

ABSTRAK

IDENTIFIKASI TOKSISITAS AKUT EKSTRAK AIR SAMBILOTO (*Andrographis paniculata* (Burm.f.) Ness) MELALUI PENGUKURAN KADAR SGPT, SGOT, BUN, DAN KREATININ PADA AYAM BROILER

Amirah Ratnadilla Subyanti Putri

19/442175/KH/10099

Ekstrak air sambiloto (*Andrographis paniculata* [Burm.f.] Ness) merupakan salah satu produk obat herbal yang berpotensi sebagai obat antikoksidosis pada ternak ayam. Senyawa dalam tumbuhan sambiloto seperti andrografolid berfungsi sebagai antimikroba serta masih banyak kandungan senyawa berkhasiat lainnya. Penelitian ini bertujuan untuk menjamin keamanan produk dengan mengetahui potensi efek toksik ekstrak air sambiloto ditinjau dari kadar kimia darah pada ayam.

Metode dalam penelitian ini berpedoman pada *Organization for Economic Co-operation and Development Guidelines for the Testing of Chemicals* (OECD) *Guideline 223* menggunakan dosis sediaan uji 2000 mg/kg BB. Uji toksisitas akut ekstrak air sambiloto dilakukan pada dua belas ekor ayam yang dibagi menjadi kelompok kontrol dan kelompok perlakuan. Pemeliharaan dilanjutkan selama 14 hari, kemudian hewan uji diambil darahnya untuk pemeriksaan kadar *Serum Glutamate Pyruvate Transaminase* (SGPT), *Serum Glutamate Oxaloacetate Transaminase* (SGOT), *Blood Urea Nitrogen* (BUN), dan kreatinin. Pemeriksaan kimia darah meliputi pemeriksaan kadar SGOT menggunakan metode *Semi-Automatic* dan pemeriksaan SGPT, BUN, kreatinin. Pengujian dilanjutkan menggunakan *software* SPSS 26 untuk analisis kuantitatif dengan metode *Mann Whitney U* dan *Independent Samples T-Test*.

Hasil penelitian menunjukkan kadar SGPT sebesar $5,00 \pm 0,00$ IU/L (Kontrol) dan $3,33 \pm 2,31$ IU/L (Perlakuan). Kadar SGOT sebesar $336,73 \pm 101,41$ IU/L (Kontrol) dan $379,77 \pm 289,14$ IU/L (Perlakuan). Kadar BUN sebesar $2,72 \pm 0,156$ mg/dL (Kontrol) dan $2,76 \pm 0,14$ mg/dL (Perlakuan). Kadar kreatinin sebesar $0,30 \pm 0,00$ mg/dL (Kontrol) dan $0,30 \pm 0,00$ mg/dL (Perlakuan). Dibandingkan dengan dengan kelompok kontrol, hasil analisis kuantitatif terhadap kadar SGPT, SGOT, BUN, dan kreatinin pada uji toksisitas akut ekstrak air sambiloto tidak menunjukkan perubahan yang signifikan ($p > 0,05$) sehingga ekstrak air sambiloto tidak memberikan efek intoksikasi pada hewan uji.

Kata kunci: Sambiloto, uji toksisitas akut, (OECD) *Guideline 223*, kimia darah, ayam broiler.

ABSTRACT

IDENTIFICATION OF THE ACUTE TOXICITY OF WATER EXTRACT OF SAMBILOTO (*Andrographis paniculata* (Burm.f.) Ness) THROUGH LEVELS OF SGPT, SGOT, BUN, AND CREATININE MEASUREMENT IN BROILER CHICKENS

Amirah Ratnadilla Subyanti Putri

19/442175/KH/10099

Water extract of sambiloto (*Andrographis paniculata* [Burm.f.] Ness) is one of the herbal medicinal products that has the potential as an anticoccidiosis medicine in the poultry industry. Sambiloto plant contains compounds that are efficacious in medicine such as andrographolide as an antimicrobial and many other compounds. This study aims to ensure product safety by knowing the potential toxic effects of water extract of sambiloto in terms of blood chemistry levels in chickens.

The method used in this study was guided by *Organization for Economic Co-operation and Development Guidelines for the Testing of Chemicals* (OECD) Guideline 223 using a test dosage of 2000 mg/kg BW. The acute toxicity test of water extract of sambiloto is using twelve chickens which were divided into a control group and a treatment group. Maintenance is continued for 14 days then the blood of the test animals is taken for *Serum Glutamate Pyruvate Transaminase* (SGPT), *Serum Glutamate Oxaloacetate Transaminase* (SGOT), *Blood Urea Nitrogen* (BUN), and creatinine's levels examination. Blood chemistry examination includes SGOT levels checked using the *Semi-Automatic* method and examining SGPT, BUN, creatinine. The test was continued using SPSS 26 software for quantitative analysis using the Mann Whitney U and Independent Samples T-Test method.

The result showed that GPT serum level was $5,00 \pm 0,00$ IU/L (Control) and $3,33 \pm 2,31$ IU/L (Treatment). GOT serum level was $336,73 \pm 101,41$ IU/L (Control) and $379,77 \pm 289,14$ IU/L (Treatment). The BUN level was $2,72 \pm 0,156$ mg/dL (Control) and $2,76 \pm 0,14$ mg/dL (Treatment). The creatinine level was $0.30 \pm 0,00$ mg/dL (Control) and $0.30 \pm 0,00$ mg/dL (Treatment). Compared with the control group, the quantitative analysis results of the SGPT, SGOT, BUN, and creatinine levels in the acute toxicity test of water extract of sambiloto did not show a significant change ($p > 0.05$). Therefore, the water extract of sambiloto did not have an intoxicating effect on the test animals.

Keywords: Sambiloto, acute toxicity, OECD Guideline 223, blood chemistry, broiler chickens.