

**Development of reduced calorie chocolate cake with jackfruit seed (*Artocarpus heterophyllus* Lam.) flour and polydextrose using response surface methodology (RSM)**

**Abstract**

Response Surface Methodology (RSM) with Central Composite Rotatable Design (CCRD) was performed in this study to develop an acceptable reduced calorie chocolate cake. The range of the independent variables, namely Jackfruit Seed (JFS) flour (20-25% replacement of wheat flour) and polydextrose (10-15% replacement of sucrose) were identified which affect the volume, specific volume, symmetry and uniformity of the chocolate cake. The coefficient of determination, R<sup>2</sup> values for volume, specific volume, symmetry and uniformity were greater than 0.900. The optimum level for replacement of sugar with polydextrose was at 11% and wheat flour with JFS flour was at 16% with calorie reduction approximately 34% from the control cake formulation.