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Lihat Sebelah

DEVELOPMENT OF BITTER GOURD JAM (*Momordica Charantia*)

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DECLARATION

I hereby declare that this research project is based on my original work except for quotations and summaries which have been duly acknowledged.

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ABSTRACT

Bitter gourd (*Momordica Charantia*) known as medical plant was made into jams namely bitter gourd jam. Three formulations of bitter gourd jams have been developed which are sample A, sample B and sample C. Sample A contains 40% of bitter gourd, sample B contains 50% of bitter gourd and sample C contains 60% of bitter gourd. In this research analysis on physical, chemical and sensory evaluation were done. Physical analysis that tested is the determination of total soluble solid, pH , water activity, spreadibility and colour ('L', 'a', 'b'). Sample A had the highest score for the total soluble solid (^{0} Brix) and spreadibility with value 73.00 ± 2.0 and 102.17 ± 1.31 and it is significantly different ($p<0.05$) from other samples. Sample C had the highest mean score in pH, water activity and colour ('a') analysis with value 2.83 ± 0.01, 0.71 ± 0.01 and -1.15 ± 0.06. Sample C is significantly different ($p<0.05$) from sample A and sample B. Besides that, sample B had the moderate mean score for the physical analysis. Chemical analysis that has been tested is determination of moisture content, protein, carbohydrate and fiber content. Sample C contains the highest percentage of moisture, protein, carbohydrate and fiber content compare to other sample and it is significantly different ($p<0.05$) from other sample jams. Percentage of moisture content for sample C is 24.02 ± 0.84. For protein, carbohydrate and fiber content the percentage values are 0.76 ± 0.04, 9.72 ± 0.06 and 1.94 ± 0.02. Sample A had the lowest percentage of moisture, protein, carbohydrate and fiber and it is significantly different ($p<0.05$) from others. Sensory evaluation has been done on colour, texture, spreadibility, taste, sweetness, bitterness and overall acceptance. Sample A had the highest mean score for all the attributes that tested in sensory evaluation. Panels were preferred and accepted sample A more than the other sample jams.

PENGHASILAN PRODUK JEM PERIA

ABSTRAK

Buah peria (*Momordica Charantia*) dikenali sebagai tumbuhan yang digunakan di dalam bidang perubatan telah digunakan bagi manghasilkan jem yang dikenali sebagai jem peria. Tiga formulasi telah dihasilkan yang terdiri daripada sampel A, B dan C. Sampel A mengandungi 40% buah peria, sampel B mengandungi 50% buah peria manakala sampel C mengandungi 60% buah peria. Di dalam kajian ini, analisis fizikal, kimia dan penilaian sensori telah dilakukan terhadap jem peria yang dihasilkan. Analisis fizikal dilakukan dalam menentukan jumlah kandungan pepejal terlarut, pH, jumlah aktiviti air, darjah kebolehsebaran dan warna ('L', 'a', 'b') jem tersebut. Sampel A mencatatkan bacaan yang paling tinggi bagi penentuan kandungan pepejal terlarut dan darjah kebolehsebaran berbanding dengan sampel jem lain dengan bacaan 73.00 ± 2.0 and 102.17 ± 1.31. Terdapat perbezaan yang signifikan ($p<0.05$) bagi sampel A jika dibandingkan dengan sampel lain. Sampel C mencatatkan nilai bacaan yang paling tinggi bagi penentuan pH, jumlah aktiviti air dan warna ('a') dengan iaitu 2.83 ± 0.01, 0.71 ± 0.01 dan -1.15 ± 0.06. Sampel C mempunyai perbezaan yang signifikan ($p<0.05$) antara sampel A dan sampel B. Selain itu sampel B mencatakan bacaan min bacaan yang sederhana bagi analisis fizikal yang telah dijalankan. Analisis kimia yang telah dijalankan ialah penentuan kandungan lembapan, protein, karbohidrat dan serat. Sampel C telah mencatatkan nilai peratusan yang paling tinggi bagi kandungan lembapan, protein, karbohidrat dan serat dan terdapat perbezaan yang signifikan ($p<0.05$) antara sampel lain. Nilai peratusan kandungan lembapan bagi sampel C ialah sebanyak 1.94 ± 0.02. Bagi analisis protein, karbohidrat dan serat nilai peratusan yang dicatatkan ialah 0.76 ± 0.04, 9.72 ± 0.06 dan 1.94 ± 0.02. Sampel A mencatatkan nilai peratusan yang paling rendah dan mempunyai perbezaan yang signifikan ($p<0.05$) antara sampel lain. Penilaian sensori telah dijalankan terhadap tahap penerimaan warna, tekstur, darjah kebolehsebaran, rasa, kemanisan, kepahitan dan penerimaan keseluruhan. Sampel A telah mencatatkan nilai min skor yang paling tinggi bagi kesemua atribut yang telah dinilai. Panel lebih menggemari atau menerima sampel A jika dibandingkan dengan sampel lain.