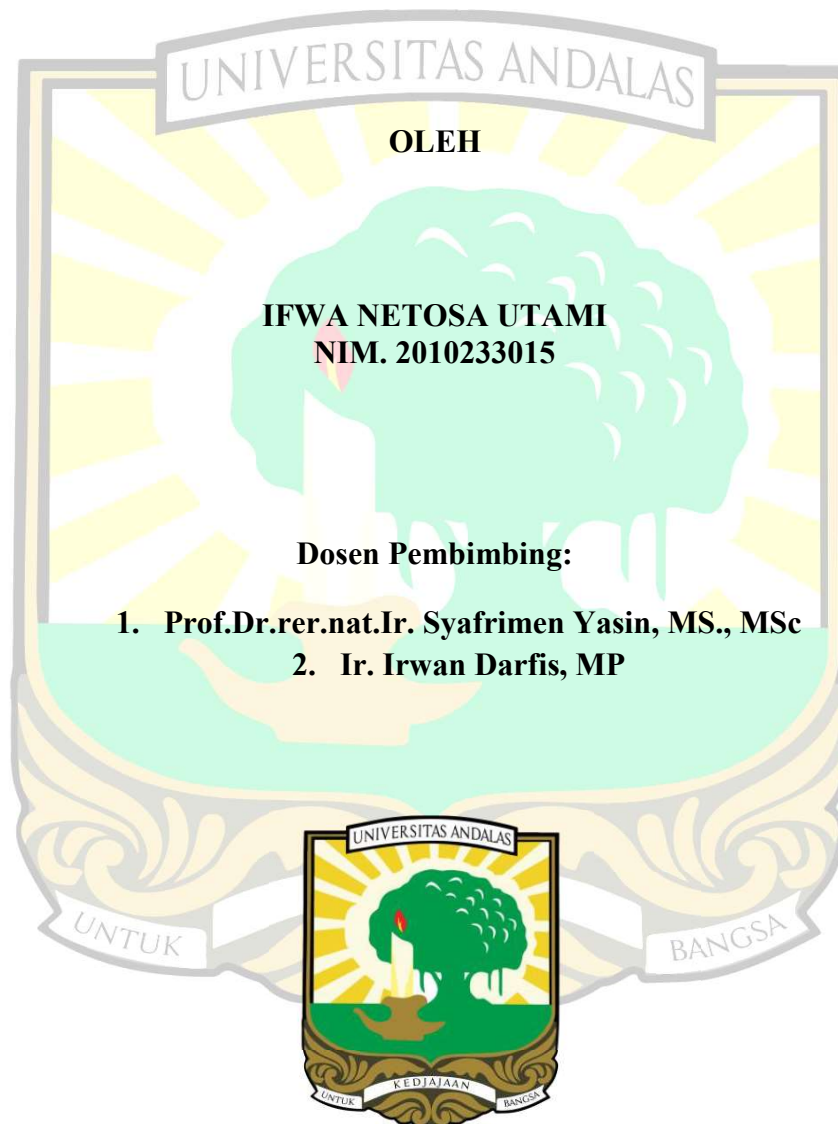


**KAJIAN SIFAT KIMIA INCEPTISOL YANG DITANAMI KOPI
ARABIKA (*Coffea arabica* L.) PADA BEBERAPA UMUR TANAMAN DI
NAGARI KOTO GADANG GUGUAK KABUPATEN SOLOK**

SKRIPSI



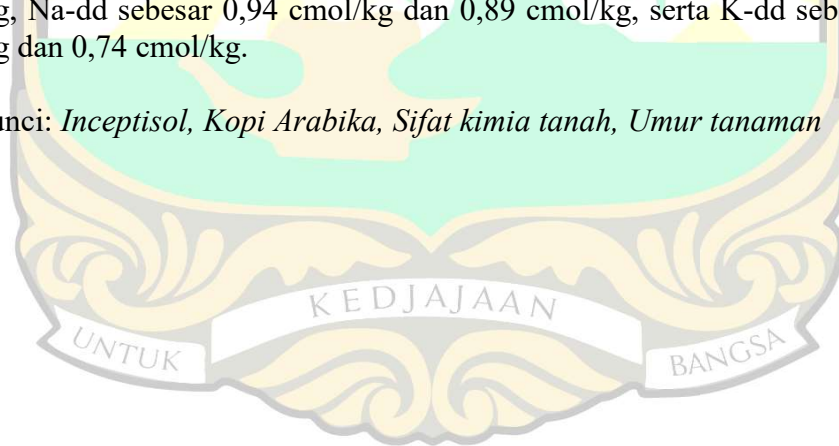
**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2024**

