

ABSTRAK

Lady Violita. NIM. 5173240013. Uji Organoleptik, Analisis Kandungan Gizi, dan Aktivitas Antioksidan Pada *Cookies* Substitusi Tepung Biji Alpukat (*Persea americana mill*). Skripsi. Fakultas Teknik. Universitas Negeri Medan.

Penelitian ini bertujuan untuk: 1) Mengetahui kandungan gizi tepung biji alpukat. 2) Mengetahui tingkat kesukaan panelis terhadap *cookies* 3) Menganalisis pengaruh substitusi tepung biji alpukat terhadap perbedaan persepsi panelis dilihat dari tingkat kesukaan *cookies* 4) Mengetahui konsentrasi substitusi tepung biji alpukat pada *cookies* terbaik berdasarkan uji organoleptik 5) Menganalisis kandungan gizi pada *cookies* substitusi tepung biji alpukat terbaik berdasarkan SNI No.2793-2011 6) Menganalisis aktivitas antioksidan pada *cookies* digolongkan sesuai nilai IC50.

Desain penelitian ini menggunakan penelitian eksperimen dengan metode RAL (Rancangan Acak Lengkap) dengan dua kali ulangan. Formulasi substitusi tepung biji alpukat pada 4 perlakuan yaitu kontrol (P1), 30% (P2), 50% (P3) dan 70% (P4). Lokasi penelitian di Universitas Negeri Medan, Laboratorium Balai Riset dan Standarisasi Industri Medan dan Laboratorium Farmasi USU. Subjek (panelis tidak terlatih) penelitian ini berjumlah 25 orang. Hasil penelitian dianalisis menggunakan uji Kruskal Wallis dengan uji lanjut *Mann-Whitney*, *cookies* terbaik ditentukan menggunakan pembobotan, kandungan gizi tepung dan *cookies* dianalisis menggunakan metode titrimetri dan gravimetri, sedangkan aktivitas antioksidan menggunakan DPPH.

Kandungan gizi tepung biji alpukat adalah kadar air (9,34%), kadar abu (2,24%), karbohidrat (75,1%), protein (5,26%), lemak (1,8%), dan aktivitas antioksidan (27,14 ppm). Tingkat kesukaan panelis dilihat dari hasil rerata uji organoleptik yaitu warna untuk *cookies* P2 (4,08), aroma untuk *cookies* P3 (3,94), rasa untuk *cookies* P3 (3,76) dan tekstur untuk *cookies* P3 (4,28). Berdasarkan pembobotan, perlakuan P3 merupakan *cookies* terbaik dengan 50% penambahan tepung biji alpukat dengan rerata nilai rasa (1,2), warna (0,3), tekstur (0,6), dan aroma (0,3) dengan total nilai keseluruhan 2,4. Substitusi tepung biji alpukat berpengaruh nyata terhadap tingkat perbedaan persepsi panelis dilihat dari tingkat kesukaan *cookies* ($p=0,000$). Kandungan gizi *cookies* terbaik diperoleh kadar karbohidrat (53,9%), kadar protein (7,25%), dan karbohidrat (29,473%). Kandungan karbohidrat, lemak dan protein *cookies* memenuhi syarat SNI No. 2793-2011. Aktivitas antioksidan *cookies* yaitu 39,99 ppm dengan katagori sangat kuat.

Kata kunci : *cookies*, tepung biji alpukat, kesukaan panelis, kandungan gizi.

ABSTRACT

Lady Violita. NIM. 5173240013. Organoleptic Test, Analysis of Nutrient Content, and Antioxidant Activity on Cookies Substitution of Avocado Seed Flour (*Persea americana* mill). Thesis. Faculty of Engineering. Medan State University.

This study aims to: 1) Know the nutritional content of avocado seed flour. 2) Knowing the level of preference of the panelists on cookies 3) Analyzing the effect of substitution of avocado seed flour on differences in panelists' perception seen from the level of preference for cookies 4) Knowing the concentration of substitution of avocado seed flour on the best cookies based on organoleptic tests 5) Analyzing the nutritional content of cookies with avocado seed flour substitution best based on SNI No.2793-2011 6) Analyzing antioxidant activity on cookies classified according to IC50 value.

The design of this study used an experimental study using the RAL (Completely Randomized Design) method with two replications. Avocado seed flour substitution formulation in 4 treatments, namely control (P1), 30% (P2), 50% (P3) and 70% (P4). The research locations are at the State University of Medan, the Laboratory of the Medan Research and Industrial Standardization Center and the USU Pharmacy Laboratory. The subjects (untrained panelists) of this study were 25 people. The results were analyzed using the Kruskal Wallis test with the Mann-Whitney further test, the best cookies were determined using weighting, the nutritional content of flour and cookies was analyzed using titrimetric and gravimetric methods, while antioxidant activity using DPPH.

The nutritional content of avocado seed flour is water content (9.34%), ash content (2.24%), carbohydrates (75.1%), protein (5.26%), fat (1.8%), and activity antioxidants (27.14 ppm). The panelists' preference level was seen from the average results of organoleptic tests, namely color for P2 cookies (4.08), aroma for P3 cookies (3.94), taste for P3 cookies (3.76) and texture for P3 cookies (4.28). Based on the weighting, P3 treatment was the best cookie with 50% addition of avocado seed flour with an average value of taste (1.2), color (0.3), texture (0.6), and aroma (0.3) with a total overall value. 2.4. Avocado seed flour substitution had a significant effect on the level of difference in panelists' perceptions seen from the level of preference for cookies ($p = 0.000$). The best nutritional content of cookies was obtained from carbohydrate content (53.9%), protein content (7.25%), and carbohydrates (29.473%). The content of carbohydrates, fat and protein in cookies meets the requirements of SNI No. 2793-2011. The antioxidant activity of cookies is 39.99 ppm with a very strong category.

Keywords: *cookies*, avocado seed flour, panelists' preferences, nutritional content.