

**PERANAN BIOCHAR DALAM MENINGKATKAN RETENSI AIR DAN
MENGURANGI KANDUNGAN MERKURI (Hg) PADA TANAH BEKAS
TAMBANG EMAS DI KECAMATAN SITIUNG KABUPATEN
DHARMASRAYA**

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PERANAN BIOCHAR DALAM MENINGKATKAN RETENSI AIR DAN MENURUNKAN KANDUNGAN MERKURI (Hg) PADA TANAH BEKAS TAMBANG EMAS DI KECAMATAN SITIUNG KABUPATEN DHARMASRAYA

Abstrak

Kegiatan penambangan emas tanpa izin (PETI) di Kabupaten Dharmasraya menyebabkan pencemaran tanah oleh merkuri (Hg) dan menurunnya kemampuan retensi air. Untuk mengatasi permasalahan itu, perlu dilakukan penambahan amelioran pada tanah. Penelitian ini bertujuan untuk melihat kemampuan jenis dan dosis *biochar* dalam meningkatkan retensi air tanah dan mengurangi ketersediaan Hg pada tanah bekas tambang emas. Pengambilan sampel dilakukan di Nagari Gunung Medan Kabupaten Dharmasraya, kemudian tanah yang dicampur *biochar* diinkubasi di Rumah Kaca Fakultas Pertanian Universitas Andalas, selanjutnya dianalisis di Laboratorium Tanah Universitas Andalas. Penelitian ini merupakan percobaan dengan 2 faktor (3 jenis dan 4 dosis *biochar*) dengan 3 ulangan (36 satuan percobaan) yang dialokasikan secara acak lengkap (RAL) di rumah kaca. Parameter yang dianalisis yaitu tekstur tanah, retensi air, konsentrasi Hg, beberapa sifat kimia tanah. Hasil penelitian menunjukkan bahwa tekstur tanah termasuk liat berpasir. Penambahan *biochar* dengan dosis 20 ton/ha mampu meningkatkan pori air tersedia (PAT) tanah menjadi 9.4% (*biochar* tongkol jagung), 9.1% (*biochar* bambu), dan 8.1% (*biochar* sekam padi), serta menurunkan ketersediaan Hg sebesar 0,65 ppm (*biochar* sekam padi), 0,28 ppm (*biochar* tongkol jagung), dan 0,39 ppm (*biochar* bambu) dibanding dosis 4 T/ha. Di samping itu, dosis tersebut juga mampu menaikkan nilai pH sebesar 0.82 unit, C-organik sebesar 0.19%, P-tersedia sebesar 2.22 ppm, N-total sebesar 0.12%, dan K-dd sebesar 0.0123 cmol/kg.

Kata kunci : *Biochar, Merkuri, Retensi air, Tambang emas*

Function of Biochar in Increasing Soil Water Retention and Reducing Hg Content in Ex. Gold Mining Soil in Sitiung, Dharmasraya Region

Abstract

Illegal gold mining, generally, causes soil pollution by Hg and low soil water retention. Therefore, it is needed to add ameliorant to solve the problem. This research was aimed to assess the ability of 3 types of biochar and the dosages in improving soil water retention and reducing Hg content in the soil of ex gold mining. Soil was sampled in Gunung Medan, Dharmasraya Regency, and then the soil was incubated after being mixed by biochar for 2 weeks, and finally the soil samples were analyzed. This research was in form of glasshouse experiment having two factors: types (3 levels) and dosages (4 levels) of biochar with three replications. The experimental units were allocated based on Completely Randomized Design (CRD). Parameters being analyzed were soil texture, water retention, Hg content, and some chemical characteristics. The results showed that the soil had sandy clay soil. Then, application of 20 T biochar/ha increased the plant available water into 9.4% (*corn stalk biochar*), 9.1% (*bamboo biochar*), and 8.1% (*rice husk biochar*), then decreased soil Hg content by 0.39 ppm compared to application of 4 T biochar/ha. Moreover, that dosage also increased soil pH by 0.82 unit, organic-C by 0.19%, P-available by 2.22 ppm, total-N by 0.12 %, and K-exchangeable by 0.0123 cmol/kg.

Keywords :Biochar, Mercury, Water retention, Gold mining

