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Title: Betacyanin Stability During Processing and Storage of a Microencapsulated Red Beetroot Extract

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Abstract: The objectives of this research were to evaluate betacyanin retention during processing and storage of a Microencapsulated Red Beetroot Extract (MRBE) and to evaluate if the product imparts off-flavors when added to plain yogurt. Blanched beetroot slices were ground in acidified medium, pressed and filtered to obtain red beetroot extract, which was microencapsulated by spray-drying with three maltodextrin:beetroot dry mass (M/B) ratios (3:1, 4:1 and 5:1). The resulting powders (MRBE3, -4 and -5, respectively) were packed in dark or translucent HDPE jars and stored under diffuse sunlight. Betacynin retention during microencapsulation was about 90%, independently on the M/B ratio. The addition of 1220 mg kg^{-1} of MRBE3, 1525 mg kg^{-1} of MRBE4, or 1830 mg kg^{-1} of MRBE5 to plain yogurt was not perceived in terms of flavor by panelists. Betacyanin degradation rates during storage were increased by light exposure and decreased by M/B ratio.

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