

## ABSTRAK

### **PENGARUH EKSTRAK ETANOL SAMBILOTO (*Andrographis paniculata*) TERHADAP GAMBARAN MAKROSKOPIS DAN MIKROSKOPIS DUODENUM SERTA JEJUNUM AYAM BROILER YANG DIINFEKSI *Eimeria* sp.**

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Sambiloto (*Andrographis paniculata*) merupakan tanaman yang mudah ditemukan di Indonesia dan memiliki zat aktif andrografolida yang bersifat sebagai antimikrobia. Tanaman ini kerap digunakan sebagai *feed additive* dalam pakan ayam broiler menggantikan antibiotika. Antibiotika kerap digunakan sebagai terapi maupun profilaksis, namun berisiko terjadinya resistensi obat. Salah satu ancaman penyakit pada unggas yaitu koksidiosis. Penelitian ini bertujuan untuk melihat perubahan makroskopis dan mikroskopis pada duodenum dan jejunum ayam broiler yang diberi ekstrak etanol sambiloto sebagai terapi. Ayam yang digunakan adalah strain Lohman 202 berjumlah 25 ekor yang diinokulasi *Eimeria* sp. dan dibagi menjadi 5 kelompok. Kelompok K- sebagai kontrol negatif tidak diberi pengobatan, kelompok K+ yaitu kontrol positif diberi pengobatan narasin-nicarbazin 45 ppm, kelompok E5, E10, dan E20 diberikan pengobatan ekstrak etanol sambiloto 5%, 10%, dan 20%. Sediaan ekstrak etanol sambiloto diberikan selama 2 minggu sebanyak 1 ml per oral. Nekropsis dan pengambilan sampel dilakukan pada minggu pertama dan kedua setelah pemberian ekstrak. Perubahan makroskopis organ diamati dan sampel dibuat preparat histopatologi dengan pewarnaan *Hematoxylin-Eosin* (HE) untuk pengamatan secara mikroskopis. Hasil pengamatan dievaluasi menggunakan metode *lesion scoring* dan dianalisis dengan uji *Wilcoxon Signed-Rank* untuk mengetahui perbedaan lesi pada minggu pertama dan kedua, serta uji *Independent Kruskal-Wallis* untuk menilai antar kelompok. Hasil penelitian menunjukkan ekstrak etanol sambiloto 20% mampu menekan lesi makroskopis paling baik dan menurunkan derajat lesi mikroskopis. Hasil analisis statistik menunjukkan tidak ada perubahan yang nyata secara makroskopis maupun pada gambaran histopatologis antar perlakuan. Penggunaan ekstrak etanol sambiloto 20% efektif menekan derajat lesi akibat protozoa *Eimeria* sp.

Kata kunci: ayam broiler, *Andrographis paniculata*, *Eimeria* sp., histopatologi, sambiloto.

## ***ABSTRACT***

### **THE EFFECT OF ETHANOLIC EXTRACT OF *Andrographis paniculata* (SAMBILOTO) ON THE MACROSCOPIC AND MICROSCOPIC FEATURES OF THE DUODENUM AND JEJUNUM IN BROILER CHICKENS INFECTED WITH *Eimeria* sp.**

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*Andrographis paniculata* (commonly known as sambiloto) is a medicinal plant widely found in Indonesia and contains the active compound andrographolide, known for its antimicrobial properties. This plant is frequently used as a feed additive in broiler chicken diets as an alternative to antibiotics. Antibiotics are commonly used for both therapeutic and prophylactic purposes, but their use carries the risk of antimicrobial resistance. One of the major disease threats in poultry is coccidiosis. This study aimed to observe macroscopic and microscopic changes in the duodenum and jejunum of broiler chickens treated with ethanolic extract of *A. paniculata* as a therapeutic agent. A total of 25 Lohman 202 strain broiler chickens were used, all of which were inoculated with *Eimeria* sp. and divided into five groups. The negative control group (K-) received no treatment, the positive control group (K+) was treated with narasin-nicarbazin 45 ppm, and treatment groups E5, E10, and E20 received ethanolic extract of *A. paniculata* at concentrations of 5%, 10%, and 20%, respectively. The ethanolic extract was administered orally at a dose of 1 mL per bird daily for 2 weeks. Necropsy and sample collection were carried out in the first and second weeks after treatment. Macroscopic changes in the organs were observed, and samples were processed into histopathological slides stained with Hematoxylin and Eosin (HE) for microscopic examination. Observations were evaluated using the lesion scoring method and analyzed with the Wilcoxon Signed-Rank Test to determine differences between week one and two, and the Kruskal-Wallis Independent Test to compare between groups. The results indicated that the 20% ethanolic extract of *A. paniculata* was most effective in reducing macroscopic lesions and lowering the microscopic lesion scores. However, statistical analysis showed no significant differences in macroscopic or histopathological changes among the treatment groups. Nonetheless, the 20% ethanolic extract of *A. paniculata* demonstrated efficacy in reducing lesion severity caused by *Eimeria* sp.

**Keywords:** broiler chickens, *Andrographis paniculata*, *Eimeria* sp., histopathology, sambiloto.