

ABSTRACT

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FORMULA OPTIMIZATION OF CONCENTRATE DERIVED FROM JAVA TEA-BASED FUNCTIONAL DRINK

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Java tea based functional drink had been successfully formulated in form of ready to drink (RTD). The amount of RTD needed to be consumed to get the health benefit could be reduced by transforming it into another type of product such as drink concentrate, therefore its convenience and practicality are improved. Addition of hydrocolloid and intensifying the Java tea based functional drink were done to produce Java tea based functional drink concentrate. By modifying the food system with selected hydrocolloid, the improvement in sensory properties and suspension stability of the concentrate were expected. The suitable hydrocolloid that exhibited good suspension stability and better mouthfeel and overall acceptance was chosen in research stage I. Guar gum was chosen over the carboxymethyl cellulose (CMC) based on the suspension stability and sensory hedonic test. Optimization process has been done by Design Experts®10 using Response Surface Methodology, Central Composite Design. The range of guar gum concentration, intensity of mixed phytochemical and mixed citrus, and range of sucrose concentration used for optimization 0.25 to 1.00%, fivefold to sevenfold, and 1.00 to 3.50%, respectively. The optimal intensity of mixed phytochemical extract and mixed citrus extract was 6.18-fold, optimum concentration of guar gum was 0.62%, and the optimal concentration of sucrose was 2.03%. The optimum formula had 100% suspension stability and acceptability of hedonic test for aroma, taste, mouthfeel, and overall acceptance were little bit like while it was neutral for aftertaste likeness.

Keywords: guar gum, Java tea, mixed citrus, mixed phytochemical, suspension stability, sensory

References: 60 (1988 – 2018)