ABSTRACT

Elisabeth Herman (03420120020)

UTILIZATION OF ALGINATE AND CHITOSAN AS A STABILIZER IN THE MANUFACTURING OF ICE CREAM

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Ice cream is the most favorite food for children and adults. Stabilizer in ice cream making has and important roles, in order to stabilize stirring in the mixing process of raw materials, to improve the texture of ice cream, to bind the water, and to reduce the occurrence of efflorescence ice cream during storage. Alginate and chitosan are group of polysaccharides which can be used to stabilize in the process of ice cream making. This research was aimed to determine the effect of using alginate from seaweed Sargassum sp. and chitosan from shrimp shell towards the viscosity, melting time, overrun, and the level of preference to ice cream. The method to extract the alginates was using the High Temperature (80°C) Alkaline Extraction method. Extracting chitosan was used 3 steps, namely demineralization, proteination and deacetylation. Alginate characteristic were 17.3% yield, 14.58% of moisture content, 23.58% of ash, 89.07 cPs of viscosity, 9.11 of pH, and 65.92 of Hue value, which the chitosan characteristic were 12.06% of moisture content, 0.32% of ash, 885% of Fat Binding Capacity, 743% of Water Binding Capacity, and 74.58% Degree of Deacetylation. The best formula based on hedonic test was the super premium ice cream with ration alginate-chitosan 1:0. The best formulation had 51.38% moisture content, 0.85% ash content, 17.94% fat content, 3.36% protein content, and 26.47% carbohydrate content.

Keywords: Alginate, chitosan, extraction, ice cream, stabilizer