

**EFFECT OF USING MODIFIED ATMOSPHERIC
PACKAGING ON QUALITY OF BLACK TEA**

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ABSTRACT

Tea (*Camellia sinensis*) is one of the most popular beverage all over the world. Tea industry has become a vital component in Sri Lankan economy as tea became the major agricultural exporting commodity. Microbial growth in storing teas is one of the major problem in tea industry. It degrades the freshness of the stored teas. Tea packaging plays an important role in this scenario. Modified Atmosphere Packaging (MAP) is one of the most popular packaging method in tea industry which consist of optimal blend of pure nitrogen, oxygen, carbon dioxide within a high barrier or permeable package. This study was conducted to find the effect of using modified atmospheric packaging on the quality of teas. Research was conducted at Amazon Trading (PVT) Ltd, Colombo 09. English Break Fast and Ginger Peach Tea were taken as tea types for the study. First tea samples were prepared. Moisture test was done for the initial tea blend. Microbial analysis for Total Plate Count, Yeast and Mold, E-coli, Total Coliform were conducted for initial tea bend and for final tea blend after treatments. Finally Tea tasting was performed using a ten trained penalty in two weeks interval for two months. Sensory evaluation was conducted by ranking method and hedonic scale to evaluate sensory qualities such as liquor characteristics, appearance, aroma, infusion, color, over role acceptability and freshness. The data was analyzed using mini tab 16 package. The sensory scores were analyzed using Freidman test. It reveals that Microbiological properties and Physical properties of the English Break Fast tea and Ginger peach tea can be affected by modified atmospheric packaging. Taste profile of English Black Tea and Ginger peach tea can be effected by modified atmospheric packaging. N₂ treatment in MAP retards the microbial growth in above teas. N₂ gas for the MAP retains the standard flavor profile of the tea.

Key words: Microbial Growth, Modified Atmospheric Packaging, Nitrogen, Tea