Table of Contents

Editorial Board

For Authors

- Authors Declaration
- Instruction to Authors
- Guide for Authors
- Copyright Statement
- Submission

For Reviewers

- Guide for Reviewers
- Reviewers Login

Subscription

Czech J. Food Sci.

Jokić S., Sudar R., Svilović S., Vidović S.,

Bilić M., Velić D., Jurković V.:

Fatty acid composition of oil obtained from soybeans by extraction with supercritical carbon dioxide

Czech J. Food Sci., 31 (2013): 116-125

Soybean oil fractions were obtained by collecting the extract at different time intervals during supercritical carbon dioxide extraction. The extraction was performed at the following temperatures: 313, 323, and 333 K, and at pressures of 300, 400, and 500 bar. The triacylglycerol composition and concentration of fatty acids in soybean oil fractions was evaluated. The fatty acid and triacylglycerol compositions of soybean oil obtained with supercritical carbon dioxide was compared with the soybean oil extracted with *n*-hexane. The extraction temperature and pressure, did

not influence the fatty acids compositions which, however, differed in different fractions collected at different time intervals. The concentrations of myristic, palmitic, linoleic, and linolenic fatty acids of soybean oil were the highest in the first fraction and then decreased, while the concentrations of stearic and oleic acids showed the opposite trend. The solubility of all fatty acids increased with the pressure from 300 to 400 bar at constant temperature, while in the interval from 400 to 500 bar the solubility decreased with long chain fatty acids (C20 – C24).

Keywords:

supercritical carbon dioxide extraction; fractions; soybean oil; triacylglycerols

[fulltext]