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Abstract

The Effect of Storage Temperature on Chocolate Texture †

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Abstract: The texture of a particular food product has great significance for the sensory perception of its overall quality. When it comes to chocolate, texture as hardness plays an important role not only for visual evaluation (surface appearance), but also for the sensory perception of chocolate melting in the mouth. This feature is affected by many factors, whereas the composition of chocolate (particularly fat content), the size and distribution of solid particles, as well as the storage temperature are the prime ones. The aim of this experiment was to test the texture of chocolate, depending on its type (white, milk, and dark) stored at three different temperatures (16, 20, and 25 °C), which is the most typical consumption temperature range. The texture of the chocolate samples was examined instrumentally using a texture analyzer and through sensory analysis carried out by skilled panelists. The obtained results showed that the influence of the storage temperature and the type of chocolate has a statistically significant impact on chocolate's hardness when determined by instrument, while in sensory evaluation, the type of chocolate is a predominant influencing factor. The hardness of chocolate was the lowest in white chocolate samples, and it decreased at higher storage temperatures, as expected. The sensory perception of chocolate melting was notably affected by the chocolate hardness. The general outcomes of the study have shown that there is a positive correlation between instrumental and sensory analysis methods.

Keywords: texture; chocolate; temperature; storage

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