

**DEVELOPMENT OF A MULTI-INGREDIENT
HERBAL TEA BLEND**

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

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2012

ABSTRACT

This research was conducted to develop a multi ingredient herbal tea blend as a value added new product for the future of Sri Lankan tea industry. The main objective of this research was to develop a multi ingredient herbal tea blend by using chamomile (*Matricaria recutita*), lemon grass (*Cymbopogon citrates*), ginger (*Zingiber officinale*) and green tea (*Camellia sinensis*) and the specific objectives were to determine the selected quality parameters of the final herbal tea blend and the total cost of the product. Factorial design was used and low and high level of each factors were determined through preliminary sensory evaluation. Sixteen treatment combinations were prepared according to the design. Sensory evaluations were conducted as four sessions under four treatment combination sets. The liquor taste was evaluated under five-point hedonic scale. The first three sets were analyzed through Kruskal-Wallis non parametric ANOVA at 95 % confidence level and mean separation was done through Conover-Inman method. The final set was analyzed through Friedman test at 95 % confidence level and mean separation was done by critical CD value. The quality of the finally selected herbal tea blend was determined through moisture analysis for a five week period, analysis of total polyphenols and minerals (Ca, Mg, Fe, Cu, Zn). The total cost of the final product was determined through cost analysis. The treatment 647 was selected as the final herbal tea blend. The mean moisture results under oven drying and moisture-analyzer methods were 9.117 % and 8.283 % respectively and the moisture levels were acceptable for a five week storage period. The finally selected herbal tea blend contains higher quantities of Ca (394.5 mg/100 g) and Mg (207.7 mg/100 g) compared to the other elements and the low level of polyphenol (7.2 percent by mass) compared to black tea and green tea. The total cost of manufacturing of the 1 kg of the product was Rs.2349.82.

Key words: Herbal tea blend, Chamomile, Ginger, Lemon grass, Green tea, Factorial design, Moisture, Minerals, Polyphenols, Total cost