Optimizing formula of composite flour-based snack bar for emergency food product (EFP)

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Abstract

One way to solve the problem of starvation in post disaster conditions is by providing Emergency Food Product (EFP) to disaster victims. One EFP is a snack bar which is made by mixing ingredients and composite flour. Composite flour for snack bar includes sweet potato, mung bean and soy bean flour. The aim of this study was to optimize the formula of composite flour based snack bar for EFP. Optimization of snack bar ingredients was done by using Response Surface Methodology (RSM). The independent variables were fructose, margarine, egg yolk, full cream milk powder (FMP), maltodextrin, fruit jam, dry fruit. The responses were texture characteristics, chemical properties, a_w and color. The optimum composite flour formula for snack bar was the higher desirability value on verification. The optimum formula consisted of sweet potato 50%, mung bean 37.5% and soy bean 12.5%. Snack bar product contained 418.43 kcal total energy, 66.175% carbohydrates, 6.91% protein, 14.01% fat, and 6.65% fiber. Vitamins and minerals which satisfied EFP standard were vitamin A 673.45 IU, K 35.17 mg, and Mn 2.85 mg.