

**EFFECT OF MELTING ON FLAVOR GRANULES
USED IN FLAVORED TEA BAGS**

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By
ALAWALAYALAGE BHAGYA KUSUM CHANDRASIRI

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Faculty of Animal Science and Export Agriculture
Uva Wellassa University of Sri Lanka**

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ABSTRACT

Flavored tea highly contributes to the value added exports and thereby to earn high revenue to the county. Although flavors play a big role in the value addition process, hygroscopic property of black tea, hot and humid environment may cause a deleterious effect on the final products. The main quality problem found in flavored tea is melting of flavor granules during the storage and transportation. This will lead to the quality failure and the final product is not in compliance with the expected standards. This research was focused to determine the effect of temperature, relative humidity and the storage time of the product on melting of three types of flavor granules such as strawberry, forest fruit and honey. The melting effect on flavor granules was assessed under three levels of temperature (28 ± 2 °C, 33 ± 2 °C, 38 ± 2 °C) and three levels of relative humidity ($58 \pm 2\%$, $68 \pm 2\%$, $78 \pm 2\%$), altogether as nine treatments. The physical state of flavor granules was observed during the six weeks for three months and rank 1 was given if the sample is melted or 0 otherwise. Binary logistic regression is used to identify the relationship between the predictors and the prediction. Results revealed that temperature, relative humidity affected significantly on melting of flavor granules. Storage time also had a significant effect on melting of strawberry flavor granules and honey flavor granules. Relative humidity $58 \pm 2\%$ and temperature of 28 ± 2 °C were the best conditions to mitigate the degree of melting of flavor granules used in black tea.

Key words: Flavor granules, Liquid flavor, Black Tea, Relative humidity, Temperature