

ABSTRACT

THE STUDY OF GIVING SIGER RICE FROM BITTER CASSAVA TO BLOOD CHEMICAL PROFILE AND HISTOLOGY OF LIVER AND KIDNEY OF MALE MICE

By

INDAH KHOIRUNISA

During this time siger rice is made from a type of cassava which is still very limited. There are several ways to reduce the content of HCN (hydrogen cyanide) with several stages of processing siger rice. The aim of this research was to investigate the effect of giving siger rice from bitter cassava to blood chemical profile and histology of liver and kidney mice. The research was arranged in Complete Randomized Block Design (CBRD) with four replications. This research used 24 male mice were divided into 6 group that is control (70% corn strach), P1 (30% siger rice), P2 (40% siger rice), P3 (50% siger rice), P4 (60% siger rice), and P5 (75,56% siger rice). Furthermore, the mice were kept for 28 days and fed and drink in *ad libitum*. The observations performed on the 28th day include blood chemical profile of erythrocytes, leukocytes, hematocrit, hemoglobin, and histology of liver and kidney. The research result showed that giving rice siger from bitter cassava did not have significant effects to mice's

blood profile in number of erythrocytes, number of leukocytes, hemoglobin level, and hematocrit value. The treatment of giving siger rice from bitter cassava did not have significant effects to the histology of the liver of the mice because minor damage to liver cells in the form of cloudy degeneration is *reversible*, so that it can recovered. It also did not have significant effects to histology of kidney of the mice due to minor damage such as edema *spatium* Bowman in glomelurus and epithelial cell swelling in tubular are *reversible* so that it can be recovered.

Keyword: *siger rice, cyanide, blood chemical profile, histology, liver, kidney, mice.*

ABSTRAK

KAJIAN PEMBERIAN BERAS SIGER DARI UBI KAYU RACUN TERHADAP PROFIL KIMIA DARAH SERTA GAMBARAN HISTOLOGI HATI DAN GINJAL MENCIT JANTAN

Oleh

INDAH KHOIRUNISA

Selama ini beras siger terbuat dari jenis ubi kayu manis yang mana kesediaannya masih sangat terbatas. Terdapat beberapa cara untuk mengurangi kandungan HCN (hidrogen sianida) dengan beberapa tahapan pengolahan beras siger. Tujuan penelitian ini untuk mengetahui pengaruh pemberian beras siger dari ubi kayu racun terhadap profil kimia darah serta histologi hati dan ginjal mencit jantan. Penelitian dilakukan dengan menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan empat ulangan. Penelitian dilakukan menggunakan 24 ekor mencit jantan yang dibagi menjadi 6 kelompok yaitu kontrol (70% pati jagung), P1 (30% beras siger), P2 (40% beras siger), P3 (50% beras siger), P4 (60% beras siger), dan P5 (75,56% beras siger). Selanjutnya mencit dipelihara selama 28 hari dan diberi makan dan minum secara *ad libitum*. Pengamatan dilakukan pada hari ke-28 meliputi profil kimia darah yaitu eritrosit, leukosit, hematokrit dan

hemoglobin, serta gambaran histologi hati dan ginjal. Hasil penelitian menunjukkan perlakuan pemberian beras siger dari ubi kayu racun tidak mempengaruhi profil darah mencit yaitu pada jumlah eritrosit, jumlah leukosit, kadar hemoglobin dan nilai hematokrit. Perlakuan pemberian beras siger dari ubi kayu racun tidak mempengaruhi gambaran histologi hati mencit karena kerusakan ringan pada sel hati berupa degenerasi keruh bersifat *reversible*, sehingga dapat pulih kembali. Selain itu juga tidak mempengaruhi gambaran histologi ginjal mencit karena kerusakan ringan berupa edema *spatium* Bowman pada glomelurus dan pembengkakan sel epitel pada tubulus bersifat *reversible* sehingga dapat pulih kembali.

Kata kunci : beras siger, sianida, profil kimia darah, histologi, hati, ginjal, mencit.