

# ***EFFECT OF COW MANURE AND ZEOLITE ON POTASSIUM LEACHING IN SAND DUNE REGOSOL***

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## ***ABSTRACT***

*Coastal sand regosols have low productivity due to limiting factors such as water and nutrient supply. This study aims to determine the effect of cow manure, zeolite, and combination of cow manure and zeolite on potassium leaching in Sand dune Regosol. The research was conducted from February to June 2023 in the greenhouse of the Faculty of Agriculture UPN "Veteran" Yogyakarta with a two-factor Factorial Randomized Complete Design (CRD). The first factor consisted of three levels of cow manure: 0 tons/ha (P0), 10 tons/ha (P1), and 20 tons/ha (P2). The second factor zeolite consists of three levels: 0 tons/ha (Z0), 5 tons/ha (Z1), and 10 tons/ha (Z2). Each treatment combination was repeated three times and incubated for 30 days. Preliminary soil analysis parameters consisted of field capacity moisture content, BV, texture, pH H<sub>2</sub>O, C-organic, CEC and K-available. Analysis of cow manure consisted of pH H<sub>2</sub>O, C-Organic, N-Total and K-Available. Analysis of zeolite consisted of CEC. Analysis after soil treatment consisted of pH H<sub>2</sub>O, C-organic, CEC, K-Available and K-Liquid in water. The results of the analysis showed that cow manure had no significant effect on reducing K-Terlindi and no significant increase in K-Vailable, C-Organic and CEC of Sand Dune Regosol. Zeolite had no significant effect on reducing K-leachate and no significant effect on increasing K-Available, C-Organic and KPK of Sand Dune Regosol. The combination of cattle manure and zeolite had no effect.*

***Keywords: Sand Dune Regosol, Potassium, Cow Manure, Zeolite***