

Development of Polyphenol Incorporated Herbal Hair Shampoo by Using Tea Fluff

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Usage of cost effective herbal cosmetic products have become a new trend among the people. Tea polyphenol is one of the food derived active ingredients which has potential of hair growth. Since tea fluff is a cost effective polyphenol rich wastage, can be used to produce several natural cosmetic products with lower side effects and higher safeness. Therefore the major objective of this study was, development of polyphenol incorporated herbal hair shampoo by using tea fluff as a value added product which is effective towards hair growth and safeness. This study was used to determine the best polyphenol incorporation level to the shampoo based on its sensory properties, show the potential of used tea fluff as a cost effective polyphenol rich source for new product development, show the potential of value addition to the wastages and effectively utilize the wastages for the purpose of cost effective waste management method. Polyphenol extract of tea fluff was appended into shampoo base with varied concentrations i.e. 2.1%, 2.3%, 2.5%, 2.7% and 2.9%. Further sieved tea fluff was appended into shampoo base with varied proportions i.e. 0.021%, 0.023%, 0.025%, 0.027% and 0.029%. A sensory evaluation test was carried out with 30 panelists to reveal the best treatment. A shelf life analysis was performed at the storage of room temperature for the selected best treatments for period of two months at two weeks of interval. Results revealed that hair shampoo was stable in room temperature. According to the results of the sensory evaluation and statistical analysis, it can be concluded that 2.1% of polyphenol extract with 97.9% shampoo base (most preferable formula) and 0.025% of tea fluff with 99.975% shampoo (contains the highest polyphenol level) base are the two best formula among the two series.

Keywords: Tea fluff, Polyphenol, Shampoo, Hair growth, Sensory evaluation