EFFICACY OF WEARING GLOVES FOR HAND HYGIENE COMPARED WITH HAND WASHING USING SANITIZERS, IN TEA BAGGING SECTION, IN A COMMERCIAL TEA EXPORT COMPANY

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ABSTRACT

Role played by workers has been identified as an important contributing factor in tea export companies. Processed dry tea is highly prone to microbial contamination during post-processing handling and storage. Made tea may thus carry microbes of potential health risk and economic loss. Objective of this study was to check the effect of wearing gloves in the tea bagging section with the sanitizers used as prevention for contamination of foodborne pathogens. As part of this ongoing effort, tea bag samples (2.5g) which contact with workers hands, raw tea samples (2.0g) and empty tea bags (0.5g) were collected from tea bagging section. Association of official agricultural chemists (AOAC), 2016 was used as the official method of analysis. Standard plate count (SPC) technique was used for aerobic bacteria and Yeast and mould count. Most probable number (MPN) technique was used for the enumeration of *Escherichia coli, Salmonella spp.* and coliform. Samples were collected according to Latin Square Design (LSD). It has found, that there were no significance difference ($p>0.05$) between these selected treatments in both hands. Bacteria, yeast and mould count were observed after microbiological processing of all the collected raw tea samples were found significantly higher than the limits ($p>0.05$). *Escherichia coli, Salmonella spp.* and coliform were present at every stage of this study for raw tea and filter papers. After swab sample analyzing, only the washrooms were positive for *Escherichia coli, Salmonella spp.* and coliform. This study shows good manufacturing practices (GMP) has the potential to minimize these contaminations. Additional research needed to better understand about raw material distributors, workers in the small and large scale tea factories; to minimize the occurrence of cross contaminations to the final tea consumed.

Key words: Microbial contamination, Tea bagging, Sanitizer, Gloves, Good manufacturing practices