

**PENGARUH LEVEL INOKULUM *Aspergillus niger* TERHADAP KANDUNGAN  
SERAT KASAR DAN FRAKSI SERAT BATANG PISANG ( *Musa paradisiaca* )  
FERMENTASI**

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**INTISARI\*)**

Penelitian ini bertujuan untuk mengetahui pengaruh berbagai level inokulum *Aspergillus niger* terhadap kadar serat kasar dan fraksi serat batang pisang (*Musa paradisiaca*) fermentasi. Penelitian dilaksanakan dari tanggal 11 September 2016 sampai 8 November 2016 di Laboratorium Kimia, Universitas Mercu Buana Yogyakarta. Penelitian ini menggunakan rancangan acak lengkap (RAL) pola searah dengan 5 macam perlakuan masing – masing perlakuan terdiri dari 5 ulangan. Data yang diperoleh di analisis statistik ANOVA, apabila berbeda nyata dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Perlakuan yang digunakan yaitu P1 ( dosis inokulum 0% ), P2 (dosis inokulum 0,5%), P3 (dosis inokulum 1%), P4 (dosis inokulum 1,5%), P5 ( dosis inokulum 2%). Variabel yang diamati adalah kadar serat kasar, hemiselulosa, selulosa dan lignin. Hasil penelitian menunjukkan perbedaan yang nyata ( $P < 0,05$ ) pada serat kasar, selulosa dan lignin tetapi berpengaruh tidak nyata ( $P > 0,05$ ) pada hemiselulosa. Rerata serat kasar P1:29,37%; P2:34,85%; P3:34,63%; P4:34,16% dan P5:40,18%; hemiselulosa P1:10,59%; P2:10,05%; P3:10,87%; P4:10,43% dan P5:11,75%; selulosa P1:18,08%; P2:23,79%; P3:22,11%; P4:22,70% dan P5:26,73%; lignin P1:0,70%; P2:1,01%; P3:1,65%; P4:1,03% dan P5:1,70%. Disimpulkan bahwa fermentasi dengan level inokulum *Aspergillus niger* 2% dapat menaikkan kadar serat kasar dan fraksi serat pada batang pisang fermentasi.

Kata kunci : Batang pisang, serat kasar, fraksi serat, level inokulum, *Aspergillus niger*.

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**THE EFFECT OF *Aspergillus niger* INOCULUM LEVEL ON CRUDE FIBER AND FIBER FRACTION CONTENT OF BANANA (*Musa paradisiaca*) STEM FERMENTATION**

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**ABSTRACT\*)**

This study aims to determine the effect of various level of *Aspergillus niger* inoculum on crude fiber and fiber fraction content of banana (*Musa paradisiaca*) stem fermentation. The research was conducted from September 11, 2016 to November 8, 2016 at the Chemistry Laboratory, Faculty of Agro-industry, Mercu Buana University, Yogyakarta. This research used a completely randomized design (CRD) with 5 types of treatment each treatment consisted of 5 replications. The data obtained were analyzed statistically using ANOVA, if the results were significantly different, it would be followed by *Duncan's New Multiple Range Test* (DMRT) test. The treatments used were P1 (0% inoculum dose), P2 (0.5% inoculum dose), P3 (1% inoculum dose), P4 (1.5% inoculum dose), P5 (2% inoculum dose). The variables observed were the level of crude fiber, hemicellulose, cellulose, and lignin. The results showed significant differences ( $P < 0.05$ ) in crude fiber, cellulose, and lignin but had no significant effect on hemicellulose. The average crude fiber are P1: 29.37%; P2: 34.85%; P3: 34.63%; P4: 34.16% and P5: 40.18%, the average hemicellulose are P1: 10.59%; P2: 10.05%; P3: 10.87%; P4: 10.43% and P5: 11.75%, the average cellulose are P1: 18.08%; P2: 23.79%; P3: 22.11%; P4: 22.70% and P5: 26.73%, the average lignin are P1: 0.70%; P2: 1.01%; P3: 1.65%; P4: 1.03% and P5: 1.70%. It is concluded that the fermentation with 2% *Aspergillus niger* inoculum level could increased crude fiber and fiber fraction content in the fermented banana stem.

Keywords: Banana stem, crude fiber, fiber fraction, inoculum level, *Aspergillus niger*.

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