

ABSTRACT

THE EFFECT OF GIVING COFFEE FROM COFFEE BEAN FERMENTED BY GHALKOFF MICROBES ON GLUCOSE LEVELS DIABETES IN METRO CITY

By

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This study aims to determine the effect of giving organic herbal coffee, on glucose levels in the blood of people with diabetes mellitus (DM). This study uses the response surface method (Response Surface Methodology) with a 2 factorial Central Composite Design design, namely the first factor (C) starter ghalkoff concentration 20%, 25%, 30%. The second factor (T) was 12 days, 14.5 days, and 17 days of fermentation. The results showed that the optimum formula for fermenting organic robusta coffee that could reduce the sugar content of DM respondents was 12 days of fermentation and a starter concentration of 30% resulting in 4.12% chlorogenic acid content. This is in accordance with the predictions suggested by the Program Design Expert, which is 12 days of fermentation and 30% microbial concentration resulting in 4.21% chlorogenic acid content.

Key words: Robusta Coffee, Ghalkoff Microbes, Fermentation, Caffeine, Chlorogenic Acid

ABSTRAK

PENGARUH PEMBERIAN KOPI DARI BIJI KOPI YANG DIFERMENTASI OLEH MIKROBA GHALKOFF TERHADAP KADAR GULA DARAH POSTPRANDIAL PENDERITA DIABETES DI KOTA METRO

Oleh

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Penelitian ini bertujuan untuk mengetahui pengaruh pemberian kopi herbal organik, terhadap kadar glukosa dalam darah penderita Diabetes Milletus (DM). Penelitian ini menggunakan metode permukaan respon (Response Surface Methodology) dengan rancangan design Central Composite Design 2 faktorial, yaitu faktor pertama (C) konsentrasi starter ghalkoff 20%, 25%, 30% . Faktor kedua (T) lama fermentasi 12 hari, 14,5 hari, dan 17 hari. Hasil penelitian menunjukkan bahwa formula optimum pada fermentasi kopi robusta organik yang dapat menurunkan kadar gula responden DM yaitu pada waktu fermentasi 12 hari dan konsentrasi starter sebesar 30% menghasilkan kadar asam klorogenat 4,12%. Hal ini sesuai dengan prediksi yang disarankan oleh Program Design Expert yaitu pada waktu fermentasi 12 hari dan konsentrasi mikroba sebesar 30% menghasilkan kadar asam klorogenat 4,21%.

Kata kunci: Kopi Robusta, Mikroba Ghalkoff, Fermentasi, Kafein, Asam Klorogenat