ABSTRAK

PENGARUH PEMBERIAN IMBUHAN PAKAN KOMBINASI HERBAL-PROBIOTIK TERHADAP PERFORMA AYAM BROILER DAN TITER ANTIBODI TERHADAP *NEWCASTLE DISEASE*

Farra Nasywa Kamila
20/459032/KH/10656

Antibiotic growth promoters (AGP) kerap digunakan dalam industri perunggasan untuk mendapatkan performa ternak yang optimal. Penggunaan AGP secara terus-menerus terbukti menimbulkan resistensi antibiotik pada unggas sehingga saat ini penggunaan AGP dilarang. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian imbuhan pakan kombinasi herbal-probiotik sebagai alternatif pengganti AGP terhadap performa ayam broiler dan titer antibodi terhadap *Newcastle Disease*. Sebanyak 37 ekor ayam broiler ditempatkan pada kandang kontrol dan sebanyak 35 ekor broiler ditempatkan pada kandang perlakuan. Imbuhan pakan komersial berbentuk cair mengandung campuran sirih (*Piper betle*), kelor (*Moringa oleifera*), sambiloto (*Andrographis paniculata*), pepaya (*Carica papaya*), *Actinomycetes*, jamur fermentasi, bakteri asam laktat, bakteri fotosintesa, dan ragi. Imbuhan pakan diberikan pada kelompok perlakuan dengan cara dicampurkan ke dalam air minum dengan dosis 0,05-0,10 ml per ekor/hari mulai hari ke-8. Bobot badan ayam broiler dan sisa pakan ditimbang setiap minggunya. Vaksinasi dilakukan pada umur 3 hari dengan vaksin ND strain Hitchner B1 kemudian diberi vaksin ulangan pada umur 18 hari menggunakan vaksin ND strain LaSota. Sampel serum diambil pada umur 12 dan 26 hari. Titer antibodi ND diuji dengan uji HI lambat. Hasil penelitian menunjukkan rata-rata bobot badan kelompok kontrol minggu ke-2, 3, 4, dan 5 adalah 480,06 g/ekor, 999,5 g/ekor, 1.567,53 g/ekor, dan 2.391,94 g/ekor. Rata-rata bobot badan kelompok perlakuan minggu ke-2, 3, 4, dan 5 adalah 481 g/ekor, 912 g/ekor, 1.533,51 g/ekor, dan 2.383,96 g/ekor. Nilai FCR mingguan kelompok kontrol minggu ke-2, 3, 4, dan 5 adalah 1,12, 1,16, 1,30, dan 1,40. Nilai FCR mingguan kelompok perlakuan minggu ke-2, 3, 4, dan 5 adalah 1,23. 1,32, 1,33, dan 1,42. Hasil uji HI lambat menunjukkan rataan titer antibodi ND umur 12 hari pada kelompok kontrol sebesar 2^5 HI unit dan kelompok perlakuan sebesar $2^{5,5}$ HI unit. Rataan titer antibodi ND umur 26 hari pada kelompok kontrol sebesar $2^{4,33}$ HI unit dan kelompok perlakuan sebesar $2^{4,67}$ HI unit. Hasil analisis statistik dengan uji *independent samples T-test* menunjukkan bahwa pemberian imbuhan pakan kombinasi herbal-probiotik tidak berbeda signifikan ($P>0,05$) terhadap bobot badan dan FCR ayam broiler. Kelompok perlakuan yang diberikan imbuhan pakan menunjukkan titer antibodi ND yang lebih tinggi. Kesimpulan penelitian ini adalah pemberian imbuhan pakan kombinasi herbal-probiotik berpengaruh terhadap bobot badan dan FCR meskipun tidak signifikan, serta menghasilkan titer antibodi terhadap ND yang lebih tinggi.

Kata kunci: imbuhan pakan, kombinasi herbal-probiotik, *Newcastle Disease*, performa ayam broiler, titer antibodi

ABSTRACT

THE EFFECT OF HERBS-PROBIOTICS COMBINATION AS FEED ADDITIVE ON BROILER CHICKEN PERFORMANCE AND ANTIBODY TITER AGAINST NEWCASTLE DISEASE

Farra Nasywa Kamila
20/459032/KH/10656

Antibiotic growth promoters (AGP) are frequently used in the poultry industry to achieve optimal livestock performance. Continuous use of AGP has been proven to cause antibiotic resistance in poultry, leading to the prohibition of AGP use. This study aims to determine the effect of herbal-probiotic combination feed additives as an alternative to AGP on broiler performance and Newcastle Disease antibody titers. A total of 37 broilers were placed in the control cage, and 35 broilers were placed in the treatment cage. The commercial feed additive in liquid form contained a mixture of betel leaf (*Piper betle*), moringa (*Moringa oleifera*), andrographis (*Andrographis paniculata*), papaya (*Carica papaya*), Actinomycetes, fermented fungi, lactic acid bacteria, photosynthetic bacteria, and yeast. The feed additive was given to the treatment group by mixing it into the drinking water at a dose of 0.05-0.10 ml per bird/day starting from day 8. Broiler body weight and remaining feed were weighed weekly. Vaccination was performed at 3 days old with ND Hitchner B1 vaccine and a booster was given at 18 days old using ND LaSota vaccine. Serum samples were taken at 12 and 26 days old, and ND antibody titers were tested with micro HI test. The results showed that the average body weight of the control group in weeks 2, 3, 4, and 5 were 480,06 g/bird, 999,75 g/bird, 1.567,53 g/bird, and 2.391,94 g/bird. The average body weight of the treatment group in weeks 2, 3, 4, and 5 were 481 g/bird, 912 g/bird, 1.533,51 g/bird, and 2.383,96 g/bird. The weekly FCR values of the control group in weeks 2, 3, 4, and 5 were 1,12, 1,16, 1,30, and 1,40. The weekly FCR values of the treatment group in weeks 2, 3, 4, and 5 were 1,23, 1,32, 1,33, and 1,42. The results showed that the average ND antibody titer at 12 days old in the control group was 2^5 HI units and in the treatment group was $2^{5.5}$ HI units. The average ND antibody titer at 26 days old in the control group was $2^{4.33}$ HI units and in the treatment group was $2^{4.67}$ HI units. Statistical analysis using the independent samples T-test showed that the administration of herbal-probiotic combination did not significantly (P>0,05) affect the body weight and FCR of broilers. The treatment group given the feed additive showed higher ND antibody titers. The conclusion of this study is that the administration of herbal-probiotic combination as feed additives affect body weight and FCR but not significant and can result in higher antibody titers against ND.

Keywords: feed additives, herbal-probiotic combination, Newcastle Disease, broiler chicken performance, antibody titer