

**EFFECT OF TEMPERATURE AND RELATIVE  
HUMIDITY ON MELTING OF FLAVOR  
GRANULES USED IN TEA**

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## Abstract

Ceylon tea as a beverage has been enjoyed by people all over the world for generations. It still has the value and interest as a beverage with many health benefits. Over a significant period of time, Sri Lankan tea industry has made progress in expanding the value added tea products. At present, Sri Lanka's value added tea exports include instant tea, tea bags, iced tea, flavored tea, green tea, herbal tea, ready to drink tea and organic tea. The quantity exported as value added form amounted to 106.5 Mkg, or 35.7% of the total exports resulted the corresponding revenue to SL Rs.57.8 billion, and that is a share of more than one third of total exports income in 2010(Sri Lanka Tea Board, 2011). Most of the time flavor addition is used as their main value adding method by the tea exporting companies. There are two types of flavors which are flavor liquids and flavor granules. Flavor granules which added to teas melt during packing, storage, transportation. It causes quality problems.

This research was focused to identify the behaviors of flavor granules at different environmental conditions. The main objective of this research is to identify the factors which cause flavor granules melt. Temperature and relative humidity were considered as two factors. The research was designed as two-factor factorial design experiment. There were 35 treatment combinations and each combination was tested 3 times. The results revealed that the temperature and relative humidity are positively related with melting of flavor granules. Among those two factors, relative humidity causes a significant effect on melting of flavor granules. Flavor granules melt at relative humidity above than 70% and melt faster at temperatures above than 25 °C.

*Key words:* Value added tea products, Flavor granules, Relative humidity, Temperature