

EFEKTIVITAS PEMBERIAN KOMBINASI MINERAL *ZINC* DAN HERBAL SEBAGAI IMUNOMODULATOR

(THE EFFECTIVITY OF ZINC MINERAL AND HERB COMBINATION AS IMMUNOMODULATOR)

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ABSTRACT

Suplemen as imunomodulator used to increase immune response, to prevent disease. Herb and *Zinc* (Zn) can function as immunostimulan. The aim of this experiment was (1) to study the effect of Zn mineral and herb combination influence the healthy condition, performance and immunity responses, 2) to have blood biochemistry and organ function in broiler who given zinc mineral and herb combination, 3) to know the effectivity of herb and Zn to be treated by Colibacillosis condition. One hundred broiler were used in this research, divided by 5 groups: R0 (control), R1 (R0 + 2.5% garlic powder + 1.5% turmeric powder), R2 (R0+2.5% garlic powder+Zn0 120ppm), R3 (R0+1.5% turmeric powder+Zn0 120ppm), R4 (R0+2.5% garlic powder +1,5% turmeric powder and Zn0 120ppm). The parameters in this research are the erythrocyte count, hemoglobin, and pack cell volume and total leucocyte. Blood biochemistry are investigate protein total, albumin, alanine aminotransferase (ALT), aspartat aminotransferase (AST), creatinin and ureum. The research showed that the erythrocyte count, hemoglobin, and pack cell and blood biochemistry in normal value, that explain safety for organ function and health group showing health status and performance is good, tested in ability to attack Colibacillosis. The result of research show and hematologi in normal, The age of chicken was 3 weeks, all of groups were treated by inoculum of *Escherichia coli* (*E. coli*) bacteria with 10^8 CFU.ml⁻¹ doses per-ons. The parameter was based on performance, health condition, and immunity responses. The activity and the capacity of phagocytosis for assessments immunity respons, the result showed to decrease the performance and healthy condition at the first week infection, then converse to improve at the second week. The amount of leucocyt cell, especially heterophyl cell was increased at 1 week after infection as being indicated by the appearance of inoculum *E. coli* bacteria. The amount of leaucocyt cell was decreased directly after 2 weeks post infection at the group that was fed by turmeric-Zn (P1) and gave antibiotic (K+) drug. This condition showed that the body defence fastly to eliminate the infected agent which was supported by increasing phagocytosis capacity (327±111 bacteria) and phagocytosis activity 97%±10%, was compared with the control group (without drug) activity value 85±15% and phagocytosis capacity (176±118 bacteria). Feeding by turmeric-Zn combination showed better result which was compared to Garlic-Zn combination and the ability to increase healthy condition, performance and immunity responses

Keywords : Garlic, herbal, imunomodulator, phagocytosis, turmeric, zinc.

ABSTRAK

Pemberian suplemen sebagai imunomodulator digunakan untuk meningkatkan daya tahan tubuh sehingga diharapkan dapat mencegah munculnya berbagai macam penyakit. Penggunaan herbal maupun mineral Zn (Zn) telah memiliki kemampuan meningkatkan daya tahan atau berfungsi sebagai immunostimulan. Penelitian ini bertujuan untuk (1) mengetahui efek pemberian kombinasi mineral Zn dan herbal pada status kesehatan, performa dan respons imunitas (2). mencari informasi tentang efek pemberian kombinasi herbal-Zn terhadap fungsi organ.tubuh melalui gambaran biokimiawi darah (3). mengetahui efektifitas pemberian herbal dan Zn dalam menanggulangi kejadian kolibasilosis. Penelitian ini menggunakan.100 ekor ayam yang dibagi ke dalam lima kelompok perlakuan sebagai berikut : R0 (Pakan basal /kontrol); R1 (Pakan basal+bawang putih 2,5%+kunyit 1,5%), R2 (Pakan basal+bawang putih 2,5%+Zn0 120ppm), R3 (Pakan basal+kunyit 1,5%+Zn0 120ppm), R4 (Pakan basal+bawang putih 2,5%+kunyit 1,5%+Zn0 120ppm). Status kesehatan diamati melalui pemeriksaan hematologi dan fungsi organ melalui analisis biokimiawi darah. Kelompok yang memperlihatkan status kesehatan dan performa yang baik, diuji terhadap kemampuannya di dalam menanggulangi kasus

Colibacillosis. Infeksi dilakukan melalui infeksi bakteri *Escherichia coli* (*E. coli*) dengan dosis 10^8 CFU.ml⁻¹ secara per oral. Respons imunitas diperiksa terhadap aktivitas dan kapasitas fagositosis. Hasil penelitian memperlihatkan gambaran hematologi dan biokimiawi

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