KAJIAN STATUS HARA MAKRO PADA SAWAH PASCA BANJIR LAHAR DINGIN DI NAGARI BATIPUH BARUAH KABUPATEN TANAH DATAR

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Abstrak

Peristiwa banjir lahar dingin yang terjadi pada April 2025 memberikan dampak negatif dan positif serta mempengaruhi kandungan hara makro pada lahan sawah yang terdampak di Nagari Batipuh Baruah Kabupaten Tanah Datar. Penelitian ini bertujuan untuk mengkaji perubahan kandungan unsur hara makro (N, P, K, Ca, Mg, S) pada lahan terdampak banjir lahar dingin di Nagari Batipuh Baruah Kabupaten Tanah Datar. Penelitian ini menggunakan metode *survey* dengan pengambilan sampel tanah secara *purposive sampling* pada lahan yang terdampak material banjir lahar dingin, lahan yang terdampak air sisa aliran banjir lahar dingin dan lahan sawah yang tidak terdampak. Sampel diambil pada kedalaman 0-20 cm dan dilakukan 3 kali ulangan pada setiap lokasi. Parameter yang dianalisis pada penelitian ini diantaranya pH, C-Organik, N-Total, P-Tersedia, Kapasitas Tukar Kation (KTK), Kation-dd (Ca, Mg, K), dan S-Tersedia. Hasil penelitian ini menunjukkan bahwa pada lahan terdampak memiliki nilai N-Total, P-tersedia, K-dd, Ca-dd, Mg-dd, dan S-tersedia berturut-turut berkisar pada 0,15-0,17%; 6,62-9,24 ppm; 0,33-0,39 me/100g; 0,59-0,77 me/100g; 1,93-1,97 me/100g; dan 205,63-213,55 me/100g. Sedangkan pada lahan tidak terdampak memiliki nilai N-Total, P-tersedia, K-dd, Ca-dd, Mg-dd, dan S-tersedia berturut-turut berkisar pada 0,23-0,26%; 49,36-67,72 ppm; 1,15-1,26 me/100g; 3,55-4,84 me/100g; 1,33-1,91 me/100g dan 186,88-190,95 me/100g. Terjadi degradasi lahan pada lahan terdampak yang menyebabkan kandungan hara makro pada lahan terdampak tergolong rendah dibandingkan pada lahan terdampak air sisa aliran banjir lahar dingin dan lahan tidak terdampak banjir lahar dingin. Hal tersebut disebabkan oleh endapan material kasar yang menutupi lahan serta tinggi ketersediaan S-tersedia pada lahan terdampak banjir lahar dingin.

Kata Kunci: Banjir lahar dingin, Ketersediaan sulfat, Sawah, Unsur hara makro

STUDY OF MACRONUTRIENT STATUS ON RICE FIELDS AFTER COLD LAVA FLOOD IN NAGARI BATIPUH BARUAH, TANAH DATAR REGENCY

Abstract

The cold lava flood that occurred in April 2025 had both negative and positive impacts, particulary on macronutrient content of rice fields in Nagari Batipuh Baruah, Tanah Datar Regency. This study was aimed to examine changes in the content of macronutrients (N, P, K, Ca, Mg, S) in soils impacted by the cold lava flood. A survey method was used, soil was sampled using purposive sampling method conducted on three types of rice field conditions: areas affected by lava material, areas affected by residual lava water, and unaffected areas. Soil samples were collected at a depth of 0–20 cm with three replications for each location. Parameters analyzed were pH, organic carbon (organic-C), total nitrogen (total-N), available phosphorus (P-available), cation exchange capacity (CEC), exchangeable cations (Ca, Mg, K), and available sulfur (S-available). The results showed that in lava-impacted areas, the values of total-N, P-available, K-exchangeable, Ca-exchangeable, Mg-exchangeable and S-available ranged respectively from 0.15–0.17%; 6.62–9.24 ppm; 0.33–0.39 me/100g; 0.59–0.77 me/100g; 1.93–1.97 me/100g; and 205.63–213.55 cmol/kg respectively. Meanwhile, in the un-impacted areas, the values of total-N, P-available, K-exchangeable, Ca-exchangeable, Mg-exchangeable and S-available ranged respectively from 0.23–0.26%; 49.36–67.72 ppm; 1.15–1.26 me/100g; 3.55–4.84 me/100g; 1.33–1.91 me/100g; and 186.88–190.95 cmol/kg. Land degradation occurred in the affected areas, resulting in lower macronutrient content compared to areas affected by residual lava water and unaffected areas. This was attributed to the deposition of coarse materials covering the soil surface and the high availability of sulfur in the lava-affected soils.

Keywords**:** Cold lava flood, Macronutrients, Rice field, Sulfate availability