

**PENGUNAAN PROTEASE DALAM PAKAN YANG MENGGUNAKAN LIMBAH
PERTANIAN-PETERNAKAN UNTUK MENINGKATKAN KINERJA
PERTUMBUHAN, PROFIL SALURAN PENCERNAAN, DAN
PRODUKSI DAGING AYAM BROILER**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan enzim protease dalam pakan yang menggunakan bahan pakan limbah pertanian-peternakan terhadap kinerja pertumbuhan, profil saluran pencernaan dan produksi daging dada fase *starter*, fase *finisher*, dan keseluruhan umur. Penelitian dilaksanakan selama 35 hari menggunakan 4092 ekor ayam (2046 jantan dan 2046 betina) broiler. Perlakuan yang diberikan berupa: pakan basal (P_1); P_1 + protease 0,05% (P_2); pakan basal dengan penambahan *distiller's dried grain with soluble* (DDGS) dan *meat bone meal* (MBM) (P_3); P_3 + protease 0,05% (P_4); pakan basal dengan penambahan DDGS dan *hydrolized chicken feather meal* (HCFM) (P_5); serta P_5 + protease 0,05% (P_6). Data yang diperoleh dianalisis variasi Rancangan Acak Lengkap pola searah. Perbedaan antar perlakuan diuji lanjut menggunakan uji Kontras Ortogonal. Hasil penelitian menunjukkan bahwa penggunaan enzim protease pada pakan yang menggunakan limbah pertanian-peternakan tidak mempengaruhi kinerja pertumbuhan ayam pada fase *starter* dan keseluruhan umur, namun menurunkan nilai *nett gain*, FCR, dan BI fase *finisher* ($P < 0,05$) pada pakan yang menggunakan MBM dan menurunkan efisiensi pakan ($P < 0,05$) pada seluruh fase pemeliharaan. Penggunaan enzim protease tidak mempengaruhi profil organ dalam, kelenjar pencernaan, dan bobot daging dada. Kesimpulan dari penelitian yang telah dilakukan bahwa enzim protease yang digunakan dalam penelitian ini lebih bekerja pada pakan basal yang menggunakan HCFM daripada MBM dan DDGS.

Kata kunci: Ayam broiler, Enzim protease, Kinerja pertumbuhan, Produksi daging dada, Profil saluran pencernaan,

**PROTEASE ADMINISTRATIONS IN FEEDS COMPOSED OF AGRICULTURAL-
LIVESTOCK BY PRODUCTS TO IMPROVE GROWTH PERFORMANCE,
PROFILE OF DIGESTIVE ORGANS, AND BREAST-MEAT OF
BROILER CHICKEN**

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ABSTRACT

This study was aimed to determine the effects of protease addition in diets which containing agricultural-livestock by products on growth performance, profile of digestive organs breast meat weight starter phases, finisher phase, and overall age. The study was conducted for 35 days using 4092 (2046 male and 2046 female) broiler chickens. The treatment diets were control basal diet (P1); P1 + 0.05% protease; basal diet with *meat bone meal* (MBM) and *distiller's dried grain with soluble* (DDGS) addition (P3); P3 + 0.05% protease (P4); basal diet with *hydrolized chicken feather meal* (HCFM) and DDGS addition (P5); P5 + 0.05% protease. The data collected were analyzed by completely randomized design in oneway arrangement. Significant differences between treatments were further tested with Orthogonal Contrast. Results of this study showed that the addition of protease in the diets containing agricultural-livestock by-products did not affect growth performance of broiler chickens starter phases and overall age. However, in finisher phase, protease addition reduced the nett gain, FCR, and BI ($P < 0.05$) in diets containing MBM and lower feed efficiency ($P < 0.05$) in all growth phases. Addition protease also did not affect profile of digestive organs and breast meat weight. It could be concluded that protease used in this study might be more effective in diets containing HCFM than those of containing MBM and DDGS.

Keywords: Breast Meat Weight, Broilers chickens, Digestive profile, Growth performance, Protease.