STUDI KHASIAT DAUN KATU *(SAUROPUS ANDROGYNUS)* DALAM MENGATASI KERACUNAN ION TEMBAGA BERDASARKAN GAMBARAN HISTOPATOLOGI OVARIUM TIKUS BETINA

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ABSTRAK

Kemampuan daun *S.androgynus* sebagai biosorben ion Cu(II) dari larutan berair diuji dengan menggunakan metode Batch. Hasil penelitian menunjukkan bahwa kapasitas adsorpsi daun S.androgynus diperoleh pada pH 4 dengan konsentrasi awal ion Cu(II) 1500 mg/L, dosis biosorben 0.1 g dan waktu kontak 15 menit. Pengujian dengan model isoterm Langmuir dan Freundlich menunjukkan nilai R2 0.9879 dan 0.9263. Hasil analisis FTIR menunjukkan terjadi pergeseran pada pita hiroksil (OH) dan karbonil (CO). Analisa SEM menunjukkan bahwa permukaan daun S.androgynus mempunyai permukaan yang berpori, berlekuk dan kasar . Pra perlakuan dengan antidote S.adrogynus sebelum dipaparkan dengan ion Cu(II) dapat menurunkan kadar SGOT, SGPT, urea, kreatinin dan MDA sebanyak 16,11%; 64,38%; 28,51%; 50% dan 38,7% secara berturut-turut. Pra perlakuan dengan daun *S.androgynus* dapat mengurangi derajat kerusakan organ ovarium tikus percobaan.

Keywords: biosorpsi, Cu(II), daun katu, ovarium

UTILIZATION STUDY OF SWEET LEAVES *(SAUROPUS ANDROGYNUS)* TO RESOLVE COPPER ION POISONED BASED ON HISTOPATHOLOGY OF FEMALE RAT OVARY DESCRIPTION

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Adsorption using natural sources is one of the methods to remove copper in the water body. This research used sweet leaves (Sauropus androgynous) as biosorbent based on the batch system. The result showed that S.androgynus leaves achieved optimum condition at pH 4, the initial concentration of Cu(II) 1500 mg/L, mass 0.1 g and contact time 15 minutes. Determination coefficient (R2) of Langmuir and Freundlich model were 0.9879 and 0.9263. The shifting of the hydroxyl group and carbonyl group revealed that adsorption process has been taken place on S.androgynus. SEM micrograph indicated the folded roughly and porous supporting adsorption process. In this research also tested the ability of S.androgynus to protect rat ovary against Cu(II) toxicity and biochemical parameters of serum. Group with antidote pretreatment first before exposed to Cu(II) decrease SGOT, SGPT, urea, creatinine and MDA level as much as 16,11%; 64,38%; 28,51%; 50% and 38,7%, respectively. In general, pretreatment with S.androgynus leaves could decrease ovary damage.

Keywords : biosorption, cooper, sauropus androgynus, ovary