ABSTRAK

Virgin coconut oil (VCO) merupakan minyak kelapa murni yang diperoleh dari daging kelapa tua dan kering, diproses dengan suhu rendah atau tanpa perlakuan panas. Beberapa metode ekstraksi VCO yaitu salah satunya dengan metode enzimatis. Pada penelitian ini, enzim yang digunakan berasal dari kepiting sawah (*Parathelpusa maculata*). Kepiting sawah (*P.maculata*) tersebut mengandung bakteri *Bacillus.Licheniformis* yang mampu menghasilkan *crude* enzim protease. Tujuan dari penelitian ini adalah untuk mengetahui suhu optimum *crude* enzim protease kepiting sawah (*P.maculata*), mengetahui pengaruh konsentrasi *crude* enzim protease terhadap medium chain fatty acid, serta mengetahui karakteristik VCO yang dihasilkan berdasarkan SNI dan APCC. Pada penelitian ini *crude* enzim kepiting sawah (*P.maculata*) dipresipitasi menggunakan ammonium sulfat 50%. *Crude* enzim yang diperoleh digunakan untuk mengekstraksi VCO dari krim santan dengan perbedaan penambahan konsentrasi dan suhu inkubasi.Hasil dari penelitian ini menunjukkan bahwa aktivitas optimum *crude* protease sebesar 0.318 U/ml pada suhu 40 ^{0}C. Rendemen tertinggi diperoleh 31,85% pada konsentrasi *crude* enzim protease kepiting sawa (*P.maculata*) 7,5% pada suhu inkubasi 50 ^{o}C. sedangkan konsentrasi asam laurat tertinggi 46,18% diperoleh pada konsentrasi *crude* enzim protease kepiting sawah (P. maculate) 5,0% dengan suhu inkubasi 50 ^{o}C. Karakteristik VCO meliputi kadar asam lemak bebas, angka peroksida asam kaprilat, asam kaprat, asam stearat dan asam oleat memenuhi SNI 3781:2008 dan APCC 2009. Sedangkan kadar air, angka penyabunan, angka iodin, asam laurat, asam miristat dan asam palmitat tidak memenuhi SNI dan APCC pada beberapa perlakuan.

Kata kunci: kelapa, VCO, *crude* protease, karakteristik, asam lemak

ABSTRACT

Virgin coconut oil (VCO) is a pure coconut oil derived from old coconut meat and dry, processed with low temperature or without heat treatment. Some methods of VCO extraction is one of them with enzymatic method. In this study, the enzyme used came from the rice field crab (Parathelpusa maculata). The Rice field Crab (*P.maculata*) contains Bacillus Licheniformis bacteria capable of produced *crude* protease enzymes. The purpose of this research is to find out the optimum temperature of *crude* enzyme protease of rice field crab (*P.maculata*), to know the effect of *crude* protein enzyme concentration on medium chain fatty acid, and to know the characteristics of VCO produced by SNI and APCC. In this study *crude* enzyme crab sawah (*P.maculata*) precipitation use 50% ammonium sulfate. *Crude* enzyme used to extract VCO from cream of coconut milk with difference of concentration and incubation temperature. The result of this research shows that the optimum activity of *crude* protease is 0.318 U / ml at 40 ^{o}C. The highest yield was 31,85% at *crude* enzyme (*P.maculata*) 7.5% at 50 °C incubation temperature. While the highest concentration of lauric acid 46,18% was obtained at *crude* enzyme concentration of 5,0% crab (P. maculate) enzyme at incubation temperature 50 ^{o}C. Characteristics of VCO include free fatty acid content, peroxide value, caprylic acid, capric acid, stearic acid and oleic acid meet SNI 3781: 2008 and APCC 2009. While water content, saponification value, iodine value, lauric acid, myristic acid and palmitic acid do not meet SNI and APCC on some treatments.

Keywords: coconut, VCO, *crude* protease, characteristic, fatty acid