

## ABSTRACT

### **THE EFFECTS OF LENGTH FERMENTATION OF PINEAPPLE'S LEAVES USING *Aspergillus niger* WITH DIFFERENT LEVELS ON DRY MATTER, ORGANIC MATTER, AND EXTRACT ETHER CONTENT**

By

**NINA PUSPITA DEWI**

This study aimed to determine the best combination treatment between the length of fermentation and *Aspergillus niger* levels on dry matter, organic matter, and extract ether content of fermented pineapple's leaves. This research was conducted in January until March 2022 at the Dairy Animal Nutrition Science Laboratory, Animal Husbandry Faculty, Bogor Agricultural University. This research used a factorial Completely Randomized Design consisted of 3x3 treatments and 3 replications. The treatments used were 0% *Aspergillus niger* level with 0 days of fermentation, 6 days of fermentation, and 12 days of fermentation, 2% *Aspergillus niger* level with 0 days of fermentation, 6 days of fermentation, and 12 days of fermentation, and 4% *Aspergillus niger* level with 0 days of fermentation, 6 days of fermentation, and 12 days of fermentation. The data obtained was analyzed using analysis of variance with a significance level of 5% and/or 1%. The least significance different was used after analysis of variance showed significant results. The results showed that there was no significant interaction between the length of fermentation and *Aspergillus niger* levels in fermented pineapple's leaves on dry matter and organic matter content, but there was interaction between the treatments on extract ether content. The best treatments for dry matter content (the highest) was found in the 0 days fermentation of 13,82% and 4% *Aspergillus niger* level of 10,71%. The best treatments for organic matter content (the highest) was found in the 0 days fermentation of 91,66% and 0% *Aspergillus niger* level of 90,26%. The best treatments for extract ether content (the lowest) was found in combination 0% *Aspergillus niger* level with 0 days of fermentation, that was 1,09%.

Keywords: Pineapple's leaves, Fermentation, *Aspergillus niger*.

## ABSTRAK

### **PENGARUH LAMA FERMENTASI DAUN NANAS MENGGUNAKAN *Aspergillus niger* DENGAN LEVEL BERBEDA TERHADAP KANDUNGAN BAHAN KERING, BAHAN ORGANIK, DAN LEMAK KASAR**

Oleh

**NINA PUSPITA DEWI**

Penelitian ini bertujuan untuk mengetahui kombinasi perlakuan terbaik antara lama fermentasi dan level *Aspergillus niger* pada daun nanas terhadap kandungan bahan kering, bahan organik, dan lemak kasar. Penelitian ini dilaksanakan pada Januari--Maret 2022 di Laboratorium Ilmu Nutrisi Ternak Perah, Fakultas Peternakan, Institut Pertanian Bogor. Penelitian ini menggunakan Rancangan Acak Lengkap pola faktorial yang terdiri dari 3x3 perlakuan dan 3 ulangan. Perlakuan yang digunakan yaitu level *Aspergillus niger* 0% dengan lama fermentasi 0 hari, 6 hari, dan 12 hari, level *Aspergillus niger* 2% dengan lama fermentasi 0 hari, 6 hari, dan 12 hari, dan level *Aspergillus niger* 4% dengan lama fermentasi 0 hari, 6 hari, dan 12 hari. Data yang diperoleh dianalisis menggunakan analisis ragam pada taraf nyata 5% dan/atau 1%, jika diperoleh pengaruh yang nyata maka analisis dilanjutkan dengan uji Beda Nyata Terkecil. Hasil penelitian didapatkan bahwa perlakuan level *Aspergillus niger* dengan lama fermentasi tidak menghasilkan pengaruh interaksi terhadap kandungan bahan kering dan bahan organik tetapi menghasilkan pengaruh interaksi terhadap kadar lemak kasar daun nanas terfermentasi. Kadar bahan kering terbaik (tertinggi) terdapat pada lama fermentasi 0 hari sebesar 13,82% dan level *Aspergillus niger* 4% sebesar 10,71%. Kadar bahan organik terbaik (tertinggi) terdapat pada lama fermentasi 0 hari sebesar 91,66% dan level *Aspergillus niger* 0% sebesar 90,26%. Kadar lemak kasar terbaik (terendah) terdapat pada kombinasi perlakuan level *Aspergillus niger* 0% dengan lama fermentasi 0 hari, yaitu sebesar 1,09%.

Kata kunci: Daun nanas, Fermentasi, *Aspergillus niger*.