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Jalan Sultanah Nur Zahirah, Kuala Terengganu



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Development of sugarcane (*Saccharum Officinarum* L.) jelly /  
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DEVELOPMENT OF SUGARCANE (*Saccharum Officinarum L*)  
JELLY

MOHD AZLAN BIN HARUN

**RESEARCH PROJECT** submitted in partial fulfillment of the  
requirements for the Degree of Bachelor of Food Science (Food  
service and Nutrition)

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE  
UNIVERSITY MALAYSIA TERENGGANU  
MENGABANG TELIPOT  
2007

## DECLARATION

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

28 June 2007

  
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## ABSTRACT

This study was carried out to see the potential of sugarcane in development of jelly product. In this study, the entire samples with different ratio of juice and sugar where sample 1(control) was 45:55, sample 2 was 47:53, sample 3 was 49:51, and sample 4 was 51:49. Analysis that had been carried out was determination of total soluble solid (°Brix), water activity ( $a_w$ ), pH, texture, colour ('L', 'a' and 'b') and sensory analysis. Result revealed that sample 4 had the highest mean score for total soluble solid analysis with value  $70.96 \pm 0.76$  which were significantly different compared to sample 1 and sample 2. Sample 1 (control) had significantly different ( $p < 0.05$ ) compared to other samples in water activity ( $a_w$ ) analysis with value  $0.738 \pm 0.006$ . Sample 2 had achieved the highest mean score in texture analysis and significantly different ( $p < 0.05$ ) compared to other samples. The result shows that sample with different juice: sugar ratio have influence physical properties of sugarcane jelly. The attributes for sensory evaluation were colour, texture, sweetness, taste and overall acceptance. Sample 1 had the highest mean score on attribute texture, sweetness, taste and overall acceptance where sample 2 had the highest mean score for attribute colour. From the result obtained, sugarcane can be one of the potential source in jelly production.

PENGHASILAN JELI DARIPADA TEBU (*Saccharum officinarum*)**ABSTRAK**

Kajian ini dijalankan untuk melihat potensi tebu dalam penghasilan produk jeli. Dalam kajian ini, kesemua sampel mengandungi jus dan gula dalam nisbah yang berlainan dimana sampel 1 adalah 45:55, sampel 2 adalah 47:53, sampel 3 adalah 49:51, dan sampel 4 adalah 51:49. Kajian ini mengandungi penentuan kandungan pepejal larut ( $^{\circ}$ Brix), aktiviti air ( $a_w$ ), pH, tekstur, warna ('L', 'a' dan 'b') dan penilaian sensori. Daripada keputusan yang diperolehi, sampel 4 mendapat skor yang paling tinggi dalam penentuan jumlah pepejal larut dengan nilai  $70.96 \pm 0.76$  dan mempunyai perbezaan yang signifikan dengan sampel 1 dan sampel 2. Sampel 1 (kontrol) mempunyai perbezaan yang signifikan ( $p < 0.05$ ) dengan sampel lain dalam penentuan aktiviti air ( $a_w$ ) dengan nilai  $0.738 \pm 0.006$ . Sampel 2 mendapat skor yang paling tinggi dalam penentuan tekstur dan mempunyai perbezaan yang signifikan ( $p < 0.05$ ) dengan lain-lain sampel. Keputusan menunjukkan sampel dengan nisbah jus:gula yang berlainan mempengaruhi ciri-ciri fizikal jeli tebu. Atribut untuk penilaian sensori adalah warna, tekstur, tahap kemanisan, rasa, dan penerimaan keseluruhan. Sampel 1 mendapat skor yang tinggi pada atribut tekstur, tahap kemanisan, rasa dan penerimaan keseluruhan manakala sampel 2 mendapat skor yang tertinggi bagi atribut warna. Daripada keputusan yang diperolehi, didapati tebu berpotensi untuk dijadikan salah satu sumber pembuatan jeli.