

ABSTRACT

Poor melt resistance when exposed to ambient temperature is the major shortcoming in the ice cream industry. Consumers receive the ice cream product at the end of a long distribution chain and face the problem due to poor melt resistance.

The effect of stabiliser emulsifier system and melting point of fat and sensory quality of ice cream was investigated. Twelve samples were prepared changing stabiliser, emulsifier system and different melting point contained fats.

Eleven samples were achieved the company standards and hence used for melting resistance evaluation. Melt resistance was determined as time taken to melt down the 80 ml of ice cream in minutes at 26°C. Melting time between the samples was significantly different at the 5 % level ($P \leq 0.05$). After 7, 14 and 21 days of the storage, the sample S₁₁ with the stabiliser emulsifier system that comprises of guar gum, sodium alginate, carboxymethyl cellulose, carrageenan and monoglycerides obtained the highest melting resistance. There was no significance difference for melting time during the storage period in sample eleven. The results showed that the melt resistance of ice cream was increased with subsequent increasing in melting point of the vegetable fat, but application of vegetable fat with high melting point was restricted with the development of off taste. Sensory evaluation of the product revealed that the hand made improved sample was superior to the hand made company standard sample intense of overall acceptability.

Therefore it can be concluded that the stabiliser emulsifier system that comprises of guar gum, sodium alginate, carboxymethyl cellulose, carrageenan and monoglycerides was the best formulation to improve melting point of the ice cream.