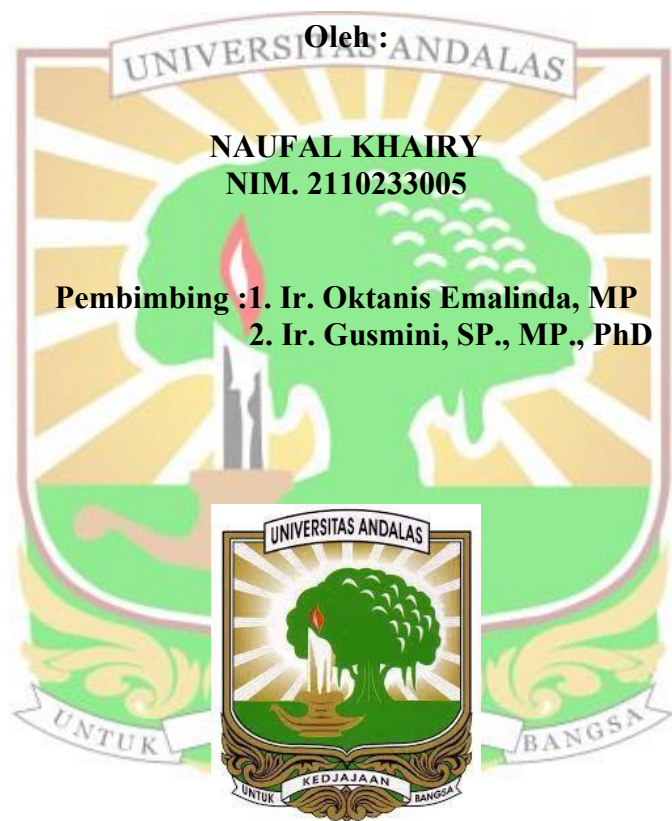


**KAJIAN SIFAT KIMIA TANAH DI LAHAN HORTIKULTURA
TERDAMPAK BANJIR LAHAR DINGIN ERUPSI GUNUNG
MARAPI DI NAGARI BUKIK BATABUAH KABUPATEN AGAM**

SKRIPSI



**FAKULTAS PERTANIAN
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KAJIAN SIFAT KIMIA TANAH DI LAHAN HORTIKULTURA TERDAMPAK BANJIR LAHAR DINGIN ERUPSI GUNUNG MARAPI DI NAGARI BUKIK BATABUAH KABUPATEN AGAM

ABSTRAK

Letusan Gunung Marapi pada Desember 2023 yang disusul oleh banjir lahar dingin pada April 2024 telah memberikan dampak terhadap lahan hortikultura di Nagari Bukik Batabuah, Kabupaten Agam, Sumatera Barat. Penelitian ini bertujuan untuk mengkaji sifat kimia tanah pada lahan hortikultura yang terdampak lahar dingin, dengan fokus pada parameter pH, karbon organik (C-organik), nitrogen total (N-total), fosfor tersedia (P-tersedia), kalsium dapat dipertukarkan (Ca-dd), magnesium dapat dipertukarkan (Mg-dd), dan kapasitas tukar kation (KTK). Penelitian dilakukan menggunakan metode survei dengan teknik *purposive sampling* pada enam titik lokasi, terdiri dari tiga lahan terdampak dan tiga tidak terdampak sebagai pembanding, serta material vulkanik. Hasil analisis menunjukkan bahwa lahan terdampak mengalami penurunan parameter. Nilai pH berada pada kisaran 5,67-5,78; C-organik 1,09-1,77%; N-total 0,14-0,20%; dan KTK 21,12-24,16 cmol(+)/kg. Kandungan Ca-dd menurun menjadi 6,67-8,48 cmol(+)/kg dan Mg-dd menjadi 1,12-1,48 cmol(+)/kg. Temuan ini mengindikasikan bahwa endapan lahar dingin menyebabkan gangguan serius terhadap keseimbangan kimia tanah melalui pelapisan material yang miskin hara, bersifat asam, dan rendah koloid aktif. Oleh karena itu, pemulihan lahan memerlukan bahan organik, amelioran basa, serta strategi pemupukan yang tepat guna memulihkan kesuburan tanah.

Kata kunci: Banjir lahar dingin, Bukik Batabuah, Gunung Marapi, Hortikultura, Sifat kimia tanah.

STUDY OF SOIL CHEMICAL PROPERTIES IN HORTICULTURAL LAND AFFECTED BY COLD LAVA FLOOD FROM THE ERUPTION OF MOUNT MARAPI IN NAGARI BUKIK BATABUAH, AGAM REGENCY

ABSTRACT

The eruption of Mount Marapi in December 2023, followed by a cold lava flood in April 2024, had impacted horticultural land in Nagari Bukik Batabuah, Agam Regency, West Sumatra. This study was aimed to examine the chemical properties of soil at horticultural land affected by the cold lava. The research was conducted using a survey method, the soil was sampled by purposive sampling based on the affected sites at six locations. The parameters analyzed were soil pH, organic carbon (organic-C), total nitrogen (total-N), available phosphorus (available-P), exchangeable calcium (Ca-exch), exchangeable magnesium (Mg-exch), and cation exchange capacity (CEC). The results showed that the affected land decreased the soil chemical characteristics. The soil pH ranged from 5.67 to 5.78; organic-C from 1.09% to 1.77%; total-N from 0.14% to 0.20%; and CEC from 21.12 to 24.16 cmol(+)/kg, The Ca-exch from 6.67 to 8.48 cmol(+)/kg, and Mg-exch from 1.12 to 1.48 cmol(+)/kg. These findings indicated that the cold lava deposits had seriously disrupted soil chemical balance through layering soil with nutrient-poor, acidic, and low-active colloid materials. Therefore, the affected land could be restored by applying of organic matter, alkaline amendments, and appropriate fertilization strategies to restore soil fertility

Keywords: Bukik Batabuah, cold lava flood, horticulture Mount Marapi, soil chemical properties.