NUTRIENT AVAILABILITY OF N, P, AND K OF MEDITERRANEAN SOIL ON REVEGETATED LAND POTTING SYSTEM OF FORMER LIMESTONE MINING PT SUGIH ALAMANUGROHO GUNUNGKIDUL YOGYAKARTA

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ABSTRACT

Mining of limestone can cause loss of nutrients such as nitrogen, phosphorus, potassium, and organic matter. Reclamation with revegetation is one way that can be done so that the soil function can return as a place to store nutrients. This study was conducted to determine the availability of nutrients N, P, and K of Mediterranean soil before limestone mining and after revegetation at PT Sugih Alamanugroho Gunungkidul. This research used a survey method. Determination of sample points using Purposive Random Sampling method and data analysis using descriptive analysis with soil chemical properties similarity index. The results showed that the original soil had an N-total value of 0.26%, N-available 0.038%, P-available 7.89 ppm, and K-available 0.31 me%. Non-mining soil has an N-value of 0.042%, P-value of 6.01 ppm, K-value of 0.13 me%, N-total value of 0.32%. Revegetation 1 has an N-available value of 0.054%, P-available 10.67 ppm, K-available 0.31 me%, and N-total 0.35%. Revegetation 2 has an N-available value of 0.061%, P-available 14.38 ppm, K-available 0.17 me%, N-total 0.21%. Revegetation 3 has an N-available value of 0.049%, P-available 16.46 ppm, K-available 0.17 me%, N-total 0.41%. Revegetation 1 teak provides less increase in N, P, and K while revegetation 2 and revegetation 3 can increase N, P, and K.

Keywords: Nitrogen, Phosphor, Potassium, limestone mining, revegetation, mediterranean soil