

## FATTY ACID COMPOSITION AND NUTRITIONAL VALUE OF WHEAT GERM OIL

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Wheat is one of the major food ingredients across the world. Wheat kernel is composed of bran, germ, and endosperm. However, the milling process removes germ fraction as well as bran when white flour is produced. Therefore, wheat germ is a by-product obtained from wheat milling industry. The wheat germ constitutes about 2-3% of the whole wheat grain and includes approximately 15% oil. Wheat germ oil can be produced in different methods such as solvent extraction, mechanical pressing or supercritical fluid extraction. It contains nutrients which are good for human consumption. Wheat germ oil is one of the richest natural sources of Vitamin E, up to about 2500 mg/kg. Vitamin E is also known as tocopherol or natural antioxidant, which provides a number of health benefits to human beings. Wheat germ oil exhibits a range of sterols. 4-methyl sterols, triterpenoid alcohols,  $\beta$ -sitosterol and campesterol are the major components. Among the fatty acids, linoleic acid (C18:2), followed by palmitic acid (C16:0), oleic acid (C18:1) and linolenic acid (C18:3) were the major fatty acids. According to some findings, the percentages of C16:0, C18:1, C18:2, and C18:3 fatty acids, whose contents were in the ranges 15.8-17.5%, 13.8-17.5%, 56.5-58.0%, and 5.2-6.8%, respectively. The compositions varied considerably, possibly because of the differences in wheat variety and growing region. In this presentation, it was aimed to investigate the chemical composition and nutritional value of wheat germ oil as a by-product of wheat milling industry.

Keywords: Wheat germ oil, linoleic acid, nutritional value

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