

**PENGARUH LAMA FERMENTASI MENGGUNAKAN ISOLAT
SELULOLITIK TERMOFILIK ANAEROBIK TERHADAP
KOMPOSISI KIMIA JERAMI PADI FERMENTASI**

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Intisari

Penelitian dilakukan untuk mengetahui pengaruh lama fermentasi jerami menggunakan isolat selulolitik termofilik anaerobik terhadap kadar bahan kering (BK), kadar bahan organik (BO), kadar serat kasar (SK) kadar protein kasar (PK) dan kadar ekstrak eter (EE). Isolat yang digunakan yaitu campuran BJ, BP, KJ dan KP yang merupakan koleksi Laboratorium Biokimia Nutrisi, Jurusan Nutrisi dan Makanan Ternak Fakultas Peternakan UGM. Fermentasi menggunakan silo dengan lama fermentasi: 20 hari (F20), 21 hari (F21), 22 hari (F22), 23 hari (F23) dan jerami tanpa fermentasi (F0). Tiap perlakuan dengan tiga kali ulangan. Dari hasil fermentasi kemudian diambil sampelnya untuk dianalisis kadar BK, BO, SK, PK dan EE dengan menggunakan analisis proksimat. Data yang diperoleh kemudian dianalisis dengan analisis variansi rancangan acak lengkap pola searah, jika terdapat perbedaan pada nilai rata-rata dilanjutkan dengan uji *Duncan's new multiple range test*. Hasil analisis statistik menunjukkan bahwa kadar BK, BO, SK, PK dan EE berbagai perlakuan tidak berbeda secara nyata ($P > 0,05$). Kandungan BK pada F0, F20, F21, F22 dan F23 berturut-turut sebesar 50%, 46,35%, 49,27%, 49,13% dan 48,42%. Kandungan BO berturut-turut sebesar 73,53%, 72,77%, 71,27%, 71,84%, dan 71,35%. Kandungan SK berturut-turut sebesar 29,64%, 28,33%, 28,20%, 28,12%, dan 28,00%. Kandungan PK berturut-turut sebesar 4,27%, 4,45%, 4,62%, 4,68% dan 4,89%. Kandungan EE berturut-turut sebesar 0,95%, 1,68%, 1,78%, 1,90% dan 2,13%. Dari hasil penelitian dapat diambil suatu kesimpulan bahwa lama fermentasi 20 sampai dengan 23 hari tidak mempengaruhi komposisi kimia jerami padi.

Kata Kunci: Lama Fermentasi, Isolat Selulolitik Termofilik Anaerobik, Komposisi Kimia, Jerami Padi.

**THE EFFECT OF THE TIME OF FERMENTATION WITH ANAEROBIC
CELLULOLYTIC THERMOPHYLIC ISOLATE ON THE CHEMICAL
COMPOSITION OF THE RICE STRAW FERMENTATION**

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ABSTRACT

The research was conducted to determine the effect of the time of fermentation using anaerobic cellulolytic thermophylic isolate on the dry matter (DM), organic matter (OM), crude fiber (CF), crude protein (CP) and ether extract (EE) content of rice straw. BJ, BP, KJ and KP provided by Laboratory of Nutritional Biochemistry Laboratory, Departement of Animal Nutrision, Faculty Of Animal Husbandry, UGM was used in the experiment. The fermentation times were 20 day (F20), 21 day (F21), 22 day (F22), 23 day (F23), and 0 day rice straw without fermentation (F0). The experiments were done in three replication. The samples were taken as soon as the fermentation rate for DM, OM, CF, CP And EE analysis. Data obtained were analysed with Completely Random Design. The differences between the mean values were analysed by *Duncan's new multiple range test*. The result indicated that DM, OM, CF, CP and EE content of rice straw were not significantly effected by the length of fermentation ($P > 0.05$). DM contents at F0, F20, F21, F22 and F23 continually as follows 50%, 46.35%, 49.27%, 49.13% and 48.42%; OM contents were 73.53%, 72.77%, 71.27%, 71.84%, and 71.35%; CF contents were 29.64%, 28.33%, 28.20%, 28.12%, and 28.00%; CP contents were 4.27%, 4.45%, 4.62%, 4.68% and 4.89%; while the EE contents were 0.95%, 1.68%, 1.78%, 1.90% and 2.13%. From result of research could be concluded that the time of fermentation 20 up to 23 days did not influence the chemical composition of rice straw.

Key Word: The Time of Fermentation, Anaerobic
Thermocellulolytic Isolate, Chemical
Composition, Rice Straw.