

PENGARUH PERLAKUAN SUHU, WAKTU EKSTRAKSI TERHADAP KARAKTERISTIK DAN POTENSI PREBIOTIK PEKTIN KULIT JERUK LIMO

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Abstrak

Pemenuhan kebutuhan pektin dalam industri dapat memanfaatkan kulit jeruk limo sebagai sumber pektin sekaligus mengurangi limbah kulit jeruk limo. Pektin memiliki banyak manfaat termasuk dalam bidang kesehatan sebagai pangan bioaktif. Telah dilakukan penelitian mengenai proses ekstraksi, karakterisasi dan potensi prebiotik pektin dari kulit jeruk limo. Penelitian ini bertujuan untuk menganalisis pengaruh perlakuan suhu dan waktu ekstraksi terhadap karakteristik dan potensi prebiotik kulit jeruk limo. Metode yang digunakan dalam penelitian ini adalah eksperimental dengan dua faktor perlakuan yaitu variasi suhu ekstraksi (70° C ; 90° C) dan variasi waktu ekstraksi (60 menit ; 90 menit). Hasil penelitian ini menunjukkan perlakuan ekstraksi pektin kulit jeruk limo terbaik pada suhu ekstraksi 70° C dan waktu 90 menit dengan rendemen 9,54% dan karakterisasi kadar air 8,20%, kadar abu 2,67%, berat ekivalen 1488 mg, kadar metoksil 3,05%, kadar galakturonat 119,4%, derajat esterifikasi 14,67% dan viskositas 31,7 Cp serta pertumbuhan Bakteri Asam Laktat (BAL) $<1,0 \times 10^2$ CFU/ml.

Kata Kunci : Pektin, kulit jeruk limo, ekstraksi, suhu, waktu.

EFFECT OF TEMPERATURE, TIME EXTRACTION TREATMENT ON THAT CHARACTERISTICS AND POTENTIAL OF PREBIOTIC PECTIN LIMO PEEL

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Abstract

Jeruk Limo Peel can be utilized as a source for Pectin. Not only beneficial for fulfilling the demands for Pectin by The industries, utilizing Jeruk Limo Peel can also reduce the waste from Jeruk Limo consumption. Pectin has many benefit including in the health sector as bioactive food. Research has been carried out on extraction, characterization and potential prebiotic properties of Pectin made from Limo Peel. This study aims to analyze the effects of temperature and extraction time on the characteristics and potential prebiotic properties of Pectin made from limo peel .The method used in this study was experimental with two treatment factors, namely variation in extraction temperature (70° C; 90° C) and variation in extraction time (60 minutes; 90 minutes). The results of this study showed the best extraction of limo peel pectin at extraction temperature of 70° C and time of 90 minutes with yield of 9.54% and characterization of water content 8,20%, ash content 2,67%, equivalent weight 1488 mg, methoxyl content 3,05%, galacturonat level 119.4%, esterification degree 14.67% and viscosity 31.7 cP and growth of Lactic Acid Bacteria (LAB) $<1.0 \times 10^2$ CFU/ml.

Keyword: Pectin, limo peel, extraction, temperature, time.