

EFISIENSI PROTEIN-ENERGI AYAM BROILER YANG MENDAPATKAN PAKAN DENGAN PENAMBAHAN EKSTRAK DAUN SERAI DAN BIJI KAPULAGA MELALUI AIR MINUM

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INTISARI

Penelitian ini bertujuan untuk mengetahui efisiensi protein-energi pakan ayam broiler yang mendapatkan air minum dengan penambahan ekstrak daun serai (EDS) dan biji kapulaga (EKL). Sebanyak 150 ekor *day old chick* (DOC) ayam broiler jantan New Lohman didistribusikan secara acak ke dalam 5 perlakuan dengan 6 ulangan, masing-masing dengan 5 ekor di setiap kandang. Seluruh ayam mendapatkan pakan basal yang sama, namun dengan perlakuan air minum yang berbeda. Perlakuan yang diberikan meliputi: air minum tanpa suplementasi bahan aditif (T1; kontrol), air minum + 2% EDS (T2), air minum + 2% EKL (T3), air minum + 1% EDS + 1% EKL (T4), dan air minum + 2% EDS + 2% EKL (T5). Perlakuan air minum mulai diberikan pada umur 6 hingga 21 hari. Konsumsi pakan, konsumsi air minum, konsumsi protein, konsumsi energi, rasio efisiensi protein (REP), dan rasio efisiensi energi (REE) dianalisis secara statistik menggunakan rancangan acak lengkap pola searah. Uji lanjut Duncan's new Multiple Range Test dilakukan pada data dengan perbedaan yang nyata. Hasil analisis statistik menunjukkan bahwa penambahan suplementasi EDS dan EKL pada semua level tidak mempengaruhi konsumsi air minum ($P > 0,05$). Akan tetapi, penambahan 2% EKL secara individual (T3) maupun kombinasi 1% EKL + 1% EDS (T4) meningkatkan ($P < 0,05$) konsumsi pakan, protein dan energi. Ayam broiler yang mendapatkan air minum dengan suplementasi 2% EDS memiliki rasio efisiensi protein dan energi yang lebih tinggi ($P < 0,05$) dibandingkan ayam broiler yang mendapatkan air minum dengan penambahan EKL dan EDS pada dosis kombinasi 1 maupun 2%. Dapat disimpulkan bahwa penambahan EDS dan EKL baik secara individu maupun kombinasi dapat meningkatkan konsumsi pakan, konsumsi protein, konsumsi energi, rasio efisiensi protein, dan rasio efisiensi energi pada ayam broiler. Pemberian ekstrak daun serai dan biji kapulaga secara kombinasi dengan dosis tinggi sebanyak 2% tidak disarankan karena menurunkan efisiensi pemanfaatan nutrisi.

Kata kunci: Ayam broiler, Biji kapulaga, Daun serai, Efisiensi protein dan energi.

**PROTEIN-ENERGY EFFICIENCY OF BROILER CHICKENS FED
DIETS WITH LEMONGRASS LEAVES AND CARDAMOM
SEED EXTRACTS VIA DRINKING WATER
ADMINISTRATIONS**

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ABSTRACT

The current experiment was conducted to evaluate the protein-energy efficiency of broiler fed basal diet with lemon grass (EDS) and cardamom (EKL) extracts via drinking water administrations. A total number of 150 day-old male New Lohman MB 202 Platinum broiler chickens were distributed randomly into 5 dietary treatments with 6 replicates per treatment and 5 birds in each replicate pen. All birds had the same basal diet, but with different drinking water treatments. Drinking water treatments included: a control drink without any additive supplementation (T1; control), a drinking water + 2% EDS (T2), a drinking water + 2% EKL (T3), a drinking water + 1% EDS + 1% EKL (T4), and a drinking water + 2% EDS + 2% EKL (T5). Drinking water treatments were given from day 6 to 21. Feed intake, water intake, protein intake, energy intake, protein efficiency ratio (PER), and energy efficiency ratio (EER) were statistically analyzed by one-way classification of completely randomized design and the differences between mean were separated by Duncan's new Multiple Range of Test. Results of the statistical analysis showed that the addition of EDS and EKL supplementation at all levels did not influence water consumption ($P>0,05$). However, the supplementation of EKL as individual (T3) or in combination (T4) significantly increased ($P<0.05$) feed intake, protein intake, and energy intake. Broiler chickens which given drinking water with 2% EDS supplementation had higher protein and energy efficiency ratios ($P <0.05$) than those of given combination of EKL with 1 or 2% EDS. These results might indicate that EDS individually or in combination with EKL might have positive effects to increase the feed intake, protein intake, energy intake, protein efficiency ratio, and energy efficiency ratio in broiler chickens. However, the higher dosage supplementation of lemon grass extract or the mixture with cardamom seed extract at the level of 2% was not recommended as it lowered efficiency in nutrient utilization.

Keywords: Broiler chickens, Cardamom seed, Lemon grass, Protein and energy efficiency.