Improved NARP-HPLC method for separating triglycerides of palm olein and its solid fractions obtained at low temperature storage

ABSTRACT

Non-aqueous reversed-phase high-performance liquid chromatography (NARP-HPLC) with refractive index (RI) detection is described and used for palm olein and its fractions obtained at 12.5 °C for 12ï 24 h. The calculation formula for fatty acid methyl esters (FAMEs) and carbon number (CN) from the data obtained by NARP-HPLC is described and correction factors for all carbon numbers and fatty acids are tabulated. The results were compared with those obtained from FAMEs analysed on 10% SP 2330 Supelco packed column gas-liquid chromatography (GLC) and CN analysed on 3% OV-1 Supelco packed column GLC. The results were found to agree well for C48, C50, C52, C16:0, C18:0 and C18:1 (correction factor å 1.0); however, a slight variation was observed for components C54, C14:0 and C18:2 (correction factor 1.0 ± 0.37).

Keyword: Non-aqueous reversed-phase high-performance liquid chromatography (NARP-HPLC); Refractive index (RI); Palm olein