

RINGKASAN

Unsur fosfor (P) merupakan hara esensial bagi tanaman karena menjadi faktor pembatas yang mempengaruhi pertumbuhan dan hasil tanaman. Pada tanaman padi, unsur P berperan mendorong pertumbuhan dan perkembangan akar. Penelitian ini bertujuan untuk mengetahui: 1) status unsur hara fosfor dan distribusinya di Kecamatan Kalibagor, Kabupaten Banyumas, 2) hubungan antara hasil tanaman padi dengan sifat kimia tanah dan serapan P oleh tanaman di Kecamatan Kalibagor, Kabupaten Banyumas dan 3) takaran pupuk fosfor yang optimal untuk meningkatkan hasil tanaman padi sawah di Kecamatan Kalibagor, Kabupaten Banyumas. Penelitian ini dilaksanakan pada bulan April 2019 sampai September 2019 di Kecamatan Kalibagor, Kabupaten Banyumas dan Laboratorium Tanah dan Sumberdaya Lahan, Fakultas Pertanian, Universitas Jenderal Soedirman.

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 H₂O, pH KCl, DHL, potensial redoks, C-organik dan P-tersedia tanah serta serapan P oleh tanaman padi sawah.

Hasil penelitian menunjukkan bahwa sebaran unsur hara fosfor di Kecamatan Kalibagor termasuk pada harkat sangat tinggi. Kemasaman, DHL, P-tersedia dan potensial redoks tanah memiliki rerata nilai koefisien korelasi rendah dengan hasil tanaman. Kandungan C-organik tanah dan serapan P oleh tanaman memiliki koefisien korelasi positif terhadap hasil tanaman padi. Kandungan P-tersedia tanah memiliki koefisien determinan sebesar 24,83% terhadap hasil tanaman padi, sedangkan serapan P hanya memiliki 6,05% terhadap hasil tanaman padi. Rekomendasi pemupukan di lahan penelitian adalah 16,76 kg P₂O₅/ha atau setara dengan 46,57 kg SP-36/ha.

SUMMARY

The element phosphorus (P) is an essential nutrient for plants because it is a limiting factor that affects plant growth and yield. On rice plants, the element P plays a role in encouraging root growth and development. This research aims to know: 1) the status of phosphorus nutrient and their distribution in Kalibagor District, Banyumas Regency, 2) the relationship of soil chemical properties, P uptake by plants with the yield of rice in Kalibagor District, Banyumas Regency and 3) dose of phosphorus fertilizer which is optimal for increasing the yield of ricepaddy field in Kalibagor District, Banyumas Regency. This research was conducted in April 2019 to September 2019 in the District of Kalibagor, Banyumas Regency and Soil and Land Resources Laboratory, Faculty of Agriculture, University of General Soedirman.

The research was conducted with method survey with a scale of 1:50,000. Which the location of observation based on Land Unit (LU) is created by combining the (overlay) land use map, soil type and map of the class of slope. Determination of the sample points based on the LU, with regard to its propotional deployment, follows the modified grid method. The variables observed in this study included the pH (H₂O), pH (KCl), EC, redox potential of soil, C-organic, P-available of soil and P-uptake by rice paddy plants.

The results showed that the phosphorous nutrient distribution in the District of Kalibagor has a very high status. Soil acidity, EC, P-available and redox potential of soil have an average value coefficient of low correlation. The C-organic content of soil and P-uptake by rice paddy plants results has a coefficient of positive correlation to the yield of rice crops. P-available of soil has determinant coefficient of 24.83% against the yield of rice crops, while P-uptake only has 6.05% to the yield of rice crop. Fertilizer recommendations in the research field is 16.76 kg P₂O₅/ha or with 46.57 kg SP-36 /ha.