

**IMPACT OF MAINTENANCE OF TEA PROCESSING
MACHINES ON QUALITY OF BLACK TEA:**

A CASE STUDY OF UNILEVER TEA KENYA LIMITED

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ABSTRACT

Machine maintenance in a tea factory is of paramount importance since it influences both quality of products and machine reliability. Most companies in US attributed 3-10% loss in production time to machine reliability. The research on the impact of machine maintenance on the quality of black tea was conducted in Unilever Tea Kenya Limited. The research brought into focus the two forms of maintenance, the planned and unplanned and their impact on the black tea quality. The problem which led to the research on this topic was distinct negative influence of machine maintenance on the black tea quality, a vital requirement in the market. This was reflected on the high cost of making quality tea products, the high cost of maintenance and low quality tea products which fetched low prices in the market. Over the years tea quality has become a key factor due high supply of black tea which has introduced a low demand in the world market. The main objective of the research was to study the impact of machine maintenance on quality of black tea and establish the best control techniques. To meet the objective it required a study of: forms of machine maintenance which mostly influenced quality of black tea, quality of black tea and costs associated with machine maintenance and tea quality. The research was conducted mainly through fieldwork and literature review and the results were analysed and presented through scientific correlative techniques and available computer software. From the results of the study, it was observed that cost of maintenance varied directly with cost of black tea quality while downtime cost displayed a continuously increasing pattern. Cutting, Tearing and Curling (CTC) rollers were seen to be degraded most at the flank and crest where CTC operations were achieved. Hence frequency of maintenance of rollers was of great significance if quality had to be controlled. It was further observed that forms of maintenance impacted on black tea quality in varied ways and levels as seen in downtime analysis. Control charts and computer programs were recommended for monitoring and controlling of machine maintenance and black tea quality.