

**POLA PERPINDAHAN UNSUR HARA
DAN BAHAN ORGANIK PADA SAWAH BERTERAS
DI KELURAHAN LIMAU MANIS, KOTA PADANG**

SKRIPSI



**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG**

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Abstrak

Pola perpindahan unsur hara pada tanah sawah berteras berbeda dengan sawah tidak berteras. Penelitian dilakukan untuk mengetahui pola perpindahan unsur hara di lahan sawah berteras pada lahan sawah intensif di Limau Manis Kota Padang selama satu musim tanam. Contoh tanah diambil dari empat petak teras pada lapisan olah (± 15 cm), satu titik per petak. Contoh air juga dikumpulkan dari saluran masuk dan keluar setiap teras pada tiga waktu yang berbeda: saat pengolahan tanah, 10 hari setelah pemupukan, dan saat penyiangan. Parameter yang dianalisis adalah N-Total, P-Tersedia, K-dd, C-organik, KTK, pH, BV, Nitrat, Fosfat, dan Kalium. Hasil penelitian menunjukkan bahwa jumlah sedimen yang diangkut menurun dari 6,288 kg/ha di teras pertama menjadi 2,285 kg/ha di teras keempat. Pada tanah awal unsur hara menunjukkan variasi perpindahan: N-Total dan P-Tersedia meningkat dari teras pertama ke teras keempat, sementara K-dd cenderung menurun. Pada air irigasi, nitrat dan fosfat meningkat dari teras pertama ke teras keempat, dengan konsentrasi nitrat tertinggi tercatat saat pemupukan, fosfat tertinggi saat pengolahan tanah, dan kalium tertinggi saat penyiangan. Pada sedimen, nitrogen dan fosfor menurun dari petakan atas ke bawah, dan nitrogen yang berpindah tidak sebanyak bahan organik. Kalium juga mengalami penurunan dari 0,004 kg/ha di petakan atas menjadi 0,002 kg/ha di petakan bawah. Berdasarkan hasil penelitian ini, disarankan agar petani menutup saluran air pada saat pemberian pupuk untuk meningkatkan efisiensi penggunaan pupuk dan hasil panen.

Kata Kunci: bahan organik, perpindahan hara, saluran air, sawah berteras, sedimen,



PATTERN OF NUTRIENT AND ORGANIC MATTER TRANSFER IN TERRACED RICE FIELDS IN LIMAU MANIS SUB-DISTRICT, PADANG CITY

Abstract

Nutrient transfer patterns in terraced rice fields are different from those in non-terraced paddy fields. A research was conducted to determine the nutrient transfer patterns in terraced paddy fields on intensive paddy fields in Limau Manis Subdistrict, Padang City, over one growing season. Soil samples were collected from four terraced plots at the tillage layer (± 15 cm), with one sampling point per plot. Water samples were also collected from the inlet and outlet channels of each terrace at three different times: during land preparation, 10 days after fertilization, and during weeding. The parameters analyzed were total-N, available-P, exchangeable-K, organic carbon, CEC, pH, BV, nitrate, phosphate, and potassium. The results showed that the amount of sediment transported decreased from 6,288 kg/ha in the first terrace to 2,285 kg/ha in the fourth terrace. In the initial soil analysis, nutrient transfer showed variation: total-N and available-P increased from the first to the fourth terrace, while exchangeable-K tended to decrease. In irrigation water, nitrate and phosphate levels increased from the first to the fourth terrace, with the highest nitrate concentration recorded during fertilization, the highest phosphate concentration during land preparation, and the highest potassium concentration during weeding. In sediments, nitrogen and phosphorus decreased from the upper to the lower plots, and the amount of nitrogen transferred was less than that of organic matter. Potassium also decreased from 0.004 kg/ha in the upper plot to 0.002 kg/ha in the lower plot. Based on these findings, it was recommended that farmers close the water channels during fertilization to improve fertilizer use efficiency and crop yields.

Keywords: organic matter, nutrient transfer, irrigation waterways, terraced rice fields, sediment