**KAJIAN SIFAT KIMIA INCEPTISOL YANG DITANAMI KOPI
ARABIKA (*Coffea arabica* L.) PADA BEBERAPA UMUR TANAMAN DI
NAGARI KOTO GADANG GUGUAK KABUPATEN SOLOK**

ABSTRAK

Alih fungsi lahan menjadi lahan pertanian dengan cara tebang bakar (slash and burn) dapat mempengaruhi sifat fisik, kimia dan biologi tanah. Penelitian ini bertujuan untuk mengkaji sifat kimia tanah Inceptisol yang ditanami kopi Arabika (*Coffea arabica* L.) pada beberapa umur tanaman. Penelitian ini menggunakan metode survei dengan pengambilan sampel tanah secara *purposive sampling* berdasarkan tiga variasi umur tanaman kopi (1, 3, dan 5 tahun) serta lahan hutan sebagai kontrol. Sampel tanah diambil pada kelerengan 8-15% di dua kedalaman, yaitu 0-30 cm dan 30-60 cm. Analisis laboratorium dilakukan untuk mengukur kandungan C-Organik, nilai pH tanah, nilai kapasitas tukar kation (KTK), kadar N-Total, nilai P-Tersedia, kadar basa-basa dapat dipertukarkan (Ca, Mg, Na, K), serta berat volume tanah. Hasil penelitian menunjukkan bahwa lahan dengan tanaman kopi berumur 1 tahun memiliki sifat kimia tanah yang paling baik dibandingkan dengan lahan kopi berumur lainnya. Pada kedalaman 0-30 cm dan 30-60 cm, nilai pH tanah tertinggi tercatat masing-masing sebesar 5,91 dan 5,83 unit. Kadar C-Organik tercatat sebesar 2,71% dan 2,59%, N-Total sebesar 0,39% dan 0,25%, serta P-Tersedia sebesar 34,67 ppm dan 33,94 ppm. Kapasitas tukar kation (KTK) tertinggi mencapai 38,51 cmol/kg dan 32,51 cmol/kg. Nilai Ca-dd sebesar 7,41 cmol/kg dan 7,05 cmol/kg, Mg-dd sebesar 6,75 cmol/kg dan 6,08 cmol/kg, Na-dd sebesar 0,94 cmol/kg dan 0,89 cmol/kg, serta K-dd sebesar 0,87 cmol/kg dan 0,74 cmol/kg.

Kata kunci: *Inceptisol, Kopi Arabika, Sifat kimia tanah, Umur tanaman*



SOIL CHEMICAL ANALYSIS UNDER ARABICA COFFEE (*Coffea arabica* L.) PLANTATION AT DIFFERENT AGES IN KOTO GADANG GUGUAK SOLOK REGENCY

ABSTRACT

The conversion of land into agricultural land through slash-and-burn practices can affect the physical, chemical, and biological properties of the soil. This study aims to assess the chemical properties of Inceptisol soil planted with Arabica coffee (*Coffea arabica* L.) at different plant ages. The research used a survey method with purposive sampling of soil samples based on three different plant ages (1, 3, and 5 years) and forest land as a control. Soil samples were taken from slopes of 8-15% at two depths, 0-30 cm and 30-60 cm. Laboratory analyses were conducted to measure the content of organic carbon (C-Organik), soil pH, cation exchange capacity (CEC), total nitrogen (N-Total), available phosphorus (P-Available), exchangeable bases (Ca, Mg, Na, K), and bulk density. The results showed that the land with 1-year-old coffee plants had the best chemical properties compared to other plant ages. At the depths of 0-30 cm and 30-60 cm, the highest soil pH was recorded at 5.91 and 5.83, respectively. The organic carbon content was 2.71% and 2.59%, total nitrogen was 0.39% and 0.25%, and available phosphorus was 34.67 ppm and 33.94 ppm. The highest cation exchange capacity (CEC) reached 38.51 cmol/kg and 32.51 cmol/kg. The exchangeable Ca was 7.41 cmol/kg and 7.05 cmol/kg, Mg was 6.75 cmol/kg and 6.08 cmol/kg, Na was 0.94 cmol/kg and 0.89 cmol/kg, and K was 0.87 cmol/kg and 0.74 cmol/kg, respectively.

Keywords: *Arabica coffee, Inceptisol, Plant age, Soil chemical properties*

