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Introduction of a new family of ice creams

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## Abstract

Usually most of the ice cream manufacture was made by experiential work in kitchens, thought years of work and experience making it a handcrafted work, proving most of the knowledge we have today making Angelo Corvitto (Corvitto, 2011), the main source of information for culinary proposals.

We present and characterize a new family of ice cream formulation according to its physiochemical characteristics through the use of lactose and sodium casein as the main ingredients of the formula. Avoiding use dairy (milk, cream, etc...), we don't have use milk fat flavor that dilute main flavor in the mixture. We may use different types of fats from any origin and different types of liquids substituting the water and milk fats from the juice and emulsion that the user liked, in this new ice cream family.

## Keywords

Ice cream; Milk; Casein; Lactose; Dairy; Formulation; Protein; Sodium casein.

## Introduction

By definition "ice cream is a liquid mixture that turns into a paste after simultaneously shaking and cooling" (Corvitto, 2011), although the definition of ice cream varies from country to country due to differing regulations and traditions of composition (Clark, 2012; Goff & Hartel, 2013).

In the ice cream mix that will become ice cream are so many elements of different nature as sugars, fats, dairy, stabilizer, water, among others. And they all have to be correctly blended and emulsified together so there is nothing left behind that may reduce the quality of the final product. Making this possible considering the characteristics and behaviors of each ingredient and the relationships between them is what is known as the balancing exercise. We can make it stable and spreadable at negative temperature from -11 to -18 °C (standard ice cream serving temperatures) (Corvitto, 2011).

In ice cream making, the first step is to blend a series of liquid and solid ingredients in different orders and temperatures, obtaining a liquid mixture also called "mix". After the processing and pasteurization process, this mixture is poured into an ice cream machine in which, it incorporates a quantity of air between 30% - 40% (overrun) that is held or set by

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