ABSTRAK

PENGARUH PENGUJIAN TOKSISITAS AKUT EKSTRAK ETANOL SAMBILOTO TERHADAP KADAR *SERUM GLUTAMATE PYRUVATE TRANSAMINASE* (SGPT) DAN *SERUM GLUTAMATE OXALOACETATE TRANSAMINASE* (SGOT), SERTA GAMBARAN HISTOPATOLOGI HATI AYAM BROILER

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Sambiloto (*Andrographis paniculata* (Burm.f) Nees) merupakan salah satu tanaman yang dimanfaatkan sebagai tanaman herbal. Senyawa aktif sambiloto memiliki banyak khasiat contohnya *andrographolide* yang berfungsi sebagai hepatoprotektor dan anti mikroba. Namun demikian, perlu diteliti lebih lanjut mengenai efek toksik sambiloto karena informasi mengenai hal tersebut masih terbatas. Penelitian ini dilakukan untuk mengetahui efek toksik yang terjadi akibat pemberian ekstrak etanol sambiloto melalui pengujian toksisitas akut dan pengaruh terhadap hati ayam broiler.

Metode penelitian mengacu pada *Organization for Economic Co-operation and Development Guidelines for the Testing of Chemicals* (OECD) *Guideline* 223 dengan dosis sediaan uji 2000 mg/kg BB. Hewan uji menggunakan ayam broiler *strain* Lohman 202 berumur 31 hari sebanyak 10 ekor ayam yang dibagi menjadi dua kelompok yaitu kelompok kontrol negatif dan kelompok perlakuan. Pengambilan darah ayam uji dilakukan untuk pemeriksaan kimia darah terkait kadar *Serum Glutamate Pyruvate Transaminase* (SGPT) dan *Serum Glutamate Oxaloacetate Transaminase* (SGOT) dilanjutkan dengan analisis kuantitatif menggunakan *software* SPSS dengan metode *Mann Whitney U* dan *Independent Samples T-Test.* Parameter lain yang digunakan dalam penelitian yaitu pembuatan preparat histopatologi dilanjutkan dengan pengamatan histopatologi hati secara deskriptif.

Hasil penelitian menunjukkan bahwa pemberian ekstrak etanol sambiloto 2000 mg/kg BB secara oral dosis tunggal tidak menimbulkan menimbulkan gejala intoksikasi pada hasil pemeriksaan kadar SGPT dan SGOT, serta tidak menimbulkan perubahan pada organ hati secara makroskopik, namun memiliki efek ringan berupa nekrosis multifokal, kongesti, hemoragi, dan infiltrasi sel radang yang terlihat pada pengamatan histopatologi hati.

Kata kunci : Sambiloto, uji toksisitas akut, OECD 223, kimia darah, Histopatologi, Ayam Broiler

ABSTRACT

EFFECT OF ACUTE TOXICITY TESTING OF SAMBILOTO ETHANOL EXTRACT ON *SERUM LEVELS OF PYRUVATE GLUTAMATE TRANSAMINASE* (SGPT) AND *SERUM GLUTAMATE OXALOACETATE TRANSAMINASE* (SGOT), AND HISTOPATHOLOGICAL FEATURES OF BROILER CHICKEN LIVER

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Sambiloto (*Andrographis paniculata* (Burm.f) Nees) is one of the plants used as a herbal plant. The active compound of Sambiloto has many benefits, for example andrographolide which functions as a hepatoprotector and anti-microbial. However, further research is needed regarding the toxic effects of Sambiloto because information regarding this is still limited. This research was conducted to determine the toxic effects that might occur as a result of administering bitter ethanol extract through acute toxicity testing and the effect on the liver of broiler chickens.

The research method refers to the *Organization for Economic Co-operation and Development Guidelines for the Testing of Chemicals* (OECD) Guideline 223 with a test dose of 2000 mg/kg BW. The test animals used 31 day old Lohman 202 broiler chickens, divided into two groups, namely the negative control group and the treatment group. Blood sampling from test chickens was carried out to examine blood chemistry related to levels of *Serum Glutamate Pyruvate Transaminase* (SGPT) and *Serum Glutamate Oxaloacetate Transaminase* (SGOT) followed by quantitative analysis using SPSS software with the *Mann Whitney U* method and *Independent Samples T-Test*. Another parameter used in the research is making histopathological preparations.

The results of the study showed that administering a single dose of 2000 mg/kg BW bitter ethanol extract orally did not cause symptoms of intoxication in the results of examination of SGPT and SGOT levels, and did not cause changes in the liver organ macroscopically, but had mild toxic effects in the form of multifocal necrosis, congestion, hemorrhage, and inflammatory cell infiltration visible on liver histopathological observation.

Keywords: Sambiloto, acute toxicity test, OECD 223, blood chemistry, Histopathology, Broiler Chickens