DEVELOPMENT OF GREEN TEA (MATCHA) INCORPORATED STIRRED YOGHURT

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
UvaWellassa University
In partial fulfillment of the requirements for the award of
Bachelor of Science in Tea Technology and Value Addition

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Tea Technology and Value Addition Degree Programme
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2014

ABSTRACT

Green tea (Match) incorporated stirred yoghurt which is coming under yoghurt category is not available in the Sri Lankan market today. This research was conducted at UvaWellassa University Diary lab to produce a green tea (Matcha) incorporated stirred yoghurt. Although Incorporation of green tea (Matcha) in to other product such as biscuit, jelly and other cosmetics products it has not much popular due to high price and the unavailability of the market. The main objective of this research is to make green tea (Matcha) incorporated yoghurt. The specific objectives are enhance the flavor of the yoghurt by incorporating green tea (Matcha) powder and reduce the lipid per oxidation with the help of antioxidants. When consider the yoghurt rancid is the most critical problem. Green tea (Matcha) has lot of polyphenols, so it helps to prevent the lipid per oxidation of the yoghurt. Five percentages of green tea (Matcha) powder were added to the stirred yoghurt to determine the best green tea (Matcha) level. From those samples Number 518 sample (0.062 %) was selected as the best sample. When measuring the peroxide value it showed the lower values in green tea (Matcha) added yoghurt. Shelf life determination was done at 1st, 3rd, 5th, 7th, 9th and 11th day of storage at 5°C of temperature. Brix value (Total Soluable Solid) of the yoghurt is also measured with the use of refractometer. The standard Brix value of the yoghurt should be 20 – 30. The green tea (Matcha) added yoghurt Brix value was 21. Polyphenol content of the green tea (Matcha) added yoghurt was measured. The total polyphenol content was 33,333 ppm. Total plate count, yeast and mild, coliform bacteria, Titratable acid percentage, pH, peroxide value, sensory and visual observations were determined as shelf life parameters. It was found microbial count; Titratable acid percentage and pH were under desirable level up to 11th day of storage. Peroxide value had drastically increased and taste of the product had turned in to rancid flavor at 10th day of storage. It was concluded that Shelf life restricting factor was lipid per oxidation and further studies should be carried out to find shelf life extending method for this product and to find the relationships between peroxide value and poly phenols. When concern the flavor of the yoghurt, it was developed up to the expected level. As well as finally the ultimate goal the green tea (Matcha) incorporated stirred yoghurt was prepared.