

Content of Fat and Fatty Acids Composition in Oilseed Rape Samples

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Nowadays much attention has been paid to the study of fatty acids and total oil content of oilseed rape in plant breeding programs for quality improvement breeding. Oilseed rape (*Brassica napus*) has been grown worldwide as one of the most important oil crops for both edible and industrial uses. Oilseed rape oils nowadays are a great source of maintaining oil consumption in families and the utilization of the oil as bio-fuel has also been commercialized, as a substitute for traditional fossil diesel fuel, to reduce greenhouse gas emissions. The aim of this work was to determine the fat content as well as fatty acids composition in oilseed rape samples. The study was carried out on two oilseed rape varieties (cv. Digger and Nelson F1) obtained from Experimental Station Department of Crop Production in Prusy, University of Agriculture in Krakow (Poland). Total fat content was determined by two different extraction methods, Soxhlet extraction method using Soxtec System HT2 1045 Extraction Unit (Tecator, Sweden), and an alternative Supercritical CO₂ (SC CO₂) extraction method using TFE 2000 (Leco, USA). The fatty acids profile was performed by Gas Chromatography using Varian 3400 GC (Varian, Inc., USA).

Keywords: fat, fatty acids, oilseed rape, soxhlet, supercritical CO₂

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