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# **Czech J. Food Sci.**

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## **Lignans in Flaxseed**

Czech J. Food Sci., 27 (2009): S252-S255

Lignans are phytoestrogens which are present in a wide variety of plants. Epidemiological studies indicate that phytoestrogen-rich diets reduce risk of various hormone-dependent cancers, heart disease, and osteoporosis. One of the richest dietary sources of lignans are flaxseeds, with glycosides of secoisolariciresinol (SECO) and matairesinol (MAT) as the major components. In this study LC-MS/MS method for the determination of plant lignans SECO and MAT in flaxseed was developed for analysis of a wide range of samples: (i) nine cultivars of oil flax treated with two types of fertilisers containing humic acids and (ii) fibre flax cultivar Venica fertilized with preparations containing various amounts of zinc. The levels of major phytoestrogen, SECO, were in range 2312– 6994 mg/kg in oil flax and 1570– 3100 mg/kg in fibre flax. The content of MAT was significantly lower, ranging from 3 to 9 in oil flax and

7– 27 mg/kg in fibre flax.

**Keywords:**

secoisolariciresinol; matairesinol;  
flaxseed; LC-MS/MS

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