

Utilization of Eucalyptus Oil Industry Biomass Waste and Chicken Manure on N, P, K Availability of Latosol Soil

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ABSTRACT

The eucalyptus oil industry biomass waste is a solid waste that is very abundant and contains nutrients, but has not been maximally utilized. Chicken manure is a fertilizer that contains high nitrogen which can help break down waste. Latosol soil is a soil that has constraints in the availability of nutrients N, P, K. The purpose of this study was to determine the effect of eucalyptus oil industry biomass waste and chicken manure on the availability of nutrients N, P, K Latosol soil. This study used a factorial completely randomized design (CRD) method with 2 factors. The first factor is the dose of eucalyptus oil industry biomass waste 0 tons/ha (L0), 3 tons/ha (L1), 6 tons/ha (L2), 9 tons/ha (L3). The second factor was the dose of chicken manure 0 ton/ha (P0), 10 ton/ha (P1), 20 ton/ha (P2), and 30 ton/ha (P3) each treatment was repeated 3 times so that there were 48 experimental pots. The results showed that the application of eucalyptus oil industry biomass waste showed that it had a significant effect on the increase in KPK, P-availability and K-availability of Latosol soil. The application of chicken manure showed that it had a significant effect on the increase in soil pH, C-organic, P-available, N-available, and K-available of Latosol soil. The combined treatment of eucalyptus oil industry biomass waste and chicken manure showed that there was an interaction on C-organic, P-supply and K-supply. The best treatment combination is the treatment of eucalyptus oil industrial biomass waste at a dose of 9 tons/ha (L3) and chicken manure at a dose of 30 tons/ha (P3) which can increase P-availability from 3 ppm to 117 ppm and K-availability from 28 ppm to 118 ppm.

Keywords: Eucalyptus, Latosol, Waste, NPK, Chicken Manure