

PENGARUH PENGGUNAAN *TOXIN BINDER* PADA PAKAN YANG TERKONTAMINASI AFB₁, OTA, DAN T-2 TERHADAP KUALITAS FISIK TELUR AYAM PETELUR

Nur'alim Hidayaturrohmah
19/446055/PT/08309

INTISARI

Pakan ayam petelur terdiri dari jagung sebagai komponen terbesar mencapai 50-60%. Kondisi penyimpanan yang buruk mengakibatkan pakan mudah tercemar jamur penghasil mikotoksin. Senyawa mikotoksin seperti aflatoksin B₁ (AFB₁), okratoksin A (OTA), dan trikotesena (T-2) banyak mencemari pakan unggas di daerah tropis. Cemaran mikotoksin pada pakan ayam petelur akan berpengaruh terhadap kualitas dari telur. Penelitian ini bertujuan untuk mengetahui kualitas interior dan eksterior telur ayam petelur yang diberi pakan terkontaminasi mikotoksin yang terdiri dari AFB₁, OTA, dan T-2 dengan penambahan *toxin binder* yang mengandung *bentonite*, yeast, bakteri *Coriobacteriaceae* sp. strain DSM 11798, dan *sea weed meal* (SWM). Total 60 ekor ayam petelur umur 40 minggu dibagi menjadi tiga perlakuan dengan lima ulangan, setiap ulangan terdiri dari empat ekor. Pemeliharaan dilakukan selama delapan minggu. Perlakuan dalam penelitian yaitu P0 (basal diet, kontrol, tanpa penambahan mikotoksin), P1 (P0 + 100 µg/kg AFB₁ + 200 µg/kg OTA + 100 µg/kg T-2, kontrol +), dan P2 (P0 + 4 g/kg *toxin binder* + 100 µg/kg AFB₁ + 200 µg/kg OTA + 100 µg/kg T-2). Parameter penelitian berupa kualitas interior dan eksterior dari 90 butir sampel telur yang dikoleksi pada tiga hari terakhir masa pemeliharaan. Analisis data menggunakan metode rancangan acak lengkap pola searah (*One way ANOVA*), dan dilanjutkan dengan uji duncan multiple range test, perbedaan antar perlakuan ditunjukkan oleh nilai $p < 0,05$. Hasil penelitian menunjukkan bahwa perlakuan pakan tidak berpengaruh nyata terhadap kualitas eksterior telur ($p > 0,05$). Kontaminasi mikotoksin dalam pakan menurunkan kualitas interior telur meliputi tinggi yolk, tinggi albumen, dan indeks haugh. Kualitas telur pada perlakuan pakan dengan penambahan *toxin binder* masih lebih rendah dibandingkan kontrol ($p < 0,05$). Berdasarkan penelitian dapat disimpulkan bahwa penambahan *toxin binder* dengan kandungan *bentonite*, yeast, bakteri *Coriobacteriaceae* sp. strain DSM 11798, dan SWM pada level 4 g/kg belum mampu memperbaiki penurunan kualitas interior telur pada ayam petelur yang diberi pakan terkontaminasi mikotoksin.

Kata kunci: ayam petelur, pakan, mikotoksin, *toxin binder*, kualitas telur

EFFECT OF USING TOXIN BINDER IN FEED CONTAMINATED WITH AFB₁, OTA, AND T-2 ON THE PHYSICAL QUALITY OF LAYING HEN EGGS

Nur'alim Hidayaturrohman
19/446055/PT/08309

ABSTRACT

The feed for laying hens consists mainly of corn, which accounts for about 50-60% of the total composition. Poor storage conditions can lead to contamination of the feed with mycotoxin-producing fungi. Mycotoxin compounds such as aflatoxin B₁ (AFB₁), ochratoxin A (OTA), and trichothecene (T-2) are common contaminants in poultry feed in tropical regions. Mycotoxin contamination in the feed for laying hens can affect the quality of the eggs. This study aimed to determine the internal and external quality of eggs from laying hens that were fed mycotoxin-contaminated feed containing AFB₁, OTA, and T-2, with the addition of a toxin binder containing bentonite, yeast, *Coriobacteriaceae* sp. strain DSM 11798 bacteria, and sea weed meal (SWM). A total of 60 laying hens at 40 weeks of age were divided into three treatment groups with five replications, and each replication consisted of four hens. The rearing period lasted for eight weeks. The treatments in the study were as follows: P0 (basal diet, control, without the addition of mycotoxins), P1 (P0 + 100 µg/kg AFB₁ + 200 µg/kg OTA + 100 µg/kg T-2, control+), and P2 (P0 + 4 g/kg toxin binder + 100 µg/kg AFB₁ + 200 µg/kg OTA + 100 µg/kg T-2). The research parameters included the internal and external quality of 90 egg samples were collected during the last three days of the rearing period. Data analysis was performed using the one-way analysis of variance (ANOVA) method, followed by the Duncan multiple range test, and differences between treatments were indicated by a p-value < 0.05. The results of the study showed that the feed treatments did not have a significant effect on the external quality of the eggs (p > 0.05). Mycotoxin contamination in the feed decrease in the internal quality of the eggs, including yolk height, albumen height, and Haugh unit. The egg quality in the feed treatment with the addition of a toxin binder was still lower compared to the control (p < 0.05). Based on the study, it can be concluded that the addition of a toxin binder containing bentonite, yeast, *Coriobacteriaceae* sp. strain DSM 11798 bacteria, and SWM at a level of 4 g/kg was not able to improve the decrease in the internal quality of eggs from laying hen fed with mycotoxin-contamination.

Keywords: laying hen, feeds, mycotoxin, toxin binder, quality eggs