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Czech J. Food Sci.

**Kiss A., Rapi S.,
Korozs M., Forgo P.:**

Elaboration of novel extraction procedure to reveal bioactive component profile of anthocyanin-rich plants

Czech J. Food Sci., 32 (2014): 384-390

The content of anthocyanin derivatives, antioxidant activity, and phenolic content were determined in black elderberry (*Sambucus nigra* L.), sweet cherry (*Prunus avium* L.), blackberry (*Rubus fruticosus* L.), black currant (*Ribes nigrum* L.), and blackthorn (*Prunus Spinosa* L.). The extraction efficiency was examined of several solvents including hot water, 2% phosphoric acid, ethanol and acetone. A new sequential (cascade) extraction procedure was developed in order to improve the efficiency of the conventional methods. This novel extraction protocol consists of 3 different steps with the prevalence of low pH extraction conditions. When comparing the effectiveness of the conventional and

presently improved procedures, it was stated that significantly increased anthocyanin yields had been observed. The highest anthocyanin content, determined with HPLC method, was found in the case of sweet cherry (222.7 mg/kg) on using the three step extraction procedure. The highest antioxidant activity determined with DPPH method was also assigned to the sweet cherry sample (5272 mg/kg). The highest phenolic content was found in blackberry (434 mg/kg).

Keywords:

anthocyanins; antioxidant activity; phenolic content, fruits

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