ABSTRAK

FAIQ EL HIMMAH. Kajian Histopatologi Otak, Jantung dan Paru-Paru Tikus Pasca Pemberian Fraksi Asam Amino Non-Protein dan Polifenol Daun Lamtoro Merah (*Acacia villosa*). Dibawah bimbingan EVA HARLINA dan HERNOMOADI HUMINTO.

Acacia villosa merupakan leguminosa pohon yang mengandung protein tinggi sehingga berpotensi sebagai sumber protein pakan ternak. Namun, tanaman ini mengandung bahan toksik dan antinutrisi yaitu asam amino non-protein dan polifenol. Penelitian ini bertujuan untuk mengetahui gambaran histopatologi otak, jantung dan paru-paru tikus pasca pemberian fraksi asam amino non-protein dan polifenol *A. villosa*. Sebanyak 18 ekor tikus putih jenis Sprague Dawley dibagi menjadi tiga kelompok yang terdiri dari satu kelompok kontrol yang diberi aquabidest, satu kelompok perlakuan yang diberi fraksi asam amino non-protein dan satu kelompok perlakuan yang diberi fraksi polifenol. Perlakuan diberikan secara intragastrik dengan konsentrasi 21%, dosis 1 ml/hari selama 30 hari. Pengamatan histopatologi dilakukan terhadap organ otak, jantung dan paru-paru dari seluruh kelompok perlakuan.

Hasil pengamatan histopatologi menunjukkan bahwa otak, jantung dan paru-paru tikus pasca pemberian fraksi asam amino non-protein mengalami perubahan yang lebih berat dibandingkan pasca pemberian polifenol. Secara umum otak mengalami kongesti, edema perivaskuler, nekrosis neuron disertai gliosis dan malacia, jantung mengalami kongesti, hemorragi, degenerasi hialin dan nekrosis otot jantung serta paru-paru mengalami kongesti, hemorragi, pneumonia interstitialis dan emfisema. Berdasarkan hasil evaluasi histopatologi disimpulkan bahwa fraksi asam amino non-protein lebih toksik dibandingkan fraksi polifenol.

ABSTRACT

FAIQ EL HIMMAH. Histopathological Examination of Brain, Heart and Lung in Rat after Received Non-Protein Amino Acid Fraction and Polyphenol Compound of Red Acacia leaf (*Acacia villosa*). Under supervise of EVA HARLINA and HERNOMOADI HUMINTO.

Acacia villosa is a leguminous tree which has high protein content, so it's potential as ruminant feedstuff. However, it has toxic and antinutritional compounds are non-protein amino acid (NPAA) and polyphenols. The aim of this research is to examine the histopathological changes of rat brain, heart and lungs treated with NPAA and polyphenols fraction of A. villosa leaf. Eighteen of Sprague Dawley rats were divided into three groups; control group was treated with aquabidest, one group was treated with NPAA fraction and the last group was treated with polyphenols fraction. The administered of the treatment was intragastrically with 21% of fractions, 1ml/day in 30 days.

The result showed that brain, heart and lungs after received NPAA fraction have more severe histopathological changes than polyphenols fraction. The brain had congestion, perivascular oedema, necrosis of neuron with gliosis and malacia, the heart had congestion, haemorrhag, hyalin degeneration and muscle necrosis and the lungs had congestion, haemorrhag, interstitial pneumonia and emphysema. Based on those observation, NPAA fraction is more toxic than polyphenols fraction.