

**KAJIAN SIFAT KIMIA TANAH SAWAH ORGANIK DAN ANORGANIK
DI DESA GEMPOL, KECAMATAN KARANGANOM,
KABUPATEN KLATEN**

Oleh: Salma Nur Laila
Dibimbing oleh: R. Agus Widodo

ABSTRAK

Penggunaan pupuk anorganik menyebabkan degradasi lahan, seperti tanah menjadi keras, bahan organik berkurang, dan kemasaman tanah yang meningkat. Muncul sistem pertanian organik yang bertujuan untuk mengembalikan fungsi tanah yang terdegradasi. Tujuan penelitian untuk mengetahui beberapa sifat kimia tanah dan mengetahui perbedaan kadar NPK tanaman padi sawah organik dan anorganik di Desa Gempol, Kecamatan Karanganyam, Kabupaten Klaten. Penelitian ini menggunakan metode *survey* dan penentuan titik sampel ditentukan dengan metode *purposive sampling*, berdasarkan peta sebaran sawah organik dan anorganik. Pada masing – masing sistem pertanian diambil 10 titik sampel. Penelitian ini menggunakan analisis Uji T untuk membandingkan hasil analisis sifat kimia dan kadar NPK dari sawah organik dengan anorganik. Beberapa sifat kimia tanah sawah organik berbeda nyata dengan sawah anorganik. Hasil penelitian menunjukkan bahwa sawah organik dengan nilai rata – rata C-organik 3,38%; N-Total 0,50%; P-Tersedia 30,23 ppm; K-Tersedia 0,86 me% dan KTK 28 me%, sedangkan sawah anorganik memiliki nilai rata – rata C-organik 1,67%; N-Total 0,24%; P-Tersedia 22,38 ppm; K-Tersedia 0,45 me% dan KTK 16 me%. Dua parameter yang tidak beda nyata adalah sawah organik pH 6,44 dan jumlah mikroorganisme $13,94 \times 10^5$ cfu/gram tanah, sedangkan untuk sawah anorganik dengan nilai pH 6,26 dan jumlah mikroorganisme $8,95 \times 10^5$ cfu/gram tanah. Perbedaan kadar NPK tanaman padi sawah organik dengan anorganik berbeda nyata. Sawah organik memiliki kadar NPK tanaman padi masing – masing: N 3,78%; P 0,36% dan K 2,67% sedangkan sawah anorganik kadar NPK tanaman padi masing – masing: N 2,61%; P 0,14% dan K 2,31%. Sistem pertanian organik menjadi alternatif pengelolaan sawah yang baik dibandingkan sistem pertanian anorganik.

Kata kunci: Anorganik, organik, sifat kimia, sistem pertanian.

STUDY OF THE CHEMICAL PROPERTIES IN ORGANIC AND INORGANIC RICE SOIL IN GEMPOL VILLAGE, KARANGANOM DISTRICT, KLATEN REGENCY

By: Salma Nur Laila
Supervised by: R. Agus Widodo

ABSTRACT

The use of inorganic fertilizers causes land degradation, such as hard soil, reduced organic matter, and increased soil acidity. An organic farming system emerged that aims to restore the function of degraded soil. The purpose of the study was to determine some of the chemical properties of the soil and to determine the differences between organic and inorganic rice paddies in Gempol Village, Karanganom District, Klaten Regency. This study used a survey method and the determination of sample points was determined by purposive sampling method, based on the distribution map of organic and inorganic rice fields. In each agricultural system, 10 sample points were taken. This study used T-test analysis to compare the results of the analysis of chemical properties and NPK levels of organic and inorganic rice fields. Some soil chemical properties of organic rice fields are significantly different from inorganic rice fields. The results showed that organic rice fields with an average value of C-organic 3.38%; N-Total 0.50%; P-Available 30.23 ppm; K-Available 0.86 me% and CEC 28 me%, while inorganic rice fields had an average value of C-organic 1.67%; N-Total 0.24%; P-Available 22.38 ppm; K-Available 0.45 me% and CEC 16 me%. Two parameters that are not significantly different are organic rice fields pH 6.44 and the number of microorganisms 13.94×10^5 cfu/gram soil, while for inorganic rice fields with a pH value of 6.26 and the number of microorganisms 8.95×10^5 cfu/gram soil. The difference in NPK levels of organic and inorganic paddy rice plants was significantly different. Organic rice fields have NPK levels of rice plants respectively: N 3.78%; P 0.36% and K 2.67% while in inorganic rice paddy NPK levels respectively: N 2.61%; P 0.14% and K 2.31%. Organic farming systems are a good alternative to rice field management compared to inorganic farming systems.

Keywords: Agricultural systems, chemical properties, inorganic, organic.