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Determination of soluble sugar profile of selected spices and condiments using HPLC-DAD and C18 cartridge clean-up method

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Spices and condiments are popular ingredients in South Asian dishes. Apart from the flavouring properties, they are constantly being used as traditional medicines due to their natural constituents. This study was focused on the determination of the soluble-sugar profile of several popular spices and condiments; black pepper (*Piper nigrum*), green and red chili (*Capsicum annum*), B-onion (*Allium cepa*), and curry leaves (*Murraya koenigii L.*). The Bond Elut C18 cartridge method was used for the clean-up process before the analysis using a High-performance Liquid Chromatography-Diode Array Detector with an NH_2 (4.6 mm × 250 mm × 5 µm) column, applying acetonitrile: water as 75:25 (v/v) mobile phase. Fructose, glucose, and sucrose content were mainly analyzed and the respective sugar contents were expressed on a dry weight basis as follows. Black pepper was measured at 0.764 ± 0.071, 0.669 ± 0.021 and 3.535 ± 0.028 g Kg^{-1}, green chili at 34.140 ± 0.553, 27.576 ± 0.249 and 4.947 ± 0.139 g Kg^{-1}, red chili at 42.702 ± 0.825, 24.068 ± 0.332 and 4.834 ± 0.188 g Kg^{-1}, b-onion at 58.99 ± 7.950, 71.720 ± 6.360 and 50.040 ± 0.442 g Kg^{-1} and curry leaves at 13.473 ± 0.275, 1.173 ± 0.156 and 2.432 ± 0.244 g Kg^{-1} respectively. The highest total soluble sugar contents were recorded with b-onion and chili. The study showed that the soluble sugar contents vary with the type of spice and the maturity level according to the results of two chili types. Our findings could be useful in further studies relevant to spices and condiments.

Keywords: *Soluble sugar content, High-performance Liquid Chromatography, Spices and condiments, Fructose, Sucrose.*