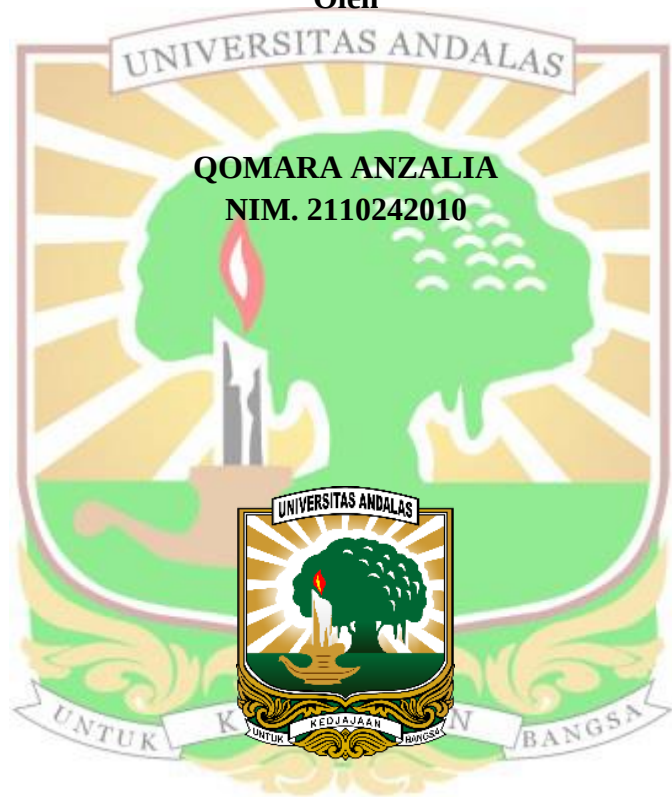


**PENGARUH PEMBERIAN ABU VULKANIK DAN PUPUK
KANDANG KAMBING TERHADAP PERTUMBUHAN
BIBIT TANAMAN AREN (*Arenga pinnata* Merr.)**

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ABSTRAK

Pemberian amelioran abu vulkanik dan pupuk kandang kambing sebagai bahan organik merupakan upaya untuk memperbaiki sifat fisika, kimia, dan biologi Ultisol serta meningkatkan pertumbuhan bibit aren (*Arenga pinnata* Merr.). Tujuan penelitian ini untuk mengkaji pengaruh pemberian abu vulkanik dan pupuk kandang kambing terhadap pertumbuhan bibit tanaman aren. Penelitian ini disusun menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan dua faktor, empat taraf abu vulkanik (0, 50, 75, 100 g/polybag) dan empat taraf pupuk kandang kambing (0, 250, 300, 350 g/polybag), masing-masing dengan tiga ulangan, variabel pertumbuhan yang diamati meliputi tinggi bibit, diameter bonggol, jumlah daun, luas daun, berat kering tajuk, berat kering akar, dan rasio tajuk akar. Hasil penelitian menunjukkan adanya interaksi antara pemberian abu vulkanik 75 g dan 100 g/polybag dengan pupuk kandang kambing 350 g/polybag terhadap luas daun, berat kering tajuk dan rasio tajuk akar. Pemberian 50 g dan 100 g/polybag abu vulkanik berpengaruh terhadap diameter bonggol dan berat kering bibit aren. Pemberian 350 g/polybag pupuk kandang kambing berpengaruh terhadap diameter bonggol dan berat kering bibit aren. Takaran terbaik terdapat pada 100 g/polybag abu vulkanik dan 350 g/polybag pupuk kandang kambing mampu mendukung pertumbuhan bibit aren dengan optimal dibandingkan dengan takaran lainnya. Hasil penelitian ini menunjukkan penggunaan abu vulkanik dan pupuk kandang kambing efektif dalam meningkatkan kualitas media tanam serta mendukung pertumbuhan bibit aren.

Kata kunci: Mineral, Bibit, Bahan Organik, Ultisol



THE EFFECT OF VOLCANIC ASH AND GOAT MANURE APPLICATION ON THE GROWTH OF AREN (*Arenga pinnata* Merr.) SEEDLINGS

ABSTRACT

The application of volcanic ash and goat manure as organic materials is an effort to improve the physical, chemical, and biological properties of Ultisols and enhance the growth of sugar palm seedlings (*arenga pinnata* Merr.). The objective of this study was to examine the effect of volcanic ash and goat application on the growth of sugar palm seedlings. This study was designed using a completely randomized factorial design with two factors, four levels of volcanic ash (0, 50, 75, 100 g/polybag), and four levels of goat manure (0, 250, 300, 350 g/polybag), each with three replicates. The growth variables observed included seedling height, crown diameter, number of leaves, leaf area, dry weight of the crown, dry weight of the roots, and crown-to-root ratio. The results showed an interaction between the application of 75 g and 100 g/polybag of volcanic ash and 350 g/polybag of goat manure on leaf area, dry weight of the crown, and crown-to-root ratio. The application of 50 g and 100 g/polybag of volcanic ash affected the diameter of the tuber and the dry weight of the palm seedlings. The application of 350 g/polybag of goat manure affected the diameter of the tuber and the dry weight of the palm seedlings. The best dosage was 100 g/polybag of volcanic ash and 350 g/polybag of goat manure, which supported the growth of palm seedlings optimally compared to other dosages. The results of this study indicate that the use of volcanic ash and goat manure is effective in improving the quality of the planting medium and supporting the growth of palm seedlings.

Keywords: Minerals, Seeds, Organic materials, Ultisol

