

## **ABSTRACT**

### **CHEMICAL, PHYSICAL, AND SENSORS PROPERTIES OF PURPLE SWEET POTATO BARS WITH ADDITION OF AMBON BANANA AND MUNG BEANS**

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Snack bars are one product that has complete and good nutritional content, and can meet the daily nutritional needs of each person. Purple sweet potato flour can be used as a raw material for snack bars with the addition of bananas and mung beans to meet energy and nutritional needs. The aim of the study was to obtain the formulation of ambon bananas and mung beans addition in the production of purple sweet potato bars with chemical, physical, and sensory properties that can be accepted by consumers. This study was arranged in a Complete Randomized Block Design of the nine treatments and in three replications. The comparison treatment of bananas and mung beans consisted of nine levels, that were; F1 (10%:90%); F2 (20%:80%); F3 (30%:70%); F4 (40%:60%); F5 (50%:50%); F6 (60%:40%); F7 (70%:30%); F8 (80%:20%); and F9 (90%:10%). The data obtained were analyzed for the homogeneity by the Bartlett test and for the addition of the data tested by the Tukey test, then the data were analyzed by

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analysis of variance to determine the effect of the treatment. The data were analyzed further by the Honest Real Difference Test at the level of 5%. The results showed that the best purple sweet potato bars with the addition of ambon bananas and green beans were from F6 treatment (60% ambon bananas and 40% mung beans). The best purple sweet potato bars treatment (F6) contained moisture content of 16.88%, ash content of 2.84%, fat content of 1.77%, protein content of 5.72%, crude fiber content of 1.55%, carbohydrate content of 71.25%, calorific value of 80.95 kcal/25 g or equivalent to 97.24 kcal/30 g, water activity ( $a_w$ ) of 0.83, and physical properties (texture) of 0.85 kg.s/mm, aroma score of 3.58 (likes), taste score of 3.99 (likes), texture score of 3.71 (likes), and overall acceptance with a score of 3.75 (likes). Moisture content and water activity ( $a_w$ ) purple sweet potato bars with the addition of bananas and mung beans all formulas met the standard of semi-wet food, that were the moisture content of 10–40% and water activity ( $a_w$ ) of 0.6–0.9.

Keywords: purple sweet potato bars, ambon bananas, mung beans

## **ABSTRAK**

### **SIFAT KIMIA, FISIK, DAN SENSORI *PURPLE SWEET POTATO BARS* DENGAN PENAMBAHAN PISANG AMBON DAN KACANG HIJAU**

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*Snack bars* merupakan salah satu produk yang memiliki kandungan gizi beragam dan baik, serta dapat memenuhi kebutuhan gizi harian setiap orang. Pemanfaatan tepung ubi jalar ungu sebagai bahan baku *snack bars* dengan penambahan pisang ambon dan kacang hijau dilakukan untuk memenuhi kebutuhan energi dan gizi. Tujuan penelitian adalah untuk mendapatkan formulasi penambahan pisang ambon dan kacang hijau dalam pembuatan *purple sweet potato bars* dengan sifat kimia, fisik, dan sensori yang dapat diterima konsumen. Penelitian ini disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan sembilan perlakuan dan tiga ulangan. Perlakuan perbandingan pisang ambon dan kacang hijau terdiri dari sembilan taraf yaitu F1 (10%:90%); F2 (20%:80%); F3 (30%:70%); F4 (40%:60%); F5 (50%:50%); F6 (60%:40%); F7 (70%:30%); F8 (80%:20%); dan F9 (90%:10%). Data yang diperoleh dianalisis kesamaan ragamnya dengan uji Bartlett dan kemenambahan data diuji dengan uji Tuckey, selanjutnya data

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dianalisis sidik ragam untuk mengetahui pengaruh perlakuan. Apabila terdapat pengaruh yang nyata, data dianalisis lebih lanjut dengan Uji Beda Nyata Jujur (BNJ) pada taraf 5%. Hasil penelitian menunjukkan bahwa *purple sweet potato bars* dengan penambahan pisang ambon dan kacang hijau terbaik adalah perlakuan F6 (60% pisang ambon dan 40% kacang hijau). *Purple sweet potato bars* perlakuan terbaik (F6) menghasilkan kadar air sebesar 16,88%, kadar abu sebesar 2,84%, kadar lemak sebesar 1,77%, kadar protein sebesar 5,72%, kadar serat kasar sebesar 1,55%, kadar karbohidrat sebesar 71,25%, nilai kalori sebesar 80,95 kkal/25 g setara dengan 97,24 kkal/30 g, aktivitas air ( $a_w$ ) sebesar 0,83, dan sifat fisik (tekstur) sebesar 0,85 kg.s/mm, aroma dengan skor 3,58 (suka), rasa dengan skor 3,99 (suka), tekstur dengan skor 3,71 (suka), dan penerimaan keseluruhan dengan skor 3,75 (suka). Kadar air dan aktivitas air ( $a_w$ ) *purple sweet potato bars* dengan penambahan pisang ambon dan kacang hijau semua formula memenuhi standar pangan semi basah, yaitu kadar air 10–40% dan aktivitas air ( $a_w$ ) 0,6–0,9.

Kata kunci: *purple sweet potato bars*, pisang ambon, kacang hijau