RATIONALE FOR CHOOSING SOFT-SERVE WHEY ICE CREAM STABILIZER

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Over the last few years, there has been a permanent failure in the nutrition structure of the population of Ukraine, caused by insufficient consumption of nutrients, primarily vitamins, micro- and macronutrients and complete proteins and their irrational ratio. Therefore, the development of innovative food technologies that include the abovementioned nutrients is a pressing challenge. One way to solve this is to develop soft-serve whey ice cream with apricot puree.

For structured dairy foods, the main characteristic is the stability of the product structure. For this reason, the article describes the stabilizers used in their manufacture. Functional properties of whey protein concentrates produced by ultrafiltration (WPC-UV) and egg powder (EP) were investigated in order to determine the possibility of using them as stabilizers for the preparation of soft-serve whey ice cream. The viscosity and turbidity of the solutions were used as response functions. The EP solution viscosity is 2.5 times higher than the apple pectin control solution, the WPC-UV solution viscosity is almost equal to the control solution viscosity.

The effect of freezing on aqueous solutions of stabilizers was investigated. The data obtained indicate that the aqueous solutions of the stabilizers under study are freezing-resistant. Viscosity, as the basic condition for the formation of the ice cream structure, decreases slightly for the WPC-UV solution and even slightly increases for the EP solution.

An important indicator of the stabilizers quality is their solubility in water. According to research, EP is limited to swell in cold water and does not dissolve spontaneously. When the temperature rises to 50-60°C, the EP forms a high viscosity colloidal solution. WPC-UV partially dissolves in cold water and forms a suspension, with increasing temperature it forms a true solution.

The effect of stabilizer concentration on the dispersion of the air phase of soft-serve ice cream, which determines the structure and consistency of the finished product, was also investigated. It is concluded that it is advisable to use the above stabilizers to prepare a mixture for soft-serve ice cream.

Keywords: stabilizer, concentrate, serum, protein, egg powder, viscosity, turbidity, whippedness, stability, foam.