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# **Czech J. Food Sci.**

**Sarajlija H., Čukelj N.,  
Novotni D. Mršić G.,**

**Brncic M., Curic D.:**

# **Preparation of flaxseed for lignan determination by gas chromatography–mass spectrometry method**

Czech J. Food Sci., 30 (2012): 45-52

Since 1980s, several methods for the determination of lignans in food samples have been developed depending on the types of lignans and foods analysed, but mostly on flaxseed as a reference food. In this work, specific steps in flaxseed preparation for lignan secoisolariciresinol analysis by gas chromatography-mass spectrometry method were examined. Ethanol extraction of lignan from defatted and non-defatted flaxseed before acid hydrolysis yielded significantly lower concentrations ( $5172 \pm 49 \mu\text{g/g}$ ;  $5159 \pm 83 \mu\text{g/g}$ , respectively), when compared to the direct acid hydrolysis ( $8566 \pm 169 \mu\text{g/g}$ ;  $8571 \pm 192 \mu\text{g/g}$ ,

respectively). In the analysed samples of defatted and dried flaxseed, no significant difference in lignan content was observed when compared to non-defatted flaxseed samples.

## **Keywords:**

defatting; extraction; GC/MS; hydrolysis; lignans

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