

PEMBUATAN MINYAK INTI SAWIT MURNI DENGAN METODE FERMENTASI

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INTISARI

Telah dilakukan penelitian terhadap pembuatan minyak inti sawit murni dengan metode fermentasi. Tujuan dari penelitian ini adalah membuat minyak inti sawit murni sebagai alternatif dari produk VCO serta menentukan variasi massa ragi dan waktu fermentasi terbaik untuk menghasilkan produk minyak inti sawit yang berkualitas tinggi dengan melakukan serangkaian uji sifat fisika dan kimia. Penelitian diawali dengan pembuatan santan dari inti sawit yang telah dihaluskan dan ditambah akuades dengan perbandingan 1 : 1. Santan didiamkan selama 17 jam, krim yang didapat ditambahkan ragi roti dengan variasi 0,05; 0,10 dan 0,15 g dalam setiap 35 g krim kernel lalu difermentasi selama 12 dan 24 jam. Setelah minyak murni terbentuk dilakukan analisis kuantitas dan kualitas meliputi rendemen, komposisi asam lemak, warna, aroma, turbiditas, viskositas, densitas, kadar air, kadar FFA dan titik beku. Sebagai penambah rasa serta untuk menurunkan titik beku ditambahkan pula perasa vanila dengan variasi konsentrasi 1,0; 1,5 dan 2,0% per massa sampel minyak inti sawit murni.

Hasil penelitian menunjukkan bahwa asam laurat sebagai asam lemak dominan dalam minyak inti sawit murni yaitu sebesar 46,83%, nilai turbiditas, viskositas, densitas, dan titik beku berturut-turut yaitu 65 NTU; 2,56 cP; 0,8582 g mL⁻¹; dan 24 °C. Massa ragi dan waktu fermentasi terbaik yaitu 0,05 g selama 12 jam dengan menghasilkan warna cokelat beraroma khas, rendemen 63,30%, kadar FFA 1,48% dan kadar air 0,31%. Namun masih belum memenuhi standar kualitas CODEX STAN 210–1999 dan MS 80:2011. Penambahan perasa vanila efektif dalam menurunkan titik beku minyak inti sawit murni.

Kata kunci: asam laurat, fermentasi, minyak inti sawit murni, ragi roti, VCO

VIRGIN PALM KERNEL OIL PRODUCTION BY FERMENTATION METHOD

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ABSTRACT

A research of virgin palm kernel oil production by fermentation method has been conducted. The aims of this study were to produce virgin palm kernel oil as an alternative product for virgin coconut oil and to determine the best variation of yeast mass and fermentation time to produce high quality of virgin palm kernel oil product by analyzing their physical and chemical properties. The research has begun by producing coconut milk of palm kernel from the nut that was crushed and added with aquadest in ratio 1 : 1. The coconut milk was let for 17 hours, to obtain the cream and added with yeast at variation of 0.05; 0.10 and 0.15 g into 35 g cream of the coconut milk and then fermented for 12 and 24 hours. The virgin oil was separated then analyzed quantitatively and qualitatively. The determination of quality of product comprised yield, fatty acid composition, color, odor, turbidity, viscosity, density, moisture content, free fatty acid content and freezing point. Vanilla as flavor enhancer as well as frost-lowering agents was added in variation 1.0; 1.5 and 2.0%.

The result showed that lauric acid as dominant fatty acid in virgin palm kernel oil was 46.83 %, turbidity, viscosity, density and freezing point were 65 NTU, 2.56 cP, 0.8582 g mL⁻¹, 24 °C, respectively. The addition of yeast at 0.5 g and fermentation time for 12 hours showed the best product of virgin palm kernel oil with yield of 63.30%, free fatty acid content of 1.48% and moisture content of 0.31%, however this yield is still exceed standard quality of PKO based on CODEX STAN 210–1999 and MS 80:2011. The addition of vanilla flavour was effective in lowering the freezing point.

Key words: lauric acid, fermentation, virgin palm kernel oil, yeast, VCO