



UNIVERSITAS ANDALAS

**PENGEMBANGAN YOGHURT BENGKUANG
(*Pachyrhizus erosus*) SEBAGAI ALTERNATIF MINUMAN
SELINGAN PASIEN DIABETES MELLITUS TIPE II**



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TIPE II**

XV + 100 halaman, 25 tabel, 15 gambar, 10 lampiran

ABSTRAK

Tujuan

Diabetes mellitus tipe 2 merupakan masalah Kesehatan jangka panjang di mana terjadi peningkatan kadar glukosa darah akibat tubuh tidak dapat memproduksi hormon insulin atau menggunakannya secara efektif. Produk yoghurt dengan penambahan sari bengkuang merupakan salah satu upaya untuk mengontrol kadar glukosa darah dalam tubuh penderita diabetes mellitus. Penelitian ini bertujuan untuk mengetahui kandungan gizi, mutu organoleptik, kadar pH dan jumlah kandungan bakteri asam laktat pada produk yoghurt dengan penambahan sari bengkuang yang berpotensi dalam mengontrol kadar glukosa darah dalam tubuh penderita diabetes mellitus, terutama diabetes mellitus tipe 2.

Metode

Jenis penelitian ini merupakan penelitian eksperimental menggunakan Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 2 kali ulangan. Perlakuan yang dilakukan yaitu penambahan sari bengkuang dengan persentasi F0 0%, F1 15%, F2 30% dan F3 45%. Analisis data kuantitatif menggunakan aplikasi pengolah data uji *Kruskal Wallis* taraf 5% dan dilanjutkan dengan uji lanjutan *Mann Whitney*.

Hasil

Hasil penelitian menunjukkan formula yoghurt dengan penambahan sari bengkuang dengan perlakuan yang paling disukai adalah formula F3 dengan penambahan sari bengkuang sebanyak 45%. Karakteristik warna agak putih, aroma agak khas yoghurt, tekstur agak kental dan rasa agak asam. Kandungan gizi produk terpilih yaitu kadar air 93,68%, kadar abu 0,25%, protein 1,09%, lemak 0,08%, karbohidrat 4,89% dan serat pangan 16,23%. Kadar pH produk terpilih yaitu 4,00 dan jumlah kandungan bakteri asam laktatnya yaitu $2,35 \times 10^7$. Berdasarkan hasil penelitian tidak terdapat perbedaan yang nyata pada warna, aroma dan tekstur formula yoghurt dengan penambahan sari bengkuang ($p\text{-value} > 0,05$). Namun, terdapat perbedaan yang nyata pada rasa ($p\text{-value} < 0,05$).

Kesimpulan

Formula terpilih pada pengembangan produk yoghurt dengan penambahan sari bengkuang yaitu F3 dengan penambahan sari bengkuang sebanyak 45%.

Daftar Pustaka : 71 (2000 – 2020)

Kata Kunci : Diabetes mellitu tipe 2, serat pangan, yoghurt, sari bengkuang

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***DEVELOPMENT OF YOGHURT WITH ADDITIONAL EXTRACT JICAMA
(Pachyrizus erosus) as ALTERNATIVE DRINK FOR TYPE 2 DIABETES
MELLITUS PATIENTS***

XV + 100 pages, 27 tables, 15 pictures, 10 attachments

ABSTRACT

Objective

Type 2 diabetes mellitus is a long-term health problem in which blood glucose levels increase due to the body not being able to produce the hormone insulin or use it effectively. Yogurt product with the addition of yam juice is one of the efforts to control blood glucose levels in the body of people with diabetes mellitus. This study aims to determine the nutritional content, organoleptic quality, pH levels and the amount of lactic acid bacteria content in yogurt products with the addition of yam juice which has the potential to control blood glucose levels in the body of people with diabetes mellitus, especially type 2 diabetes mellitus.

Methods

This type of research is an experimental study using a completely randomized design (CRD) with 4 treatments and 2 replications. The treatment was the addition of yam juice with a percentage of F0 0%, F1 15%, F2 30% and F3 45%. Quantitative data analysis used the test data processing application at Kruskal Wallis 5% level and continued with the follow-up test Mann Whitney.

Results

The results showed that yogurt formula with the addition of yam juice with the most preferred treatment was the F3 formula with the addition of yam juice as much as 45%. Characteristics of a slightly white color, a slightly distinctive aroma of yogurt, a slightly thick texture and a slightly sour taste. The nutritional content of the selected product is 93.68% water content, 0.25% ash content, 1.09% protein, 0.08% fat, 4.89% carbohydrates and 16.23% dietary fiber. The pH level of the selected product was 4.00 and the total content of lactic acid bacteria was 2.35×10^7 . Based on the results of the study, there was no significant difference in the color, aroma and texture of the yogurt formula with the addition of yam juice ($p\text{-value} > 0.05$). However, there was a significant difference in taste ($p\text{-value} < 0.05$).

Conclusion

The chosen formula for developing yogurt products with the addition of yam juice is F3 with the addition of 45% yam juice.

Bibliography : 71 (2000 – 2020)

Keywords : type 2 diabetes mellitus, dietary fiber, yogurt, yam juice.