THE STATE OF STATES OF THE POST CONTROL OF STATES

1100090004

TMU A PUSAY A PUSAY

of the helajation Digital Scitation for Zamion (UMI)

LP 9 FASM 3 2007



Development of hard candy from Centella asiatica / Farhana Saadud Din.

PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH UNIVERSITI MALAYSIA TERENGGANU (UMT) 21030 KUALA TERENGGANU

21030 KUALA TERENGGANU		
1		. 3
	11000900	04
	•	
	,	

Lihat Sebelah

HAK MILIK Pusat Pembelajaran digital sultanah nur zahirah

DEVELOPMENT OF HARD CANDY FROM Centella asiatica

By

FARHANA BINTI SAADUD DIN

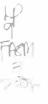
RESEARCH PROJECT submitted in partial fulfillment of the requirements for the Degree of Bachelor of Food Science (Food Service and Nutrition)

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

This project should be cited as:

Saadud Din, F. 2007. Development of hard candy from *Centella asiatica*. Undergraduate thesis, Bachelor of Food Science (Food Service and Nutrition). Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu, Mengabang Telipot, Terengganu. 72p.

No part of this report may be reproduces by any mechanical, photographic or electronic process or in the form of photographic recording, nor may it stored in a retrieval system, transmitted, or otherwise copied for public or private use, without written permission from the author and the supervisor of the project.



DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any degree at UMT or other institutions.

25th JUNE 2007

FARHANA BINTI SAADUD DIN

Approved by,

25th JUNE 2007

PN. ZAMZAHAILA BT MOHD ZIN

ACKNOWLEDGMENTS

Syukur Alhamdulillah to the Almighty Allah S.W.T. for giving me strength, patience, and capability to complete this project and thesis write up.

First and foremost, I would like to express my deepest thanks and appreciation to my supervisor, Pn. Zamzahaila Bt. Mohd Zin for her guidance, advise, patience, and encouragement throughout the course of my study. The entire valuable experiences that I gained, her ideas and continuous commitment towards the success of my study will always be remembered. I would also to express my thanks to Prof. Madya Dr. Amiza Bt. Mat Amin, Head of Food Science Department, En. Mohamad Khairi B. Mohd Zainol and all the lecturers of Food Science, Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu, for their sincere advice to my self improvement.

Special thanks to Cik Nasrenim, Pn. Suzana, Pn. Faridah and to all the staffs of the department of Food Science for their cooperation, kindness, and supporting throughout my study. Finally, to all my dear friends and colleagues at Food Science Department, thank you for your support and encouragement.

ABSTRACT

Centella asiatica or 'pegaga' is the healthy and effective plant for memory function, treatment of skin diseases, hypertension, and other illness. The objectives of this study were to develop hard candy from C.asiatica and evaluate the consumer acceptances after incorporating C.asiatica. The interrelationship of the physical analysis, chemical analysis, and sensory evaluation has been studied. There were six formulations with different percentage of C-asiatica powder (0%, 1%, 2%, 3%, 4%, and 5%) used on this study. The results for physical analysis that was color analysis showed that 'L' value, and 'a' value was decreased while 'b' value was increased by increasing C.asiatica powder. The control sample showed significant different (p<0.05) compared to other samples. Chemical analysis that have been done were proximate analysis and water activity. The results showed the moisture and protein content were increased by increasing C.asiatica powder. The highest fiber content showed in sample C while the highest carbohydrate content was in sample A. There were no ash and fat content detected in C.asiatica hard candy. The water activity value for the C-asiatica hard candy was in the range of 0.57 -0.61. The results for sensory evaluation showed that formulation A and B were more acceptances compared to other samples. There were significant difference (p<0.05) between control sample and other samples that contained C.asiatica powder for color, shape, taste, hardness, and overall acceptances attributes.

PEMBANGUNAN GULA-GULA DARIPADA Centella asiatica

ABSTRAK

Centella asiatica atau 'pegaga' merupakan sejenis tumbuhan yang berkhasiat dan efektif untuk kecerdasan minda, mengubati penyakit kulit, hipertensi dan sebagainya. Kajian ini dilakukan untuk menghasilkan gula-gula keras daripada C.asiatica serta menilai penerimaannya di kalangan pengguna. Perkaitan antara analisis fizikal, analisis kimia, dan penilaian sensori juga dikaji. Terdapat enam formulasi dalam kajian ini di mana kandungan serbuk pegaga adalah berbeza iaitu 0%, 1%, 2%, 3%, 4%, dan 5%. Hasil bagi analisis fizikal iaitu analisis warna, nilai kecerahan ('L') dan kemerahan atau kehijauan ('a') menurun manakala nilai kekuningan atau kebiruan ('b') meningkat dengan peningkatan kandungan serbuk pegaga. Sampel rujukan mempunyai perbezaan yang signifikan (p<0.05) berbanding sampel yang lain. Analisis kimia yang dilakukan adalah analisis proksimat dan aktiviti air. Hasil analisis menunjukkan bahawa kandungan lembapan dan protein meningkat dengan penambahan serbuk pegaga. Kandungan fiber paling tinggi adalah sampel C manakala kandungan karbohidrat yang paling tinggi ialah sampel A. Selain itu, tiada kandungan abu dan lemak dikesan dalam gula-gula pegaga. Nilai bagi aktiviti air adalah dalam julat 0.57 – 0.61. Hasil daripada penilaian sensori menunjukkan bahawa formulasi bagi sampel A dan B lebih diterima berbanding sampel lain. Terdapat perbezaan signifikan (p<0.05) antara sampel rujukan dengan sampel lain yang mengandungi serbuk pegaga bagi atribut warna, bentuk, rasa, kekerasan dan penerimaan keseluruhan.