

ABSTRAK

GAMBARAN HISTOPATOLOGIS GINJAL, HEPAR, DAN LIEN AYAM BROILER STRAIN COBB TERHADAP PEMBERIAN *BACILLUS* *AMYLOLIQUEFACIENS* CECT 5940

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Probiotik seperti *Bacillus amyloliquefaciens* CECT 5940 digunakan sebagai pengganti penggunaan AGP guna mendukung kesehatan dan pertumbuhan ayam broiler. Penelitian ini bertujuan untuk mengevaluasi dampak *Bacillus amyloliquefaciens* CECT 5940 terhadap histopatologis organ ginjal, hepar, dan lien ayam broiler yang diberikan secara kontinu selama 30 hari dan berselang. Penelitian menggunakan 90 ayam broiler strain COBB yang dibagi menjadi tiga kelompok, yaitu kelompok kontrol, kelompok pemberian probiotik selama 30 hari, dan pemberian berselang (hari ke 1–7, 13–17, 23–27). *Bacillus amyloliquefaciens* CECT 5940 diberikan dalam bentuk bubuk larut air (1×10^{10} CFU/g) dengan dosis 50 gram per 1.000 liter air minum setiap pagi hingga larutan habis dikonsumsi. Ayam dieuthanasi setelah 30 hari masa pemeliharaan kemudian sampel organ ginjal, hepar, dan lien diambil untuk dibuat preparat jaringan dengan pewarnaan hematoxilin-eosin. Analisis data dilakukan secara deskriptif untuk menilai efek pemberian *Bacillus amyloliquefaciens* CECT 5940 terhadap gambar histopatologis organ ginjal, hepar, dan lien. Hasil pengamatan organ ginjal menunjukkan bahwa kelompok G2 dan G3 mengalami pembesaran nukleus, namun G3 menunjukkan perubahan masih dalam batas wajar. Hasil pengamatan organ hepar kelompok G2 dan G3 tidak ditemukannya perubahan histopatologis yang signifikan menunjukkan hepar memiliki kemampuan regenerasi yang tinggi. Hasil pengamatan organ lien pada kelompok G2 dan G3 tidak menunjukkan perubahan histopatologis signifikan menunjukkan bahwa lien memiliki kemampuan adaptasi yang baik terhadap pemberian probiotik. Dapat disimpulkan bahwa pemberian *Bacillus amyloliquefaciens* CECT 5940 selama 30 hari menyebabkan perubahan pada organ ginjal.

Kata kunci: broiler, AGP, *Bacillus amyloliquefaciens*, histopatologis, ginjal

ABSTRACT

HISTOPATHOLOGICAL EVALUATION OF THE KIDNEY, LIVER, AND SPLEEN OF COBB STRAIN BROILER CHICKENS FOLLOWING ADMINISTRATION OF *BACILLUS AMYLOLIQUEFACIENS* CECT 5940

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Probiotics such as *Bacillus amyloliquefaciens* CECT 5940 are used as alternatives to antibiotic growth promoters (AGPs) to support the health and growth of broiler chickens. This study aims to evaluate the impact of *Bacillus amyloliquefaciens* CECT 5940 on the histopathological structure of the kidneys, liver, and spleen of broiler chickens given continuously for 30 days and intermittently. The study used 90 COBB strain broiler chickens divided into three groups: a control group, a group receiving probiotics for 30 days, and an intermittent administration group (days 1–7, 13–17, 23–27). *Bacillus amyloliquefaciens* CECT 5940 was administered in the form of water-soluble powder (1×10^{10} CFU/g) at a dose of 50 grams per 1,000 liters of drinking water every morning until the solution was completely consumed. The chickens were euthanized after 30 days of rearing, and samples of kidney, liver, and spleen tissues were collected to prepare histological slides using hematoxylin-eosin staining. Data were analyzed descriptively to assess the effects of *Bacillus amyloliquefaciens* CECT 5940 administration on the histopathological appearance of kidney, liver, and spleen tissues. Observations of kidney organs showed that groups G2 and G3 exhibited nuclear enlargement, but G3 showed changes still within normal limits. Observations of liver organs in groups G2 and G3 revealed no significant histopathological changes, indicating that the liver has a high regenerative capacity. The results of observations of the spleen in groups G2 and G3 did not show significant histopathological changes, indicating that the spleen has good adaptability to probiotic administration. It can be concluded that the administration of *Bacillus amyloliquefaciens* CECT 5940 for 30 days caused changes in the kidneys.

Keywords: broiler, AGP, *Bacillus amyloliquefaciens*, histopathological, kidney