

PENGARUH SUPLEMENTASI PREMIX HERBAL PADA PAKAN RENDAH PROTEIN TERHADAP PROFIL BIOKIMIA DARAH DAN STATUS ANTIOKSIDAN AYAM BROILER

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INTISARI

Suplementasi premix herbal merupakan salah satu strategi untuk menanggulangi efek negatif ketidakseimbangan protein dalam pakan rendah protein ayam broiler. Penelitian ini bertujuan untuk mengetahui pengaruh suplementasi premix herbal pada pakan rendah protein terhadap profil biokimia darah dan status antioksidan ayam broiler. Sebanyak 1000 ekor ayam broiler *strain* Wonchick dipelihara selama 35 hari dalam kandang *open housed* dan dibagi secara acak ke dalam dua perlakuan: K (pakan komersial) dan RP-PH (pakan rendah protein + premix herbal). Setiap perlakuan terdiri dari lima ulangan masing-masing 100 ekor ayam. Perlakuan RP-PH diberikan mulai hari ke-14 hingga ke-35. Sampel darah diambil pada akhir pemeliharaan untuk diuji profil biokimia darah dan status antioksidan. Data dianalisis menggunakan IBM SPSS dengan metode *Independent sample T-Test*. Hasil penelitian menunjukkan bahwa kadar glukosa, albumin, total protein, urea, trigliserida, kolesterol, *low-density lipoprotein*, *high-density lipoprotein*, kreatinin dan fosfor darah ayam RP-PH tidak berbeda nyata dibandingkan kontrol ($P>0,05$). Kadar kalsium darah ayam RP-PH lebih rendah sebesar 15,47% dibandingkan kontrol ($P<0,05$). Kadar *malondialdehyde* ayam RP-PH menurun sebesar 8,51% dan kadar *glutathione peroxidase* meningkat sebanyak 10,88% dibandingkan kontrol ($P<0,05$). Kadar *superoxide dismutase* dan *total antioxidant capacity* ayam RP-PH tidak menunjukkan perbedaan nyata dibandingkan kontrol ($P>0,05$). Berdasarkan penelitian, dapat disimpulkan bahwa suplementasi premix herbal pada pakan rendah protein mampu mempertahankan homeostasis profil biokimia darah dan status antioksidan ayam broiler setara dengan pakan komersial dengan protein standar.

Kata kunci: Ayam broiler, Biokimia darah, Pakan rendah protein, Premix herbal, Status antioksidan

THE EFFECT OF HERBAL PREMIX SUPPLEMENTATION IN LOW-PROTEIN DIET ON BLOOD BIOCHEMICAL PROFILE AND ANTIOXIDANT STATUS OF BROILER CHICKENS

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ABSTRACT

Herbal premix supplementation is one of the strategies to mitigate the negative effects of protein imbalance in low-protein diets for broiler chickens. This research investigated the impact of herbal premix supplementation in low-protein diets on the blood biochemical profile and antioxidant status of broiler chickens. A total of 1000 Wonchick strain broilers were raised for 35 days in raised cages and randomly assigned to two groups: K (commercial feed) and RP-PH (low-protein feed with herbal premix). Each group consisted of five replicates with 100 birds per replicate. The RP-PH treatment was administered from day 14 to 35. Blood samples were collected at the end of the trial for blood biochemical profile and antioxidant status analysis. Data were analyzed using independent sample T-test. Results showed no significant differences ($P>0.05$) in blood glucose, albumin, total protein, urea, triglycerides, cholesterol, low-density lipoprotein, high-density lipoprotein, creatinine, and phosphor between groups. Blood calcium in the RP-PH group was 15.47% lower than the control ($P<0.05$). Malondialdehyde levels decreased by 8.51%, while glutathione peroxidase activity increased by 10.88% in the RP-PH group ($P<0.05$). Superoxide dismutase and total antioxidant capacity levels showed no significant changes ($P>0.05$). These findings suggest that herbal premix supplementation in low-protein diets can maintain homeostasis of blood biochemical profile and antioxidant status of broiler chickens to those fed with standard protein commercial diets.

Keywords: Antioxidant status, Blood biochemical profile, Broiler chicken, Herbal premix, Low-protein diet