

# **PENGARUH PERLAKUAN KIMIA DAN BIOLOGI TERHADAP KUALITAS KIMIA JERAMI JAGUNG FERMENTASI**

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## **INTISARI\*)**

Penelitian ini bertujuan untuk mengetahui pengaruh perlakuan kimia dan biologi terhadap kualitas kimia jerami jagung fermentasi. Penelitian ini dilaksanakan dari tanggal 4 Mei sampai 28 Mei 2019, yang dilaksanakan di dua tempat. Pelaksanaan pembuatan fermentasi jerami jagung di Jl.Kaliwaru, Condongcatur, Depok, Sleman, Yogyakarta sedangkan untuk analisis kandungan nutrisi di CV. Chem.-Mix Pratama Bantul, Yogyakarta. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) pola searah, perlakuan yang digunakan yaitu terdiri dari P0 (kontrol), P1 (penambahan urea), P2 (penambahan EM4) dan P3 (kombinasi antara urea dan EM4) masing-masing perlakuan diulang 3 kali. Data di analisis menggunakan *Analysis of Variance* (ANOVA), bila terdapat perbedaan dilanjutkan dengan uji jarak berganda Duncan (*Duncan Multiple Range Test*). Peubah yang diamati yaitu kadar air, protein kasar, lemak kasar, serat kasar, abu dan bahan ekstrak tanpa nitrogen. Hasil penelitian menunjukkan bahwa perlakuan dengan menggunakan urea, EM4 dan kombinasi berpengaruh nyata ( $P < 0,05$ ) terhadap kadar bahan kering, kadar protein, kadar serat kasar, kadar abu, dan bahan ekstrak tanpa nitrogen. Akan tetapi berpengaruh tidak nyata ( $P > 0,05$ ) terhadap kadar lemak kasar. Berdasarkan hasil penelitian dapat disimpulkan bahwa jerami jagung yang difermentasikan dengan menggunakan urea (kimia) memiliki nilai protein kasar tertinggi dibandingkan yang di fermentasi dengan EM-4 (biologi) atau kombinasinya.

Kata kunci : Jerami Jagung, Fermentasi, Urea, EM4, Kualitas Kimia

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# **THE EFFECT OF CHEMICAL AND BIOLOGICAL TREATMENT ON CHEMICAL QUALITY OF FERMENTATED CORN STRAW**

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## **ABSTRACT \*)**

This study aims to determine the effect of chemical and biological treatment on the chemical quality of fermented corn straw. This research was conducted from 4 May to 28 May 2019, which was conducted in two places. The implementation of making corn straw fermentation in Jl.Kaliwaru, Condongcatur, Depok, Sleman, Yogyakarta while for the analysis of nutrient content in CV. Chem.-Mix Pratama Bantul, Yogyakarta. This study used a Completely Randomized Design (CRD) of one way pattern, the treatment used consists of P0 (control), P1 (addition of urea), P2 (addition of EM4) and P3 (combination of Urea and EM4) each treatment is repeated 3 times. Data analysis uses Analysis of Variance (ANOVA), if there is a difference followed by Duncan's Multiple Range Test. The observed variables were water content, crude protein, crude fat, crude fiber, ash and extract material without nitrogen. The results showed that the treatment using urea, Em4 and the combination had a significant effect ( $P < 0.05$ ) on the dry matter content, protein content, crude fiber content, ash content, and extract material without nitrogen. But no significant effect ( $P > 0.05$ ) on crude fat content. Based on the results of the study it can be concluded that the corn straw fermented using urea (chemistry) has the highest crude protein value compared to that fermented with EM-4 (biology) or a combination thereof.

**Keywords:** Corn Straw, Fermentation, Urea, EM4, Chemical Quality

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