RINGKASAN

Kalium berperan meningkatkan resistensi terhadap penyakit tertentu, meningkatkan pertumbuhan perakaran, menghalangi kerebahan tanaman, melawan efek buruk akibat pemberian nitrogen yang berlebihan, dan berpengaruh mencegah kematangan yang dipercepat oleh hara fosfor. Penelitian ini bertujuan untuk mengetahui: 1) status unsur hara kalium dan agihannya di Kecamatan Kalibagor, Kabupaten Banyumas, 2) hubungan antara ketersediaan unsur hara kalium, serapan K oleh tanaman dengan hasil tanaman padi di Kecamatan Kalibagor, Kabupaten Banyumas, dan 3) rekomendasi pemupukan kalium pada tanah sawah di Kecamatan Kalibagor, Kabupaten Banyumas.

Penelitian dilakukan dengan metode survei dengan skala 1:50.000. Penentuan titik sampel dilakukan berdasarkan Peta Satuan Lahan Homogen (SLH) yang dibuat dengan cara menggabungkan (*overlay)* peta penggunaan lahan, jenis tanah dan peta kelas kelerengan. Penentuan titik sampel berdasarkan SLH (Satuan Lahan Homogen), dengan memperhatikan penyebarannya secara proposional, mengikuti metode *grid* yang dimodifikasi. Variabel yang diamati pada penelitian ini meliputi pH H_2O, pH KCl, DHL, potensial redoks, C-organik, K-tersedia tanah serta serapan K oleh tanaman padi sawah.

Hasil penelitian menunjukkan bahwa sebaran hara kalium di Kecamatan Kalibagor memiliki status rendah. Kemasaman tanah, DHL, K-tersedia dan potensial redoks tanah memiliki rerata nilai koefisien korelasi rendah dengan hasil tanaman. C-organik tanah memiliki koeisien korelasi positif terhadap hasil tanaman padi dengan nilai (r = 0,63), sedangkan kandungan K-tersedia tanah dan serapan K memiliki koefisien korelasi negatif terhadap hasil dengan nilai (r = -0,71 dan r = -0,39). Tanaman padi memiliki koefisien determinan sebesar 11,70% terhadap hasil tanaman padi, sedangkan serapan K hanya memiliki 4,83% terhadap hasil tanaman padi. Rekomendasi pemupukan di lahan penelitian adalah 61,13 kg K_2O/ha atau setara dengan rata-rata 101,88 kg KCl/ha.

SUMMARY

Potassium plays a role in increasing resistance to certain diseases, increasing root growth, inhibiting plant susceptibility, countering the adverse effects of excessive nitrogen administration, and influencing the maturity accelerated by phosphorus nutrients. This study aims to determine: 1) the status of potassium nutrients and their distribution in Kalibagor District, Banyumas Regency, 2) the relationship between potassium nutrient availability, K uptake by plants with rice yields in Kalibagor District, Banyumas Regency, and 3) fertilizer recommendations potassium in paddy soil in Kalibagor District, Banyumas Regency.

The study was conducted by survey method with a scale of 1: 50,000. The determination of sample points is based on the Land Unit Map (LU) which is made byoverlaying land use maps, soil types and slope class maps. Determination of sample points based on LU (Land Unit), taking into account its distribution proportionally, follows themethod grid modified. The variables observed in this study included pH H_2O, KCl pH, EC, redox potential, C-organic, K-available soil and K uptake by rice paddy plants.

The results showed that the distribution of potassium nutrients in Kalibagor District has a low status. Soil acidity, EC, K-available and soil redox potential have a low mean correlation coefficient value with crop yields. Soil C-organic has a positive correlation coefficient on the yield of rice plants with a value (r = 0.63), while the K content of available soil and K uptake have a negative correlation coefficient to the results with a value (r = -0.71 and r = -0.39). Rice plants have a determinant coefficient of 11.70% of rice crop yields, while K absorption has only 4.83% of rice crop yields. Fertilizing recommendations in the research area are 61.13 kg K_2O / ha or equivalent to an average of 101.88 kg KCl / ha.