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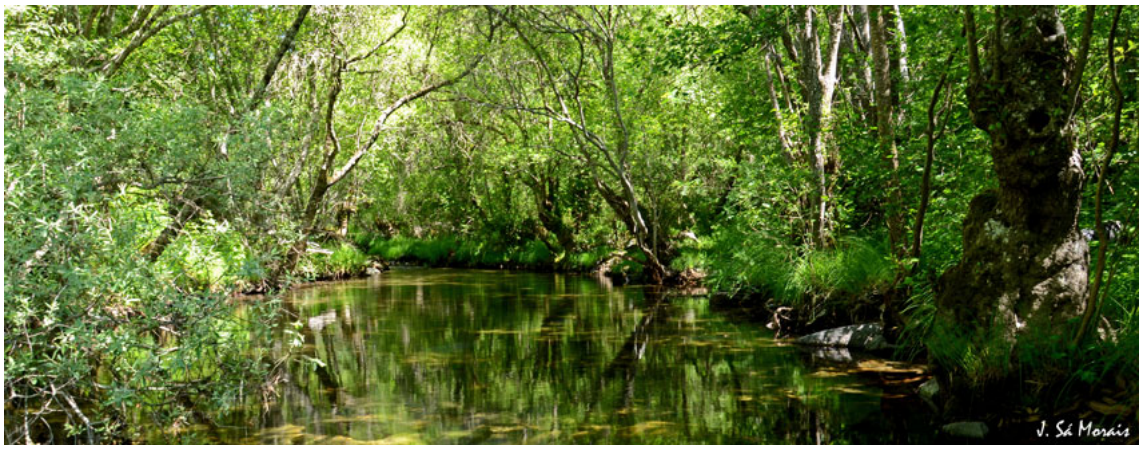

PC - Panel communications / Comunicações em painel

PC-106

A novel natural colouring strategy for ice cream: effects on the profiles of individual sugars

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The production of ice cream consists of two essential steps: firstly, the mixture is prepared and aerated, and afterwards it is frozen. This complex frozen dessert consists of several components, such as air bubbles (to give volume), water (in the form of ice crystals to confer weight), a partially frozen serum phase, and small amounts of emulsifiers, stabilizers and colourants [1]. Probably, ice cream is not the best product to answer to the growing health concerns, mainly due to the increased rate of obesity, metabolic syndrome and diabetes. This has been bothering consumers, leading them to seek healthier foods [2]. Nevertheless, ice cream is a very appreciated desert all over the world, representing a suitable food matrix to be submitted to any improvement process, such as the addition of natural additives with acknowledged bioactive properties. Currently, there is a trend to replace the artificial colourants used in ice cream preparation. The flowers of *Gomphrena globosa* L., contain high levels of betacyanins, which have a strong colouring capacity, in addition to their high antioxidant activity and chemopreventive effects [3]. Accordingly, aqueous extracts from *G. globosa* flowers were incorporated in ice cream, benefiting from their dual colouring/functionalizing effects. To validate their suitability, the prepared formulations were compared to other ice cream (i) free of any colourant, (ii) added with commercial betalain, or (iii) added with B*eta vulgaris* extract (E-162). Among other parameters, the individual sugar profiles were evaluated by high-performance liquid chromatography (HPLC) coupled to a refractive index detector (RI) throughout storage time (up to 60 days). Overall, the tested formulations did not induce significant changes in individual sugars profile, except for the lower sucrose contents detected in ice creams prepared with *B. vulgaris* extract. Therefore, the extracts of *G. globosa* might be considered as an effective colouring solution, without compromising individual sugars profile, one of the most important parameters to assess ice cream quality.

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