

**PENGARUH BAHAN ORGANIK DAN PUPUK FOSFOR
TERHADAP KETERSEDIAAN DAN SERAPAN FOSFOR PADA ANDISOLS
DENGAN INDIKATOR TANAMAN JAGUNG MANIS (*Zea mays saccharata strurt*)
(*The Effect of Organic Matter and Phosphor Fertilizer to Availability and Absorption of Phosphor
with Sweet Corn Plant (Zea mays saccharata strurt) Indicator*)**

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ABSTRACT

This research purposes was to find out the effect of the kinds of organic sources and P fertilizer to the availability and absorption of phosphor in Andisols and to find out kinds of organic sources and P fertilizer dosage that can give the highest of availability and absorption of phosphor in Andisols. This research was conducted in Green House and Chemistry and Soil fertility Laboratory of Agriculture Faculty of Sebelas Maret University from June 2005 until January 2006.

This research used Factorial Randomized Complete Design with two factors. The first factor was P0 (without P fertilizer), P1 (100 kg/ha P₂O₅) and P2 (100 kg/ha P₂O₅), the second factor consist of B0 (without organic matter), B1 (Gliricida sepium 10 ton/ha), B2 (rice stalk 12 ton/ha) and B3 (manure 14.25 ton/ha). They are 12 treatments that be repeated three times. Data were analyzed with F-test or Kruskal-Wallis test 1% and 5% was used to know the effect of treatment on experimental result. Duncan multiple range test 5% is used for comparing inter-treatment. For finding out the relation between primary dependent variable and secondary dependent one it is used correlation test.

The result of research shows that the organic matter and P fertilizer appliances have very significant effects to the availability of phosphor in Andisols and the absorption of P by the plant. The rice stalk appliance 12 ton/ha with P fertilizer 100 kg/ha P₂O₅ (P2B2) gives the highest availability of phosphor; that is 24.67 mg/kg. The highest absorption of P can be found at the manure appliance 14.25 ton/ha and P fertilizer 100 kg/ha P₂O₅ (P2B3); that is 2.24 mg.

Keywords: Andisols, available-P, organic matter, P fertilizer