

**DEVELOPMENT OF A PACKAGING MATERIAL
USING REFUSED TEA**

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ABSTRACT

The research was carried out to study the possibilities of using refuse tea for the paper making and to develop it as a test packaging material. Agriculture residues are used as by products all over the world. Paper making is one of the best ways to make use of agriculture residues. Refuse tea is a waste, available throughout the year. Therefore the inputs of the new product development are cheap and environmental friendly. This might be a greater potential in the future as it is economically feasible, socially acceptable and technically viable.

Refuse tea, Tea stalk and tea fluff are the main ingredients of the production. These materials are combined from 4 different ratios and it is incorporating with starch and chemifix separately. Quality parameters specific to tea packaging were determined for each treatment combination. Two way ANOVA test was done to determine the effect of ingredient ratio and the adhesive on the quality attributes. Data was collected for six quality attributes specific for the tea packaging as grams per square centimeter, thickness, moisture content, water absorption, tearing resistance and folding endurance. The quality values were taken specifically for 100 tea bag carton. Two way ANOVA test revealed that the ingredient ratio and the adhesive significantly affecting to the quality attributes. The most appropriate Treatment combination was selected. It was the ratio of refuse tea 4g, tea stalk 2g and 6g of tea fluff and chemifix combination.

One way ANOVA test was done to check whether there is a significant difference between the current commercial product and the developed product. According to the results of ANOVA ingredient ratio 1 incorporate with chemifix obtained the most appropriate results for the packaging material.

Key words: Ingredient ratio, Adhesive, Chemifix, Starch