

RINGKASAN

Unsur hara K ialah salah satu unsur hara makro yang penting bagi pertumbuhan dan perkembangan tanaman. Unsur hara K sangat menentukan kuantitas dan kualitas hasil tanaman karena hara ini berperan penting di antaranya dalam : (1) proses dan translokasi hasil fotosintesis, (2) sintesis protein, dan (3) peningkatan ketahanan tanaman terhadap cekaman biotik (hama/penyakit) dan abiotik (kekurangan air dan keracunan besi atau Fe), serta (4) perbaikan kondisi fisik dan komposisi kimia produk pertanian. Penelitian ini bertujuan untuk mengetahui: (1) agihan (distribusi) unsur hara K di lahan sawah yang digunakan untuk budidaya tanaman kedelai di Kecamatan Kebasen, Kabupaten Banyumas. (2) hubungan antara ketersediaan unsur hara K dan serapan K oleh tanaman dengan hasil tanaman kedelai di lahan sawah Kecamatan Kebasen, Kabupaten Banyumas, dan (3) rekomendasi pemupukan K di lahan sawah Kecamatan Kebasen, Kabupaten Banyumas.

Penelitian dilakukan dengan metode survei dengan skala 1:50.000. Peta Satuan Lahan Homogen (SLH) yang dibuat dengan cara menggabungkan (*overlay*) peta penggunaan lahan, jenis tanah dan peta kelas kelerengan, kemudian dilakukan survei pendahuluan. Penentuan titik sampel berdasarkan wilayah kawasan budidaya tanaman kedelai di lahan sawah dengan sistem transek yang dibuat tegak lurus aliran sungai serayu, agar dapat mengetahui agihan (distribusi) bahan tanah yang dipengaruhi oleh proses sedimentasi sungai. Variabel yang diamati pada penelitian ini meliputi pH H₂O, pH KCl, DHL tanah, potensial redoks, K-tersedia tanah serta serapan K oleh tanaman kedelai.

Hasil penelitian menunjukkan bahwa sebaran unsur hara K di Kecamatan Kebasen memiliki rerata status sedang. Kemasaman tanah memiliki nilai koefisien korelasi negatif terhadap hasil tanaman, sedangkan potensial redoks dan DHL memiliki nilai koefisien korelasi positif terhadap hasil tanaman. Kandungan K-tersedia tanah dan serapan K memiliki koefisien korelasi positif terhadap hasil serta K-tersedia tanah memiliki nilai koefisien korelasi positif terhadap serapan K oleh tanaman yang termasuk ke dalam hubungan korelasi yang kuat. K-tersedia tanah memiliki koefisien determinan sebesar 59,46% terhadap hasil tanaman kedelai, sedangkan serapan K memiliki 56,57% terhadap hasil tanaman kedelai. Rekomendasi pemupukan di lokasi penelitian berkisar antara 33,7-182 kg K₂O/ha atau setara dengan 56,16-303,26 kg KCL/ha.

SUMMARY

The nutrient element K is one of the macro nutrients that is important for plant growth and development. K nutrient determines the quantity and quality of crop results because this nutrient is important among them in: (1) process and translocation of photosynthesis result, (2) protein synthesis, and (3) increased crop resistance to biotic (pest/disease) and abiotic (water shortage and iron poisoning or Fe), and (4) improvement of physical condition and chemical composition of agricultural products. This research aims to know: (1) The distribution of nutrients K in the field of rice fields used for soybean cultivation in Kebasen subdistrict, Banyumas. (2) The relationship between the availability of nutrients K and uptake K by crops with soybean yield in the rice fields of Kebasen subdistrict, Banyumas District, and (3) recommendations of fertilization K in the rice fields of Kebasen subdistrict, Banyumas.

Research was conducted by a survey method with a scale of 1:50.000. Map of Land Unit (LU) created by combining (overlay) land use maps, soil type and a map of the class of slope, then conducted preliminary surveys. Determination of the sampling point based on soybean cultivation area in paddy field with transect system that made perpendicular flow of Serayu River, to be able to know the distribution of soil material that is influenced by the river sedimentation process. The variables observed in this study included the pH of H₂O, pH KCl, Soil Electrical Conductivity (EC), redox potential, K-available soil as well as absorption of K by soybean plant.

The results showed that the nutrient spread of K in Kebasen subdistrict has moderate status. The soil pack has a negative correlation coefficient value towards crop yield, while the redox potential and EC have a positive correlation coefficient value towards the crop yield. Content K-Available soil and absorption K has a coefficient of positive correlation to the results as well as K-available soils have a coefficient value of positive correlation to the uptake of K by plants that belong to the strong correlation relationship. K-Availabl soil has a coefficient of determinant of 59,46% against the yield of soybean crop, while the absorption of K has 56,57% against the yield of soybean crop. The recommendation of fertilization in research land site ranged between 33.7-182 kg K₂O/ha or equivalent to an average of 56.16-303.26 kg KCL/ha