

**PENGARUH PENGGUNAAN *Lactobacillus plantarum* DAN
ABSORBENT PADA KUALITAS FISIK DAN KIMIA
FERMENTASI EKSKRETA AYAM SEBAGAI
BAHAN PAKAN INKONVENSIONAL**

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INTISARI

Ekskreta ayam yang melimpah menyebabkan tingginya potensi pencemaran lingkungan. Namun, ekskreta masih mengandung nutrisi yang baik sehingga dapat dimanfaatkan sebagai bahan pakan inkonvensional. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan *Lactobacillus plantarum* dan penggunaan onggok sebagai *absorbent* yang berbeda terhadap kualitas fermentasi ekskreta ayam sebagai bahan pakan inkonvensional. Penelitian ini menggunakan rancangan percobaan pola faktorial 2x2 dengan level penambahan *absorbent*, (10 % (AL10) dan 30% (AL30)) dan penggunaan inokulum (tanpa penambahan inokulum (LP0) dan dengan penambahan *Lactobacillus plantarum* pada level 1×10^5 cfu/g (LP4)). Kombinasi kedua faktor perlakuan ini diterapkan pada ekskreta ayam yang kemudian difermentasikan selama 14 hari. Setiap perlakuan menggunakan empat ulangan. Hasil penelitian menunjukkan bahwa perlakuan pemberian LP4 menghasilkan kadar bahan kering (BK), serat kasar (SK), pH, amonia, asam asetat, asam propionat, dan asam butirat yang lebih tinggi ($P < 0,05$) dibandingkan dengan LP0. Selain itu, perlakuan AL10 menghasilkan protein kasar (PK), ekstrak eter, kehilangan bahan kering, pH, amonia, asam asetat, asam propionat, dan asam butirat yang lebih tinggi ($P < 0,05$) dibandingkan AL30. Penelitian ini menunjukkan adanya interaksi ($P < 0,05$) antara penggunaan inokulum dan *absorbent* pada kadar BK, bahan organik, PK, SK, ekstrak tanpa nitrogen, pH, dan asam butirat. Kesimpulan yang didapat yaitu kadar air fermentasi yang rendah menghasilkan degradasi protein yang lebih rendah dan kinerja *L. plantarum* sangat dipengaruhi oleh kadar air fermentasi. Secara umum, penelitian ini merekomendasikan ekskreta ayam tanpa penambahan *L. plantarum* dengan *absorbent* sebanyak 30% untuk menghasilkan kualitas fermentasi yang optimum.

Kata kunci: *Lactobacillus plantarum*, *Absorbent*, Ekskreta ayam, Fermentasi, Onggok, Pakan inkonvensional

The Effect of *Lactobacillus plantarum* and Absorbent on Physical and Chemical Quality of Fermented Poultry Manure as an Unconventional Feed Ingredient

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ABSTRACT

Abundant poultry manure leads to a high potential for environmental pollution. However, poultry manure still contains nutrients so that it can be used as an unconventional feed ingredient. This study aims to determine the effect of the addition of *Lactobacillus plantarum* and the use of different absorbents (*onggok* / cassava waste) on the quality of fermented chicken excreta as unconventional feed ingredient. This study used a 2x2 factorial pattern experimental design with absorbent addition levels (10% (AL10) and 30% (AL30)) and the use of inoculum (without the addition of inoculum (LP0) and with the addition of *Lactobacillus plantarum* at level 1×10^5 cfu/g (LP4)). The combination of these two treatment factors were applied to chicken excreta, and then fermented for 14 days. Each treatment was done in four replications. The results showed that the LP4 treatment resulted in higher ($P < 0.05$) dry matter (DM), crude fiber (CF), pH, ammonia, acetic acids, propionic acids, and butyric acids compared to LP0. In addition, AL10 treatment produced higher ($P < 0.05$) crude protein (CP), ether extract, dry matter loss, pH, ammonia, acetic acids, propionic acids, and butyric acids than AL30. This study showed an interaction ($P < 0.05$) between inoculum and absorbent treatments in DM, organic matter, CP, CF, nitrogen free extract, pH, and butyric acids. The conclusion obtained is that lower water content in fermentation process resulted in lower protein degradation as well as the performance of *L. plantarum* was affected by the fermentation water content. In general, this study recommended using chicken excreta without adding *L. plantarum* with 30% *onggok* as absorbent to produce optimum fermentation quality.

Keywords: *Lactobacillus plantarum*, Absorbent, Chicken excreta, Fermentation, Cassava waste, Unconventional feed ingredient