

ABSTRACT

The instant soft-serve ice cream is developed as a new product with comparable ingredients and more convenient processing compared to the conventional ice cream. Obtaining the suitable formulation becomes one of the difficulties in order to produce the desirable texture and flavor. The stabilizers are commonly used to aid this issue. Therefore, this paper aimed to determine the effects of different stabilizers for vanilla ice cream on the stability and sensorial properties of instant vanilla soft-serve ice cream trial samples when compared to the standard sample. The physical properties that were checked were viscosity, overrun, and melting test. Meanwhile, the sensorial properties that were checked were the texture, mouthfeel, and overall liking of ice cream samples. The results of this study showed that the sample that contained 0.3% xanthan gum and 1.7% mixture of guar gum and carboxymethyl cellulose (CMC) as well as the sample that contained 0.3% xanthan gum and 1.7% pure guar gum had significantly ($p \leq 0.05$) higher viscosity and lower overrun compared to the standard sample. The sample containing 0.3% xanthan gum and 1.7% mixture of guar gum and CMC melted significantly ($p \leq 0.05$) after 80 minutes when compared to the standard sample. Meanwhile, these samples had no significant difference ($p > 0.05$) with the standard sample in terms of the sensorial properties. Based on these findings, the stability of soft-serve ice cream may be hampered by the excessive usage of stabilizers. In conclusion, the incorporation of 2% stabilizers induced a too high viscosity of ice cream mix (ICM) and low overrun which lowered the melting resistance of ice cream and hindered the sensorial improvement.

Keywords: *instant soft-serve ice cream, stabilizer, viscosity, overrun, melting characteristics*