

PENGARUH PENGGUNAAN *MULTI-FUNCTIONAL FEED ADDITIVES*
DALAM RANSUM BEBAS ANTIBIOTIKA TERHADAP INTEGRITAS
USUS HALUS, KINERJA PRODUKSI, DAN KUALITAS
FISIK DAGING AYAM BROILER

INTISARI

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Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan *Multi-functional Feed Additives* (MFA) dalam ransum terhadap kinerja produksi, integritas usus halus dan kualitas fisik daging ayam broiler. Penelitian ini dilakukan selama 6 minggu (42 hari) dari bulan September sampai bulan November 2020 yang berlokasi di *Research Farm Closed House* Fakultas Peternakan Universitas Gadjah Mada. Penelitian ini menggunakan 480 ekor ayam broiler strain Indian River (*Unsex*). Desain penelitian menggunakan Rancangan Acak Lengkap (RAL) 4 perlakuan dan 4 ulangan, masing-masing ulangan terdiri dari 30 ekor ayam. Perlakuan yang diberikan antara lain : P0 = Ransum komersial dengan antibiotik enramisin 0,01% dan tylosin 0,02%, P1 = Ransum tanpa antibiotik dan tanpa MFA, P2 = Ransum dengan 0,1% MFA, P3 = Ransum dengan 0,2% MFA. Data yang diperoleh dianalisis dengan menggunakan Rancangan Acak Lengkap pola searah berbasis nilai probabilitas kurang dari 5%. Apabila terdapat perbedaan antar perlakuan, data diuji lanjut menggunakan Duncan's New Multiple Range Test. Hasil penelitian menunjukkan bahwa penggunaan MFA tidak mempengaruhi integritas usus, mortalitas, persentase karkas dan bobot relatif organ pencernaan. Penggunaan 0,2% dalam ransum meningkatkan bobot akhir ($P < 0,05$), meningkatkan konsumsi ransum ($P < 0,05$), menurunkan konversi ransum ($P < 0,05$), meningkatkan efisiensi pakan ($P < 0,05$), meningkatkan pertambahan bobot badan ($P < 0,05$), meningkatkan indeks performa ($P < 0,05$) dan *Income Over Feed Cost* ($P < 0,05$), serta menurunkan derajat keasaman ($P < 0,05$) dan meningkatkan daya ikat air ($P < 0,05$) dibanding kontrol (P0, P1). Dapat disimpulkan penggunaan MFA dalam ransum bebas antibiotik menunjukkan kinerja produksi ayam broiler yang lebih baik dibanding ransum kontrol positif (dengan antibiotik) maupun negatif (tanpa antibiotik dan tanpa MFA), sehingga MFA memiliki potensi sebagai aditif pakan pengganti antibiotika.

Kata kunci: Ayam broiler, *Multi-functional Feed Additives*, Integritas usus halus, Kualitas fisik daging, Kinerja produksi

THE EFFECT OF THE USE OF MULTI-FUNCTIONAL FEED ADDITIVES
IN ANTIBIOTIC-FREE DIET ON INTESTINAL INTEGRITY,
PRODUCTION PERFORMANCE, AND PHYSICAL
QUALITY OF BROILER CHICKEN

ABSTRACT

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This study was aimed to determine the effect of using Multi-functional Feed Additives (MFA) in the ration on production performance, intestinal integrity and physical quality of broiler meat. This research was conducted for 6 weeks (42 days) from September to November 2020 located at the Research Farm Closed House, Faculty of Animal Science, Universitas Gadjah Mada. This study used 480 broiler chickens strain Indian River (Unsexed). The research design used was Completely Randomized Design with 4 treatments and 4 replications, each replication consisted of 30 chickens. The treatments were: P0 = commercial diet with 0.01% enramycin antibiotics and 0.02% tylosin, P1 = diet without antibiotics and without MFA, P2 = diet with 0.1% MFA, P3 = diet with 0.2 % MFA.. The data obtained were analyzed using a completely randomized design with a unidirectional pattern based on a probability value of less than 5%. If there were differences between treatments, the data were further tested using Duncan's New Multiple Range Test. Results showed that the use of MFA had no effect on intestinal integrity, mortality, carcass percentage and relative weight of digestive organs. The use of 0.2% MFA in the diet increased final body weight ($P<0.05$), increased feed intake ($P<0.05$), decreased feed conversion ratio ($P<0.05$), increased feed efficiency ($P<0.05$), increased body weight gain ($P<0.05$), increased performance index ($P<0.05$) and Income Over Feed Cost ($P<0.05$), increased water holding capacity ($P<0.05$) and decreased acidity on broiler's meat ($P<0.05$) compared to control (P0, P1). It can be concluded that the use of MFA in antibiotic-free diets showed better broiler production performances than positive control diets (with antibiotics) or negative (without antibiotics and without MFA), It seem to be that MFA has potential as a antibiotic replacer.

Keywords: Broiler chickens, Multi-functional feed additives, Intestinal integrity, Physical quality of meat, Production performance