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Czech J. Food Sci.

**Engmann N.F., Ma Y.-
K., Ying X., Qing Y.:**

Investigating the effect of high hydrostatic pressure processing on anthocyanins composition of mulberry (*Morus moraceae*) juice

Czech J. Food Sci., 31 (2013): 72-80

Anthocyanins are potent natural antioxidants with acclaimed health benefits and are also used as industrial colourants. These functions are based on the types and amounts of anthocyanins present in the food material. We identified and characterised mulberry fruit anthocyanins before and after high hydrostatic pressure (HHP) treatment. Three separate samples were differently treated at 200, 400, and 600 MPa for 20 min, respectively. Anthocyanins were identified and characterised using high-performance liquid chromatography (HPLC), electrospray ionisation mass spectrometry (ESI/MS), and the literature

data. Cyanidin-3-O-glucopyranoside (55.56%) and cyanidin-3-O-coumaroylglucoside (44.44%) were detected in the untreated sample, while two new anthocyanins [pelargonidin-3-O-coumaroylglucoside (0.46%) and delphinidin-3-O-coumaroylglucoside (5.8%)] were identified in the sample treated at 200 MPa for 20 minutes. One new anthocyanin, delphinidin-3-O-coumaroylglucoside (5.38%), was detected in the juice treated at 400 MPa for 20 minutes. At 600 MPa for 20 min, no new anthocyanins were detected.

Keywords:

mulberry fruit; antioxidants; health benefits; HPLC-ESI-MS

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