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# **Czech J. Food Sci.**

**Özcan M.M., Rosa A.,  
Dessi M.A., Marongiu**

**B., Piras A., AL**

**Juhaimi F.:**

# **Quality of wheat germ oil obtained by cold pressing and supercritical carbon dioxide extraction**

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Laboratory-prepared wheat germ oil was obtained by cold pressing and supercritical CO<sub>2</sub> extraction. The main objective was to compare the quality of both oil samples obtained, with emphasis on their fatty acids compositions and tocopherol contents. The percentages of palmitic, oleic, linoleic, and linolenic acids determined in the cold-pressed oil were 15.89, 15.48, 54.88, and 7.34% of total fatty acids, respectively, and those in the oil extracted by supercritical CO<sub>2</sub> were 16.50, 15.05, 54.79, and 7.29% of total fatty acids, respectively. The average proportions of saturated, mono- and polyunsaturated fatty acids calculated for

wheat germ oil obtained by cold pressing accounted for 17.15, 17.63, and 62.22% of total fatty acids, respectively, and those calculated for wheat germ oil extracted by supercritical CO<sub>2</sub> were very similar, accounting for 18.14, 17.58, and 62.08% of total fatty acids, respectively. As expected, the fatty acid profiles determined in both oils studied were observed to be almost identical. In contrast, the level of  $\alpha$ -tocopherol in the oil extracted by supercritical CO<sub>2</sub> was found to be considerably higher (1.27 mg/g) than that in the oil obtained by the cold pressing procedure (0.79 mg/g).

### **Keywords:**

fatty acid profile;  $\alpha$ -tocopherol

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