UNIVERSITAS ANDALAS

PENGARUH SUBTITUSI TEPUNG KULIT KENTANG TERHADAP KANDUNGAN GIZI, SERAT, DAN AKTIVITAS ANTIOKSIDAN DALAM PENGEMBANGAN PRODUK BERAS ANALOG SORGUM SEBAGAI MAKANAN ALTERNATIF BAGI PENDERITADIABETES MELITUS

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xii + 126 halaman + 42 tabel + 15 gambar + 16 lampiran

ABSTRAK

Tujuan

Penelitian ini bertujuan untuk mengembangkan produk beras analog sorgum dengan subtitusi tepung kulit kentang terhadap uji organoleptik dan kandungan gizi sebagai makanan alternatif bagi penderita diabetes melitus.

Metode

Penelitian ini merupakan penelitian eksperimental dengan metode Rancangan Acak Lengkap (RAL) 4 taraf perlakuan (subtitusi tepung kulit kentang sebanyak 0%, 10%, 15%, dan 20%) dan 2 kali pengulangan. Uji organoleptik dilakukan oleh panelis semi terlatih sebanyak 30 orang. Uji kandungan gizi yang dilakukan adalah kadar air, abu, lemak, protein, karbohidrat, serat kasar, serat pangan, amilosa, amilopektin, dan aktivitas antioksidan. Analisis data yang dilakukan meliputi uji normalitas, analisis deskriptif, uji non parametrik (Uji *Kruskal Wallis* dan *Mann-Whitney*), dan uji parametrik (Uji ANOVA dan *Duncan*). Pengolahan data dilakukan dengan menggunakan *Microsoft Excel 2019* dan *SPSS for Windows 25.00*.

Hasil

Bedasarkan hasil total skor keseluruhan uji hedonik dan uji kandungan gizi serta hasil skor uji ranking, formula terbaik adalah F3 dengan karakteristik beras analog berwarna gelap, beraroma agak harum, berasa agak pahit, dan bertekstur biasa. Kandungan zat gizi formula terpilih ialah kadar air 6,57%, kadar abu 2,54%, lemak 7,15%, protein 6,56%, karbohidrat 77,18%, serat kasar 7,56%, serat pangan 24,02%, amilosa 15,73%, amilopektin 84,27%, dan aktivitas antioksidan 17209,2 ppm.

Kesimpulan

Berdasarkan keempat taraf perlakuan beras analog didapatkan bahwa formula terbaik adalah F3 dengan subtitusi tepung kulit kentang sebanyak 20%

Daftar Pustaka : 87 (2003-2023)
Kata Kunci : antioksidan, beras analog sorgum, diabetes melitus, indeks glikemik, kulit kentang

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THE EFFECT OF POTATO SKIN FLOUR SUBSTITUTION ON NUTRIENT CONTENT, FIBER CONTENT, AND ANTIOXIDANT ACTIVITY IN THE DEVELOMPENT OF SORGHUM ARTIFICIAL RICE PRODUCTS AS AN ALTERNATIVE FOOD FOR DIABETES MELLITUS PATIENTS

xii + 126 pages + 42 table + 15 pictures + 16 attachments

ABSTRACT

Objective

This research aims to develop a sorghum artificial rice with potato skin flour substitution in terms of organoleptic and nutrient content tests as an alternative food for diabetes mellitus patients.

Method

This study was an experimental study with a completely randomized design (CRD) with 4 treatment sides (substitution of potato skin flour by 0%, 10%, 15%, and 20%) and two repetitions. The organoleptic tests were carried out by 30 semi-trained panelists. The nutrient content tests carried out were water, ash, fat, protein, carbohydrates, crude fiber, dietary fiber, amylose, amylopectin content, and antioxidant capacity. Statistical analysis used in this study were normality test, descriptive analysis, nonparametric test (Kruskal Wallis and Mann-Whitney test), and parametric test (ANOVA and Duncan test). Data processing was carried out using Microsoft Excel 2019 and SPSS for Windows 25.00.

Result

Based on the results of the total score of the hedonic test and nutrient content test as well as the result of the ranking test, the best formula is F3 with the characteristics of artificial rice being dark, slightly fragrant, slightly bitter, and regular in texture. The nutritional content of the selected formula is water content 6,57%, ash content 2,54%, fat 7.15%, protein 6.56%, carbohydrates 77.18%, crude fiber 7.56%, dietary fiber 24.02 %, amylose 15.73%, amylopectin 84.27%, and antioxidant activity 17209.2 ppm.

Conclusion

Based on the four levels of treatment of artificial rice was found that the best formula was F3 with potato skin flour substitution.

References : 87 (2003-2023)
Keyword : antioxidant, diabetes mellitus, glycaemic index, potato skin, sorghum artificial rice