

INTISARI

PERAN *BACILLUS AMYLOLIQUEFACIENS* CECT 5940 TERHADAP HEMATOLOGI DAN BERAT BADAN AYAM BROILER STRAIN COBB

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Penggunaan antibiotik sebagai *Antibiotic Growth Promoter* (AGP) dalam industri peternakan ayam telah menimbulkan kekhawatiran serius terkait resistensi antimikroba akibat penggunaan jangka panjang dan dosis yang tidak tepat. Sebagai alternatif, probiotik seperti *Bacillus amyloliquefaciens* menunjukkan potensi dalam meningkatkan performa ternak ayam melalui produksi enzim pencernaan dan penghambatan mikroflora patogen di saluran cerna. Penelitian ini bertujuan untuk mengkaji pengaruh probiotik *Bacillus amyloliquefaciens* CECT 5940 sebagai alternatif AGP terhadap hematologi dan berat badan ayam broiler strain Cobb. Selain itu, ditinjau pula efektivitas probiotik sebagai pengganti AGP dalam industri perunggasan. Sebanyak 60 ekor ayam broiler dibagi menjadi dua kelompok, yaitu kontrol dan perlakuan. Kelompok perlakuan diberi probiotik *Bacillus amyloliquefaciens* CECT 5940 sebesar 1×10^{10} CFU/g dalam air minum dengan dosis 50 gram per 1.000 liter selama 30 hari. Sampel darah diambil melalui vena brachialis sebanyak 1-2 ml dan penimbangan bobot dilakukan pada akhir minggu ketiga dan keempat. Parameter hematologi yang dianalisis secara manual meliputi indeks eritrosit, hemoglobin, leukosit, monosit, limfosit, basofil, eosinofil, trombosit, heterofil, PCV, MCV, MCH, MCHC, TPP, dan fibrinogen, dengan pengolahan data menggunakan uji normalitas, ANOVA, dan Mann-Whitney. Terdapat perbedaan signifikan ($P < 0,05$) pada peningkatan bobot tubuh dan parameter hematologi ayam broiler yang diberi *Bacillus amyloliquefaciens* CECT 5940. Berdasarkan hasil penelitian, dapat disimpulkan pemberian *Bacillus amyloliquefaciens* CECT 5940 dapat meningkatkan parameter hematologi dan penambahan berat badan yang signifikan pada ayam broiler strain cobb.

Kata kunci: AGP, ayam broiler, *Bacillus amyloliquefaciens*, Berat badan, hematologi darah

ABSTRACT

THE ROLE OF *BACILLUS AMYLOLIQUEFACIENS* CECT 5940 IN MODULATING HEMATOLOGICAL PARAMETERS AND BODY WEIGHT PERFORMANCE OF COBB STRAIN BROILER CHICKENS

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The use of antibiotics as Antibiotic Growth Promoters (AGPs) in the poultry industry has raised significant concerns regarding antimicrobial resistance due to prolonged and improper use. As an alternative, probiotics such as *Bacillus amyloliquefaciens* have demonstrated potential in enhancing poultry performance through the production of digestive enzymes and suppression of pathogenic microflora in the gastrointestinal tract. This study aimed to evaluate the effects of *Bacillus amyloliquefaciens* CECT 5940 as an alternative to AGPs on the hematological parameters and body weight of Cobb strain broiler chickens. Additionally, the efficacy of probiotics as AGP substitutes in the poultry industry was assessed. A total of 60 broiler chickens were allocated into two groups: control and treatment. The treatment group received *Bacillus amyloliquefaciens* CECT 5940 at a concentration of 1×10^{10} CFU/g, administered via drinking water at a dosage of 50 grams per 1,000 liters for 30 days. Blood samples (1–2 mL) were collected from the brachial vein, and body weights were recorded at the end of the third and fourth weeks. Hematological parameters were analyzed manually, including erythrocyte indices, hemoglobin, leukocytes, monocytes, lymphocytes, basophils, eosinophils, thrombocytes, heterophils, PCV, MCV, MCH, MCHC, total plasma protein (TPP), and fibrinogen. Data analysis was performed using normality testing, ANOVA, and the Mann–Whitney U test. The results revealed a significant improvement ($P < 0.05$) in both body weight and hematological parameters in broiler chickens supplemented with *Bacillus amyloliquefaciens* CECT 5940. It can be concluded that the administration of *Bacillus amyloliquefaciens* CECT 5940 effectively enhances hematological profiles and promotes significant body weight gain in Cobb strain broilers.

Keywords: AGP, broiler chickens, *Bacillus amyloliquefaciens*, body weight, blood hematology