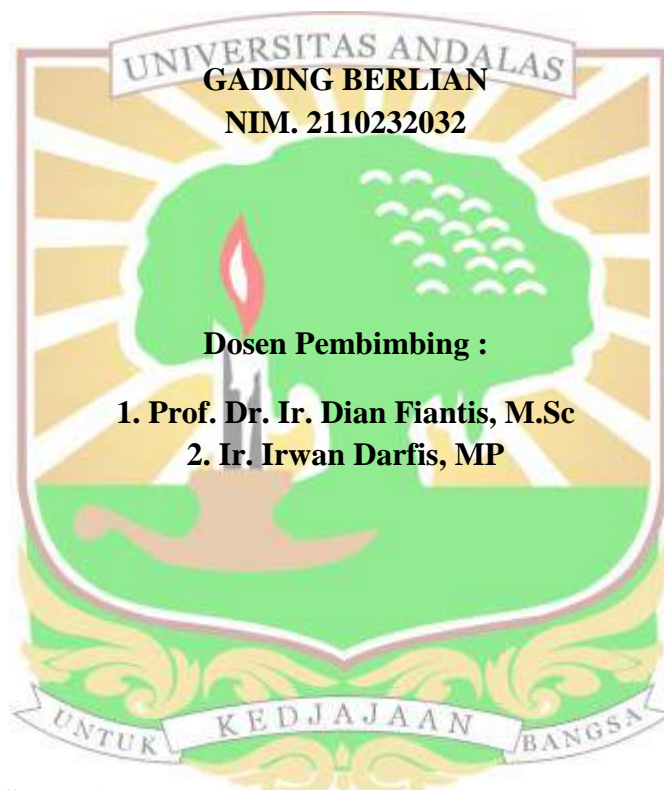


**DISTRIBUSI SPASIAL SIFAT KIMIA TANAH VULKANIS  
GUNUNG MARAPI BAGIAN BARAT KE SELATAN**

**SKRIPSI**

**Oleh**



**Sebagai salah satu syarat untuk memperoleh gelar  
sarjana pertanian**

**FAKULTAS PERTANIAN  
UNIVERSITAS ANDALAS  
PADANG  
2026**

# **DISTRIBUSI SPASIAL SIFAT KIMIA TANAH VULKANIS GUNUNG MARAPI BAGIAN BARAT KE SELATAN**

## **ABSTRAK**

Tanah vulkanis memiliki sifat kimia yang khas dan sangat dipengaruhi oleh aktivitas gunung api, deposisi material vulkanis, curah hujan, serta penggunaan lahan. Penelitian ini bertujuan untuk menganalisis distribusi spasial sifat kimia tanah vulkanis Gunung Marapi bagian Barat hingga Selatan. Parameter yang dianalisis meliputi pH H<sub>2</sub>O, pH KCl, C-organik, N-total, P-tersedia, dan P-potensial. Pengambilan sampel tanah dilakukan menggunakan sistem grid dengan total 46 titik sampel, terdiri atas 23 titik di wilayah Barat Daya-Barat dan 23 titik di wilayah Barat Daya-Selatan. Analisis distribusi spasial dilakukan menggunakan metode kriging. Hasil penelitian menunjukkan bahwa wilayah Barat Daya-Selatan yang meliputi Kecamatan X Koto dan Kecamatan Batipuh memiliki nilai yang lebih tinggi pada parameter tekstur tanah, C-organik, dan N-total. Fraksi pasir mencapai 58,94%, fraksi debu 25,04%, dan fraksi liat 16%, dengan kandungan C-organik sebesar 5,17% dan N-total sebesar 0,38%. Wilayah Barat Daya-Barat memiliki fraksi pasir 50,98%, fraksi debu 34,89%, dan fraksi liat 14,11%, dengan C-organik 4,69% dan N-total 0,35%. Sebaliknya, wilayah Barat Daya-Barat menunjukkan nilai pH tanah, P-tersedia, dan P-potensial yang lebih tinggi, dengan pH H<sub>2</sub>O 5,49, pH KCl 5,13, P-tersedia 26,04 ppm, dan P-potensial 34,11 mg/100 g. Variasi distribusi spasial ini dipengaruhi oleh deposisi material vulkanis dan kondisi lingkungan setempat.

Kata Kunci : Distribusi Spasial, Gunung Marapi, Kriging, Sifat Kimia Tanah, Tanah Vulkanis

# **SPATIAL DISTRIBUTION OF THE CHEMICAL PROPERTIES OF VOLCANIC SOIL IN THE WESTERN TO SOUTHERN PART OF MOUNT MARAPI**

## **ABSTRACT**

Volcanic soils have unique chemical properties and are greatly influenced by volcanic activity, volcanic material deposition, rainfall, and land use. This study aims to analyze the spatial distribution of the chemical properties of volcanic soils in the western to southern parts of Mount Marapi West to South. The parameters analyzed include pH H<sub>2</sub>O, pH KCl, organic C, total N, available P, and potential P. Soil sampling was conducted using a grid system with a total of 46 sampling points, consisting of 23 points in the Southwest–West region and 23 points in the Southwest–South region. Spatial distribution analysis was performed using the kriging method. The results of the study showed that the Southwest–South region, which includes X Koto and Batipuh District, had higher values for soil texture, organic carbon, and total nitrogen parameters. The sand fraction reached 58.94%, the silt fraction 25.04%, and the clay fraction 16%, with organic carbon content of 5.17% and total nitrogen of 0.38%. The Southwest–West region has a sand fraction of 50.98%, a silt fraction of 34.89%, and a clay fraction of 14.11%, with organic carbon at 4.69% and total nitrogen at 0.35%. Conversely, the Southwest–West region showed higher soil pH, available P, and potential P values, with pH H<sub>2</sub>O 5.49, pH KCl 5.13, available P 26.04 ppm, and potential P 34.11 mg/100 g. This spatial distribution variation is influenced by volcanic material deposition and local environmental conditions.

Keywords : Kriging, Mount Marapi, Soil Chemical Properties, Spatial Distribution, Volcanic Soil