

## ABSTRACT

**WITNEY, R., 2016. SUBCHRONIC TOXICITY TEST OF THE MAHOGANY SEED OIL (*Swietenia macrophylla* King) TOWARDS THE LEVEL OF *BLOOD UREA NITROGEN* AND THE LEVEL OF CREATININ AND THE IMAGE OF KIDNEY HISTOPATHOLOGY ON ALBINO RATS (*Rattus norvegicus*), THESIS, FACULTY OF PHARMACY, UNIVERSITY OF SETIA BUDI, SURAKARTA.**

Mahogany seed is one of the herbs that are used as anti-diabetic in traditional medicine. This research aims to determine the effect of Subchronic toxicity towards toxic symptoms and the level of *Blood Urea Nitrogen* (BUN), and creatinin, also the histopathology image of kidney in rats.

Mahogany seeds oil was obtained using hydraulic press device. The research used 50 male and 50 female rats that were divided into 5 groups, 1 group of negative control administered by aquadestilata and 4 treatment groups treated by mahogany seeds oil at dose 300 mg/KgBW, 600 mg/KgBW, and dose 900 mg/KgBW, and satellite group were treated with the same dose as 900 mg/KgBW. This research was observed for 90 days and additional 28 days for satellite group to observe the reversible effect. The examination of BUN and Creatinin were exam once every 30 days. The end of observation animals was sacrificed for the histopathological test.

The result revealed that the mahogany seed oil treatment increase the body weight of male rats in dose 300 mg/KgBW, 600 mg/KgBW, and 900 mg/KgBW and female rats in dose 900 mg/KgBW and caused toxic effects showed edema on female rats in dose 900 mg/kgBW, changed the BUN level and also kidney histopathology image.

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**Keywords:** Mahogany Seed oil (*Swietenia macrophylla* King), Subchronic toxicity, Kidney histopathology.

## INTISARI

**WITNEY, R., 2016. UJI TOKSISITAS SUBKRONIS MINYAK BIJI MAHONI (*Swietenia macrophylla* King) TERHADAP KADAR *BLOOD UREA NITROGEN* DAN KADAR KREATININ SERTA GAMBARAN HISTOPATOLOGI ORGAN GINJAL PADA TIKUS PUTIH (*Rattus norvegicus*), SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.**

Biji mahoni merupakan salah satu tanaman yang digunakan sebagai obat tradisional untuk anti-diabetes. Penelitian ini bertujuan untuk mengetahui efek toksisitas subkronis terhadap gejala toksik, kadar *Blood Urea Nitrogen* (BUN) dan kreatinin serta gambaran histopatologi organ ginjal tikus.

Minyak biji mahoni diperoleh dengan alat press hidrolik. Penelitian ini menggunakan 50 ekor hewan jantan dan 50 ekor hewan betina, yang terbagi atas 5 kelompok. Kelompok pertama kontrol negatif diberi aquadestilata, 3 kelompok perlakuan diberi sediaan minyak biji mahoni dengan dosis 300 mg/KgBB, 600 mg/KgBB, 900 mg/KgBB, dan kelompok satelit diberi 900 mg/KgBB. Penelitian ini berlangsung selama 90 hari dan ditambah 28 hari pada kelompok satelit untuk melihat efek reversible. Pemeriksaan kadar BUN dan kreatinin dilakukan setiap 30 hari. Pada akhir pemeriksaan hewan uji dikorbankan untuk uji histopatologi.

Hasil penelitian ini menunjukkan bahwa pemberian minyak biji mahoni dosis 300 mg/KgBB, 600 mg/KgBB, dan 900 mg/KgBB mempengaruhi berat badan tikus jantan dan dosis 900 mg/KgBB pada tikus betina, dan menyebabkan efek toksik timbulnya edema pada tikus betina dosis 900 mg/KgBB, mempengaruhi kadar BUN tikus betina dan gambaran histopatologi ginjal.

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**Kata kunci :** Minyak biji mahoni (*Swietenia macrophylla* King), Toksisitas subkronik, Histopatologi ginjal.