

**DETERMINATION OF THE EFFECT OF CHEMICAL CHANGES
ON SHELF LIFE OF TEA (*Camellia sinensis*)
ACCELERATED SHELF LIFE TESTING**

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ABSTRACT

Tea is in a highest position among global beverages, owing to its unique features; taste, color and aroma. Environmental factors affect on these organoleptic parameters and the shelf life of tea. Hence this study aimed to find the effect of storage temperature on chemical composition and the shelf life of pure and flavored black tea. Samples from both tea grades were stored at 30°C and 50°C for six weeks. Samples were subjected to sensory evaluation daily basis by professional tea tasters. Further samples were analyzed for total polyphenol, caffeine, theaflavins and thearubigins on weekly basis to identify the changes of chemical parameters and deterioration point. The temperature quotient method was used to calculate the Q10 values and the shelf life of each tea grade. Results revealed that accelerated storage temperature makes changes in chemicals in black tea, resulting reduction of its shelf life. Further, pure black tea and flavored black tea showed a shelf life of two years and one year respectively.

Key words: Black tea, Storage temperature, Shelf life