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**GC DETERMINATION OF PALMITOLEIC, PALMITIC, OLEIC, LINOLEIC,
STEARIC AND α -LINOLENIC ACIDS IN FLAXEED FOOD SUPPLEMENTS**

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Abstract

The aim of current study was the application of optimized GC method for complete separation of methyl esters of Palmitoleic, Palmitic, Oleic, Linoleic, Stearic and α -Linolenic acids in flaxeed food supplements and determination by persantage method at the following chromatographic conditions: flow rate of hydrogen: 45 ml/min., inlet pressure of carrier gas 15 Psi and temperature program: holding on 5 min. at 140 °C, increasing the temperature to 240 °C at a rate of 4 °C/min., holding on for 20 min. at 240 °C, increasing the temperature to 280 °C at a rate of 6 °C/min. and holding on for 10 min. at 280 °C. The content of methyl esters of fatty acids in food supplement was obtained by the application of persantage method. The maximum concentration was found for Methylinolenate (58.12 %) in Vitaflax oil and (52.68 %) in Organic Flax and Methylinoleate (44.02 %) in Linseed oil. The minimum concentration was observed for Methylstearate (2.91 %) and Methylinoleate (4.06 %) in Omega-3, 6, 9 and Methylstearate (4.41 %) in Vitaflax oil.

The described GC persantage method can be applied for rutine analysis of fatty acids in food additives, after derivatization to the respective methyl esters.

Key Words: GC, fatty acids, percentage method, quantification.

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