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Czech J. Food Sci.

**Lachman J.,
Hejtmánková A.,**

**Syková J., Karban J.,
Orsák M., Rygerová B.:**

Contents of major phenolic and flavonoid antioxidants in selected Czech honey

Czech J. Food Sci., 28 (2010): 412-426

The chemical constitution of antioxidants contained in honey is derived from its origin. Forty honey samples (harvest 2006), which came from various locations of the Czech Republic and varied in their origins, were evaluated spectrophotometrically for their total polyphenol content, total flavonoids and 3',4'-dihydroxyflavones and flavonols, and major antioxidants were identified by HPLC-DAD and GC-MS. The kind of honey, location, and date of the honey harvest were shown to have a significant effect on the contents of phenolic antioxidants (average content 11.02 mg gallic acid equivalents/100 g), total flavonoids (0.66 mg quercetin equivalents/100 g), and 3',4'-

dihydroxyflavones and flavonols (4.32 mg quercetin equivalents/100 g). In the Czech honey, ferulic acid (0.11 mg/100 g) and chrysin (0.06 mg/100 g) and other minority phenolics and flavonoids were identified and quantified as honey phenolic antioxidants contained. The results obtained support and extend complete knowledge on the contents of bioactive phenolics in the Czech honey, which could serve as a good source of natural antioxidants effective in reducing the risk of the occurrence of heart disease, cancer, cataracts, different inflammatory processes and immunosystem decline.

Keywords:

antioxidants; kinds of honey; total polyphenols; phenolic acids, flavonoids; 3',4'-dihydroxyflavones and flavonols; chrysin; ferulic acid; GC-MS; HPLC-DAD

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