

Development of Food Colorant Using *Hibiscus rosa-sinensis* that can Be Used for Beverages

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Natural food colorants have been demanded and become increasingly popular among consumers because of their safety, and health benefits. In this study, brilliant red color *Hibiscus rosa-sinensis* flowers were used to develop a powder food colorant for beverages. For the development, flower petals were blended with distilled water. The liquid of petals was filtered and dried using an oven to take powder form of colorant. The further study was undertaken to measure the quality of developed colorant and identify the colorant affection for the beverage products. During the measurements, glass bottles, plastic bottles, and polythene bags were used as storing packages and 3 packages from each package were kept at 27, 18, and 4°C. Cytotoxicity analysis has resulted as zero death of brine shrimps within 24 hours. pH differences in beverages were not found out after adding the colorant. However, colorant pH was not stable with acid and base solutions. The colorant initial maroon color changed into red with HCl and it changed into dark blue with NaOH. The confirmative test resulted presence of anthocyanin in the colorant. Out of the responses of two sensory evaluations for watermelon juice and lemon juice, responses were in favor of the colorant added juice. The highest solubility of the colorant showed in water at 70°C. The freshly made dried powder form of the colorant was almost microbe-free. Shelf life was analyzed with the total plate count with the different packages stored in above-mentioned temperatures. Colorant kept in a glass bottle at 4°C displayed the lowest total plate count within three weeks. During a three weeks storage period at 25°C, the spectra absorption of the colorant was decreased. The developed colorant (0.6 g) dissolved in 10 ml of distilled water was approximately similar to the synthetic food colorant absorbance. These findings may emphasize that developed colorant can replace the synthetic food colorant.

Keywords: Hibiscus, Colorant, Sensory, Quality, Shelf life