

ABSTRACT

EFFECT LONG FERMENTATION OF PINEAPPLE LEAVES AND *Aspergillus niger* OF CRUDE PROTEIN DIGESTIBILITY AND CRUDE FAT DIGESTIBILITY In Vitro

By

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This study aims to determine the best treatment between the length of fermentation and the level of administration of *Aspergillus niger* on pineapple leaves to the crude protein digestibility and crude fat digestibility In Vitro. This research was conducted in January-March 2022 at the Dairy Animal Nutrition Science Laboratory, Faculty of Animal Husbandry, Bogor Agricultural University. This study used a factorial Completely Randomized Design consisting of 3 x 3 treatments and 3 replications so that there were 27 experimental units. The treatments used were D0L0 (0% *Aspergillus niger* level with 0 days of fermentation), D0L1 (0% *Aspergillus niger* level with 6 days of fermentation), D0L2 (0% *Aspergillus niger* level with 12 days of fermentation), D1L0 (2% *Aspergillus niger* level with 12 0 days of fermentation), D1L1 (2% *Aspergillus niger* level with 6 days of fermentation), D1L2 (2% *Aspergillus niger* level with 12 days of fermentation), D2L0 (4% *Aspergillus niger* level with 0 days of fermentation), D2L1 (4% *Aspergillus niger* level with 6 days of fermentation) and D2L2 (4% *Aspergillus niger* level with 12 days of fermentation). The data obtained were analyzed for variance at the 5% and or 1% significance level and continued using the BNT test. The result showed that there was a significantly different interaction between the duration of fermentation and the level of *Aspergillus niger* administration of *Aspergillus niger* on the concentration of crude protein digestibility and crude fat digestibility. Combination best treatment are on D1L0 treatment (2% *Aspergillus niger* level with 0 days of fermentation) on crude protein digestibility of 61,33% and treatment of D2L0 (4% *Aspergillus niger* level with 0 days of fermentation) to crude fat digestibility of 72,83%.

Keywords: *Aspergillus niger*, crude fat digestibility, crude protein digestibility, pineapple leaf.

ABSTRAK

PENGARUH LAMA FERMENTASI DAUN NANAS DAN *Aspergillus niger* TERHADAP KECERNAAN PROTEIN KASAR DAN LEMAK KASAR SECARA In Vitro

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Penelitian ini bertujuan untuk mengetahui pengaruh lama fermentasi dan level terbaik pemberian *Aspergillus niger* daun nanas terhadap pencernaan protein kasar dan lemak kasar secara in vitro. Penelitian ini dilaksanakan pada Januari – Maret 2022 berlokasi di Laboratorium Makanan Ternak, Jurusan Peternakan, Fakultas Pertanian, Universitas Lampung. Untuk analisis pencernaan protein kasar dan lemak kasar dilaksanakan di Laboratorium Nutrisi Perah, Fakultas Peternakan, Institut Pertanian Bogor. Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap (RAL) faktorial dengan 3x3 perlakuan dan 3 ulangan sehingga terdapat 27 unit satuan percobaan. Perlakuan yang digunakan yaitu D0L0 (level *Aspergillus niger* 0% tanpa difermentasi), D0L1 (level *Aspergillus niger* 0% dengan lama fermentasi 6 hari), D0L2 (level *Aspergillus niger* 0% dengan lama fermentasi 12 hari), D1L0 (level *Aspergillus niger* 2% tanpa difermentasi), D1L1 (level *Aspergillus niger* 2% dengan lama fermentasi 6 hari), D1L2 (level *Aspergillus niger* 2% dengan lama fermentasi 12 hari), D2L0 (level *Aspergillus niger* 4% tanpa difermentasi), D2L1 (level *Aspergillus niger* 4% dengan lama fermentasi 6 hari, dan D2L2 (level *Aspergillus niger* 4% dengan lama fermentasi 12 hari). Data yang diperoleh dianalisis ragam pada taraf nyata 5% dan atau 1% dan dilanjutkan menggunakan uji BNT (Beda Nyata Terkecil). Hasil penelitian terdapat interaksi yang berbeda nyata antara lama fermentasi dan level pemberian *Aspergillus niger* terhadap pencernaan protein kasar dan lemak kasar. Kombinasi perlakuan terbaik yaitu pada perlakuan D1L0 (level *Aspergillus niger* 2% tanpa fermentasi) terhadap pencernaan protein kasar sebesar 61,33% dan perlakuan D2L0 (level *Aspergillus niger* 4% tanpa fermentasi) terhadap pencernaan lemak kasar sebesar 72,83%.

Kata kunci : *Aspergillus niger*, daun nanas, pencernaan protein kasar, pencernaan lemak kasar.