

ABSTRACT

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EXPLORING THE POTENTIAL OF CHAYOTE (*Sicyos edulis Jacq.*) AS A FAT MIMETIC IN COOKIES WITH IMPROVED ANTIOXIDANT PROPERTY

Thesis, Faculty of Science and Technology (2022)

(xiii + 61 pages, 15 tables, 13 figures, 14 appendices)

High consumption of cookies can increase health risk due to its' high fat content. Studies have reported that chayote (*Sicyos edulis Jacq.*) fruit has low lipid content, rich in bioactive compounds, and has potency to be used as fat mimetic. Thus, the objective of this research was to utilize chayote powder as fat mimetic for the development of cookies with functional value focusing on antioxidant. This study was carried out in two stages. The first stage was aimed to observe the effect of drying on the antioxidant activity of the chayote. The second stage was aimed to observe the effect of different particle size (fine powder ($\leq 125 \mu\text{m}$) and coarse powder ($500 \mu\text{m} \leq x \leq 1\text{mm}$)) and concentration (0% (control), 10%, 15%, 20%, and 25%) on the physicochemical properties as well as antioxidant property of the cookies resulted. The results showed that the fine chayote powder had higher antioxidant activity than the fresh chayote. The results on cookies showed that the use of chayote powder reduced spread ratio, and increased the hardness, the fracturability, and the antioxidant activity, but did not give significant effect on the cookie's color, moisture content, and total phenolic content. The chosen formula (20% chayote powder) had significantly higher antioxidant activity ($0.635 \pm 0.35 \text{ mg AAE/g}$) than the control ($0.346 \pm 0.10 \text{ mg AAE/g}$). The sensory evaluation result showed that the chosen formula had golden brown color, slightly compact texture, slightly prominent taste of chayote, and slightly crunchy with the acceptance of neutral to slightly like for color and slightly like for compactness, taste, crunchiness, as well as overall likeness.

Keywords : Antioxidant, chayote, cookies, fat mimetic

Reference : 62 (2000-2022)