

Biochemical Characteristics and Microstructure of Ice Cream Prepared from Fresh Cream

Authors : S. Baississe, S. Godbane, A. Lekbir

Abstract : The objective of our work is to develop an ice cream from a fermented cream, skim milk and other ingredients and follow the evolution of its physicochemical properties, biochemical and microstructure of the products obtained. Our cream is aerated with the manufacturing steps start with a homogenizing follow different ingredients by heating to 40°C emulsion, the preparation is then subjected to a heat treatment at 65°C for 30 min, before being stored in the cold at 4°C for a few hours. This conservation promotes crystallization of the material during the globular stage of maturation of the cream. The emulsifying agent moves gradually absorbed on the surface of fat globules homogeneous, which results in reduced protein stability. During the expansion, the collusion of destabilizing fat globules in the aqueous phase favours their coalescence. During the expansion, the collusion of destabilized fat globules in the aqueous phase favours their coalescence. The stabilizing agent increases the viscosity of the aqueous phase and the drainage limit interaction with the proteins of the aqueous phase and the protein absorbed on fat globules. The cutting improved organoleptic property of our cream is made by the use of three dyes and aromas. The products obtained undergo physicochemical analyses (pH, conductivity and acidity), biochemical (moisture, % dry matter and fat in %), and finally in the microscopic observation of the microstructure and the results obtained by analysis of the image processing software. The results show a remarkable evolution of physicochemical properties (pH, conductivity and acidity), biochemical (moisture, fat and non-fat) and microstructure of the products developed in relation to the raw material (skim milk) and the intermediate product (fermented cream).

Keywords : ice cream, sour cream, physicochemical, biochemical, microstructure

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020