

**PENGARUH PEMBERIAN *BIOCHAR* SEKAM PADI DAN PUPUK KANDANG TERHADAP BEBERAPA SIFAT TANAH, PERTUMBUHAN DAN HASIL TANAMAN PADI (*Oryza sativa* L) PADA TANAH SAWAH IIRIGASI TERCEMAR LIMBAH TAMBANG EMAS**

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EMAS**

**ABSTRAK**

Penambangan emas banyak menimbulkan masalah pada tanah terutama sifat fisika dan kimia tanah. Seperti rendahnya pH tanah, kandungan bahan organik tanah rendah, unsur hara rendah serta tingginya kandungan logam berat pada tanah. Logam berat dapat meracuni tanaman sehingga menyebabkan tanaman tidak tumbuh optimal dan memiliki hasil yang rendah. *Biochar* dan pupuk kandang diketahui mampu memperbaiki beberapa sifat tanah yang rusak akibat penambangan. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian *biochar* dan pupuk kandang terhadap beberapa sifat tanah, pertumbuhan dan hasil padi pada tanah sawah irigasi tercemar limbah tambang emas. Penelitian ini dilaksanakan di rumah kaca dengan metode Rancangan Acak Lengkap (RAL), menggunakan pot dengan jarak tanam 30 x 30 cm. Terdiri dari 10 kombinasi perlakuan dan tiga ulangan. Hasil penelitian menunjukkan bahwa perlakuan *biochar* 10 ton/ha dan pupuk kandang 8-10 ton/ha paling efektif dalam memperbaiki beberapa sifat tanah. Perlakuan *biochar* 10 ton/ha dan pupuk kandang 8-10 ton/ha mampu meningkatkan pH tanah dari 4,05 hingga 8,25; bahan organik tanah 38,64 %; kandungan logam berat rata-rata turun 50 % serta unsur hara rata-rata naik 60 % dibandingkan perlakuan tanpa pemberian *biochar* dan pupuk kandang.

**Kata kunci : *Biochar*, Pupuk kandang, Kesuburan tanah**

# **THE EFFECT OF GIVING BIOCHAR AND ORGANIC FERTILIZER ON SOME OF THE SOIL PROPERTIES, GROWTH AND RESULTS OF RICE (*Oryza sativa* L.) IN IRRIGATED PALM OIL PLANTED BY GOLD MINE WASTE**

## **ABSTRACT**

Gold mining causes many problems in the soil, especially the physical and chemical properties of the soil. Such as low soil pH, low soil organic matter content, low nutrient content and high heavy metal content in the soil. Heavy metals can be toxic to plants, causing plants to not grow optimally and have low yields. Biochar and manure are known to improve some of the properties of the soil damaged by mining. This study aims to determine the effect of giving biochar and manure on some soil properties, growth and yield of rice in irrigated paddy fields contaminated with gold mine waste. This research was carried out in a greenhouse with a completely randomized design method (CRD), using a pot with a spacing of 30 x 30 cm. Consists of 10 combinations of treatments and three replications. The results showed that the 10 ton / ha biochar treatment and 8-10 ton / ha manure were most effective in improving some soil properties. The treatment of 10 tons / ha of biochar and 8-10 tons / ha of manure can increase soil pH from 4.05 to 8.25; soil organic matter 38.64%; the average heavy metal content dropped by 50% and nutrients increased by an average of 60% compared to treatment without the provision of biochar and manure.

**Keyword : Biochar, Organic Fertilizer, Soil Fertility**