

DEVELOPMENT OF GREEN TEA INCORPORATED MOUTHWASH

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

By
TENNAKOON MUDIYANSELAGE DUMINDA CHATHURANI

Faculty of Animal Science and Export Agriculture
Uva Wellassa University

2013

ABSTRACT

There is a growing body of evidence that green tea and its polyphenols promotes oral health by protecting against bacterial induced dental caries. They also possess antiviral properties and reduce the risk of oral cancer cells. Additionally, green tea polyphenols have an ability to abolish halitosis through modification of odorant sulphur components. Natural fluoride present in green tea also has beneficial effect on oral hygiene. Oral cavity oxidative stress and inflammation, consequent to cigarette smoking and cigarettes' deleterious compounds nicotine and acrolein, may be reduced in the presence of polyphenols.

Based on above mentioned oral health properties green tea incorporated mouthwash was prepared by incorporating green tea water extract with clove oil and peppermint as flavoring agents. Sensory evaluation was carried out to select the most acceptable product and 2% green tea was suitable according to the comments of the evaluators. Fluoride content of the prepared mouthwash was 4ppm and the pH was 5.8. Prepared green tea mouthwash, reference and control were tested for well diffusion assay using experimental microorganisms included *Candida albicans* and *Strephylococcs aureus*. Green tea incorporated mouthwash has a significant effect against tested oral microorganisms and clinical trials are required for further studies. Statistical analysis was done using MINITAB 15 software under the Friedman test with 95% confidence level and descriptive statistical analysis was performed using display descriptive statistical analysis.

Key words: Polyphenols, oral hygiene, fluoride, dental carries, well diffusion assay