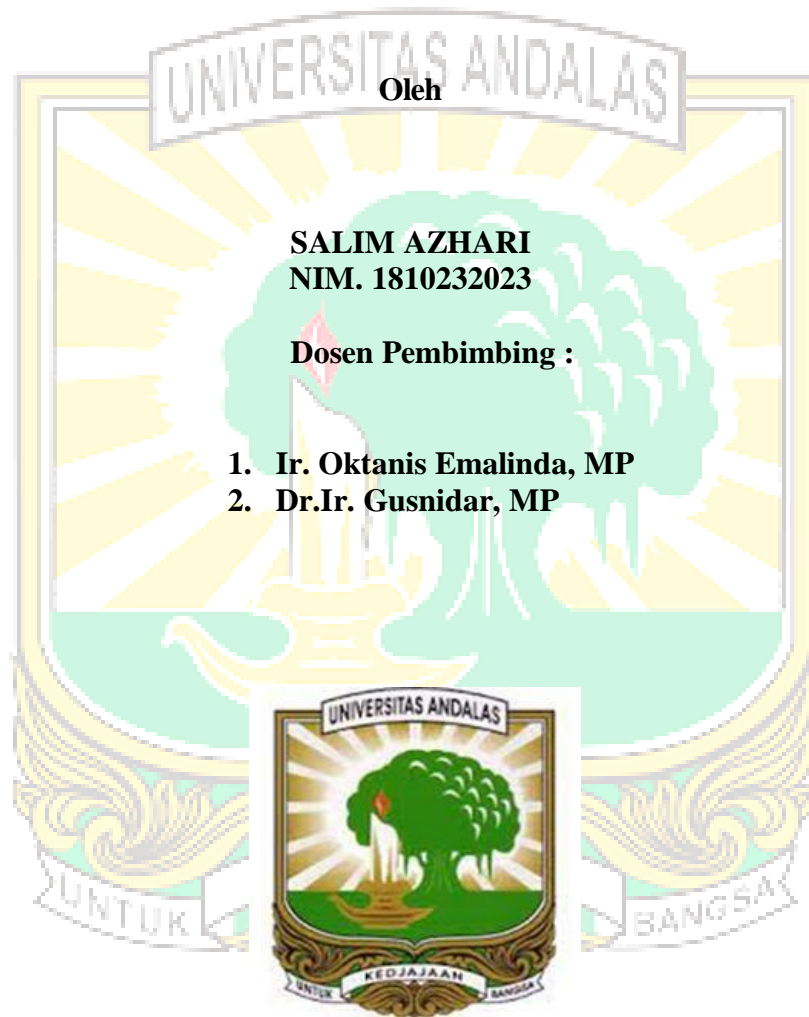


**KAJIAN SIFAT BIOLOGI TANAH PADA BEBERAPA KELAS LERENG
YANG DITANAMI UBI KAYU (*Manihot esculenta*) DI NAGARI KOTO
TANGAH BATU HAMPA KECAMATAN AKABILURU KABUPATEN 50
KOTA**

SKRIPSI



**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2025**

**SOIL BIOLOGICAL PROPERTIES AT SLOPE LEVELS UNDER CASAVA
(*Manihot Esculenta Crantz*) CULTIVATION IN NAGARI KOTO TANGAH
BATU HAMPA DISTRICT AKABILURU 50 REGENCY**

ABSTRACT

Cultivation of cassava plants in Nagari Koto Tangah Batu Hampa Akabiluru District, Regecency 50 Kota is carried out on several slope levels. The slope will affect soil biological activities such as the activity of soil microorganisms that have an impact on soil fertility. This study aims to assess the biological properties of soil on several slope levels planted with cassava (*Manihot esculenta Crantz*) in Nagari Koto Tangah Batu Hampa, Akabiluru District, 50 Kota Regency. Sampling was carried out in Kenagarian Koto Tangah Batu Hampa, Akabiluru District, Regency 50 Kota with Inceptisol order by purposive random sampling on land planted with cassava monoculture based on the same plant age with several land slopes (0-8%, 8-15%, 15-25%, 25-45%). Samples were taken as many as three replicates with a depth of 0-20 cm with a total of 12 samples. Soil analysis at the Soil Department Laboratory, Faculty of Agriculture, Andalas University, Padang, with research parameters: Soil respiration, total population of bacteria and fungi, and diversity of bacteria and fungi. The results showed that the total population of fungi, bacteria and soil microorganism respiration decreased with increasing slope level. The total population of bacteria ranged from 4.03×10^7 - 7.83×10^7 CFU/gram soil and the total population of fungi ranged from 5.23×10^6 - 7.73×10^6 CFU/gram soil. With the highest value at 0-8% slope, and the lowest value at 25-45% slope. Soil microorganism respiration values ranged from 12.18 - 14.24 mgCO₂/m²/day with low activity criteria on all slope levels.

Keywords: Cassava Plantation, Slope Level, Soil Biological Properties

**SOIL BIOLOGICAL PROPERTIES AT SLOPE LEVELS UNDER CASAVA
(*Manihot Esculenta Crantz*) CULTIVATION IN NAGARI KOTO TANGAH
BATU HAMPA DISTRICT AKABILURU 50 REGENCY**

ABSTRACT

Cultivation of cassava plants in Nagari Koto Tangah Batu Hampa Akabiluru District, Regecency 50 Kota is carried out on several slope levels. The slope will affect soil biological activities such as the activity of soil microorganisms that have an impact on soil fertility. This study aims to assess the biological properties of soil on several slope levels planted with cassava (*Manihot esculenta Crantz*) in Nagari Koto Tangah Batu Hampa, Akabiluru District, 50 Kota Regency. Sampling was carried out in Kenagarian Koto Tangah Batu Hampa, Akabiluru District, Regency 50 Kota with Inceptisol order by purposive random sampling on land planted with cassava monoculture based on the same plant age with several land slopes (0-8%, 8-15%, 15-25%, 25-45%). Samples were taken as many as three replicates with a depth of 0-20 cm with a total of 12 samples. Soil analysis at the Soil Department Laboratory, Faculty of Agriculture, Andalas University, Padang, with research parameters: Soil respiration, total population of bacteria and fungi, and diversity of bacteria and fungi. The results showed that the total population of fungi, bacteria and soil microorganism respiration decreased with increasing slope level. The total population of bacteria ranged from 4.03×10^7 - 7.83×10^7 CFU/gram soil and the total population of fungi ranged from 5.23×10^6 - 7.73×10^6 CFU/gram soil. With the highest value at 0-8% slope, and the lowest value at 25-45% slope. Soil microorganism respiration values ranged from 12.18 - 14.24 mgCO₂/m²/day with low activity criteria on all slope levels.

Keywords: Cassava Plantation, Slope Level, Soil Biological Properties