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Sunflower oil organogels and natural sucrose alternatives: new ingredients for healthier artisanal ice creams

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Food technologists are continuously looking for healthier ingredients with positive physiological effects in order to reformulate products traditionally rich in saturated fat and sugar. As regards ice creams, milk cream substitution with vegetable oils can reduce the intake of saturated fatty acids, which have been associated with higher levels of blood cholesterol and higher risks for coronary heart disease. As for sugar, erythritol and stevia have recently gained attention as natural sucrose alternatives, due to their zero calorie and glycaemic index.

Thus, the aim of this work was to study the use of sunflower oil organogels (OG), stevia and erythritol as new ingredients for the development of healthier artisanal ice creams, able to satisfy dietary restrictions while maintaining good quality traits.

In a first set of trials, ice creams containing 4 and 8% OG structured with 12% phytosterols were compared to traditional formulations made with 4 and 8% milk cream. Then, a second set of trials implied the preparation of an ice cream containing 4% OG, sweetened with 2.26% erythritol and 0.02% stevia instead of sucrose. All samples were produced in duplicate using a plant for artisanal ice cream.

Milk cream substitution with OG gave good results, especially in terms of overrun and melting resistance. The combination of OG with erythritol and stevia allowed the production of an ice cream with physico-chemical features totally comparable to the traditional formulation, except for a higher instrumental firmness.

In summary, the work demonstrated that OG, erythritol and stevia can be successfully exploited in the formulation of a low-calorie ice cream, enriched with high levels of polyunsaturated fatty acids and natural antioxidants.

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