

**PENGARUH MACAM INOKULUM TERHADAP KARAKTERISTIK FISIK
DAN FRAKSI SERAT DAUN KELAPA SAWIT (*Elaeis guineensis* Jacq)
FERMENTASI**

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INTISARI*

Penelitian ini bertujuan untuk mengetahui pengaruh macam inokulum terhadap karakteristik fisik dan kandungan fraksi serat daun kelapa sawit (*Elaeis guineensis* Jacq) fermentasi. Penelitian ini dilakukan selama 5 minggu dari tanggal 14 Februari 2019 sampai 25 Maret 2019 di Laboratorium Kimia, Fakultas Agroindustri, Universitas Mercu Buana Yogyakarta. Materi yang digunakan daun kelapa sawit, inokulum (Starbio dan EM-4), bekatul dan molases. Penelitian ini menggunakan rancangan acak lengkap (RAL) pola searah dengan tiga (3) perlakuan dan tiga (3) ulangan. Perlakuan yang digunakan yaitu P1 (Kontrol), P2 (EM4) dan P3 (Starbio). Variabel yang diamati adalah karakteristik fisik (tekstur, bau, warna dan jumlah koloni jamur), pH dan nilai fraksi serat (hemiselulosa, selulosa, dan lignin). Data yang di peroleh di analisis dengan analisis variansi (ANAVA), jika berbeda nyata di lanjutkan dengan uji *Duncan 'n New Multiple Range Test* (DMRT). Hasil dari penelitian menunjukkan rerata karakteristik fisik : Tekstur P1 1,73; P2 1,13; dan P3 1,11. Aroma P1 2,67; P2 1,71; P3: 1,60; Warna P1 2,22; P2 1,67; dan P3 1,51. jumlah koloni jamur P1 2,51; P2 2,02; dan P3 1,89. pH P1 7,12; P2 5,05; dan P3 5,38. Fraksi serat : Hemiselulosa P1 15,86; P2 13,79; dan P3 13,79. Selulosa P1 32,47; P2 22,46; dan P3 22,34. Lignin P1 48,92; P2 22,83; dan P3 21,73. Berdasarkan hasil analisis variansi menunjukkan bahwa penambahan macam inokulum berpengaruh nyata ($P < 0,05$) terhadap semua variabel. Disimpulkan dari hasil penelitian bahwa penambahan macam inokulum (Starbio dan EM-4) dapat menurunkan kandungan fraksi serat dan memperbaiki karakteristik fisik daun kelapa sawit fermentasi dengan dosis 0,6 % yang di inkubasi selama 14 hari.

Kata kunci : Daun kelapa sawit, fermentasi, inokulum, karakteristik fisik, fraksi serat.

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**THE INFLUENCE OF INOCULUM KIND ON PHYSICAL CHARACTERISTIC
AND FIBER FRACTION OF FERMENTED OIL PALM**

(*Elaeis guineensis* Jacq) LEAF

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ABSTRACT*

The purpose of this research was to determine the effect of inoculum kind on physical characteristic and fiber fraction of palm leaves fermented. This research was conducted for 5 weeks from the date of 14 February 2019 to 25 March 2019 in the Chemical Laboratory, Faculty of Agroindustry, University of Mercu Buana Yogyakarta. The material used palm leaf inoculum, (starbio and EM-4) bran and molasses. This research using Completely Randomized Design (CRD) one way pattern with 3 treatments and 3 replication. Treatment used is P1 (control), P2 (EM4), and P3 (Starbio). Observed variables are the physical characteristics (texture, smell, color, and growth of the fungal colony), the pH and the value of the fiber fraction (hemicellulose, cellulose, and lignin). The data obtained were analyzed with ANOVA, if significantly different continued with Duncan's New Mutiple Range Test (DMRT). Results showed the mean characteristics of the physical : Texture P1 1.73; P2 1.13; and P3 1.11. Smell P1 2.67; P2 1.71; and P3 1.60. Color P1 2.22; P2 1.67; and P3 1.51. Quantity of the fungal colony P1 2.51; P2 2.02; and P3 1.89. pH P1 7.12; P2 5.05; and P3 5.38. Fraction of the fiber : Hemicellulose P1 5.86; P2 13.79; and P3 13.79. Cellulose P1 32.47; P2 22.46; and P3 22.34. Lignin P1 48.92; P2 22.83; and P3 21.73. Based on the result of ANOVA showed that the addition of inoculum had no apparent effect ($P < 0,05$) against all variabel. It was concluded that the addition of inoculum (starbio and EM-4) can reduced the content of the fraction of the fiber and improve the physical characteristics of palm leaves fermentation with a dose of 0,6% in incubation for 14 days.

Keywords : Palm leaf, fermented, inoculum, physical, characteristic, fiber fraction.

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