ABSTRACT

Anggada Putra (03420110004)

TEXTURE OPTIMIZATION OF FUNCTIONAL COOKIES WITH THE ADDITION OF CHIA (*Salvia hispanica* L.) FLOUR
(xiii + 51 pages: 14 figures, 14 tables, and 24 appendices)

The addition of chia flour towards the formulation of baked products, including pound cake and bread shows that it can decrease the specific volume and texture parameter of these products, respectively. This research’s objective is to obtain the best formulation of chia flour and hydrogenated vegetable fat (HVF) to produce cookie with optimum texture quality based on sensory evaluation and physico-chemical analysis. Different contents of chia flour (0 - 30 g) and HVF (33 - 55 g) were added to the cookie mix using Response Surface Methodology (RSM) based on $2^2$ central composite rotational design (CCRD). Chia flour and HVF significantly affects the acceptability of cookies produced in terms texture. Physicochemical parameters, including hardness, fracturability, spread ratio, and moisture content were also affected. The formula to obtain cookie with optimum texture is 20.45 g of chia flour and 55.00 g of HVF. The nutrition content of optimum chia cookie is 8.75 % protein, 27.81 % fat, 1.64 % omega-3 fatty acid, 1.18 % ash, 58.46 % carbohydrate, 9.16 % total dietary fiber, and 3.80 % moisture content. Based on the nutrition content, optimum chia cookie can be claimed as a good source of fiber and high source of α-linolenic acid (ALA) according to FDA.

Keyword: Chia, Fat, Cookie, Omega-3, Dietary Fiber, Texture.