

## ABSTRACT

Tiffany Nathalie (00000011946)

### **EFFECT OF RATIO OF AVOCADO FRUIT PUREE TO MARGARINE ON PHYSICOCHEMICAL AND SENSORY CHARACTERISTICS OF POUND CAKES PREPARED WITH DIFFERENT TYPES OF FLOUR AND BAKING METHODS**

Thesis, Faculty of Science and Technology (2019)

(xviii + 63 pages: 22 figures, 16 tables, and 5 appendices)

Avocado (*Persea americana*) is known to have high monounsaturated fatty acids which can reduce LDL (Low Density Lipoprotein) and reduce the risk of heart attack as well as high in dietary fiber. This research was conducted with objectives to substitute margarine with avocado puree in the making of pound cakes so that the amount of saturated fat is lowered as well as increasing its nutrition. Based on the research, avocado contains  $81.37 \pm 1.38\%$  (wb) of moisture,  $53.09 \pm 3.64\%$  (db) of fat,  $34.57 \pm 3.63\%$  (db) of carbohydrate,  $6.98 \pm 0.49\%$  (db) of protein, and  $5.36 \pm 0.49\%$  (db) of ash. The pound cakes were made with five different ratios of avocado puree to margarine which were 0:1, 1:3, 1:1, 3:1, and 1:0 with three types of flour (all-purpose, cake, and bread flour) baked with two types of method (oven and microwave oven). From each type of flour, there was one selected pound cakes chosen based on physical properties which were firmness, volume expansion,  $L^*$  value, and  $^{\circ}$ hue. The selected pound cakes were further evaluated with scoring and hedonic tests by 70 panelists to see the acceptance and select the best pound cake from each type of baking method (i.e. oven and microwave oven). The result showed that oven baked pound cake with ratio 1:1 prepared with cake flour and microwave oven baked pound cake with ratio 1:1 prepared with bread flour were having the highest acceptance with overall hedonic acceptance scores of  $4.96 \pm 1.18$  and  $4.83 \pm 1.09$ , respectively. However, considering the time needed for baking and that the microwave baked pound cakes had higher protein content, pound cake made with microwave oven was more recommended.

Keywords : Monounsaturated fatty acids, avocado, avocado puree, pound cake, fat substitution, oven, microwave oven baking

References : 55 (1992-2018)

## **ABSTRAK**

Tiffany Nathalie (00000011946)

### **EFEK RASIO PUREE ALPUKAT TERHADAP MARGARIN TERHADAP KARAKTERISTIK FISIKOKIMIA DAN SENSORI POUND CAKE YANG DISIAPKAN DENGAN JENIS TEPUNG DAN METODE PEMANGGANGAN YANG BERBEDA**

Skripsi, Fakultas Sains dan Teknologi (2019)

(xviii + 63 halaman: 22 figur, 16 tabel, dan 5 lampiran)

*Alpukat (Persea americana) dikenal tinggi akan asam lemak tidak jenuh tunggal yang dapat menurunkan LDL (Low Density Lipoprotein) dan menurunkan resiko penyakit jantung serta tinggi akan serat pangan. Penelitian ini dilakukan dengan tujuan melakukan substitusi margarin dengan puree alpukat dalam pembuatan pound cake agar mengurangi jumlah lemak jenuh serta meningkatkan nutrisinya. Berdasarkan penelitian, alpukat mengandung  $81.37 \pm 1.38\%$  (wb) kadar air,  $53.09 \pm 3.64\%$  (db) lemak,  $34.57 \pm 3.63\%$  (db) karbohidrat,  $6.98 \pm 0.49\%$  (db) protein, dan  $5.36 \pm 0.49\%$  (db) abu. Pound cake dibuat dengan lima rasio puree alpukat terhadap margarin 0:1, 1:3, 1:1, 3:1, dan 1:0 dengan tiga jenis tepung (tepung serba guna, kue, dan roti) dipanggang dengan dua metode pemanggangan (oven dan oven microwave). Satu pound cake dipilih dari setiap jenis tepung berdasarkan karakteristik fisik yang merupakan kekerasan, ekspansi volume, nilai  $L^*$ , dan  $^{\circ}\text{hue}$ . Pound cake yang terpilih dievaluasi lebih lanjut dengan uji skoring dan hedonic oleh 70 orang panelis. Hasil menunjukkan bahwa pound cake yang dipanggang menggunakan oven dengan rasio 1:1 menggunakan tepung kue dan pound cake yang dipanggang menggunakan microwave oven dengan rasio 1:1 menggunakan tepung roti memiliki nilai penerimaan hedonic tertinggi dengan nilai masing-masing  $4.96 \pm 1.18$  dan  $4.83 \pm 1.09$ . Namun, mengingat waktu yang dibutuhkan untuk memanggang pound cake lebih singkat dan bahwa pound cake yang dipanggang menggunakan microwave memiliki kandungan protein lebih tinggi, maka pound cake yang dipanggang menggunakan microwave oven lebih dianjurkan.*

**Kata kunci** : Asam lemak tidak jenuh tunggal, alpukat, puree alpukat, pound cake, substitusi lemak, oven, microwave oven

**Referensi** : 55 (1992-2018)