

ABSTRAK

PENGARUH LAMA FERMENTASI DAUN NANAS MENGGUNAKAN *Aspergillus niger* LEVEL BERBEDA TERHADAP KANDUNGAN PROTEIN KASAR DAN SERAT KASAR

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Penelitian ini bertujuan untuk mengetahui kombinasi perlakuan lama fermentasi dan level pemberian *Aspergillus niger* yang terbaik terhadap kandungan protein kasar dan serat kasar pada daun nanas. Penelitian ini dilaksanakan pada Januari—Maret 2022 di Laboratorium Nutrisi dan Makanan Ternak, Jurusan Peternakan, Fakultas Pertanian, Universitas Lampung dan Laboratorium Ilmu Nutrisi Ternak Perah, Fakultas Peternakan, Institut Pertanian Bogor. Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap pola faktorial 3x3 dimana pada masing-masing perlakuan terdapat 3 ulangan, sehingga terdapat 27 unit percobaan. Perlakuan yang diberikan yaitu lama fermentasi (0, 6, dan 12 hari) dan level *Aspergillus niger* (0, 2, dan 4 %). Peubah yang diamati adalah protein kasar dan serat kasar produk fermentasi. Data yang diperoleh dianalisis menggunakan analisis ragam dengan taraf nyata 5% dan atau 1% dan dilanjutkan dengan uji *Least Significance Different*. Hasil penelitian didapatkan bahwa perlakuan lama fermentasi dan level *Aspergillus niger* tidak menghasilkan interaksi terhadap protein kasar, sedangkan terhadap serat kasar terdapat adanya interaksi antara level *Aspergillus niger* dan lama fermentasi. Meskipun tidak terdapat interaksi, kombinasi perlakuan *Aspergillus niger* 4% dan lama fermentasi 6 hari menghasilkan kadar protein kasar tertinggi dari produk fermentasinya. Perlakuan level *Aspergillus niger* 4% dan lama fermentasi 0 hari merupakan kombinasi terbaik dalam menghasilkan kadar serat kasar terendah dari produk fermentasinya.

Kata Kunci : *Aspergillus niger*, daun nanas, fermentasi, protein kasar, dan serat kasar.

ABSTRACT

THE EFFECT OF FERMENTATION DURATION OF PINEAPPLE LEAVES USING *Aspergillus niger* WITH DIFFERENT LEVELS ON THE CONTENT OF CRUDE PROTEIN AND CRUDE FIBER

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This study aimed to determine the best combination between fermentation duration and level of *Aspergillus niger* on the content of crude protein and crude fiber of pineapple leaves. This research was conducted in January—March 2022 at the Animal Nutrition and Feeding Laboratory, Department of Animal Husbandry, Faculty of Agriculture, University of Lampung, and Dairy Animal Nutrition Laboratory, Faculty of Animal Husbandry, Bogor Agricultural University. The experimental design used was a Completely Randomized Design with a 3x3 factorial pattern where in each treatment there were 3 replications, so there were 27 experimental units. The treatments given were the of fermentation duration (0, 6, and 12 days) and the level of *Aspergillus niger* (0, 2, and 4%). The observed variables were crude protein and crude fiber of fermentation products. The data obtained were analyzed using analysis of variance with a significance level of 5% and or 1% and continued with the Least Significant Difference test. The results showed that the treatment duration of fermentation and the level of *Aspergillus niger* did not result in an interaction on crude protein content, while for crude fiber content there was an interaction between the levels of *Aspergillus niger* and duration of fermentation. Although there was no interaction, the combination of *Aspergillus niger* with level 4% and 6 days of fermentation resulted in the highest crude protein content of the fermented product. Treatment of *Aspergillus niger* with level 4% and fermentation time of 0 days was the best combination in producing the lowest crude fiber content of the fermented product.

Keywords: *Aspergillus niger*, pineapple leaves, fermentation, crude protein, and crude fiber.