

PHYSICAL PROPERTIES OF SEMICONDUCTORS  
AND DIELECTRICS  
(S. M. SZE, AUTHOR)

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Physicochemical properties and sensory acceptances of greater yam (*Dioscorea alata* L.) noodle / Tay Shi Pei.



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**PHYSICOCHEMICAL PROPERTIES AND SENSORY ACCEPTANCES  
OF GREATER YAM (*Dioscorea alata* L.) NOODLE**

**By**

**TAY SHI PEI**

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

**FACULTY AGROTECHNOLOGY AND FOOD SCIENCE  
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## DECLARATION FORM DEDICATION

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 institution.

10<sup>th</sup> JUNE 2007



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Approved by,  
DR. AMIR IZZWAN BIN ZAMRI  
(Supervisor)

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## ABSTRACT

This study was undertaken to determine the physicochemical properties and sensory acceptances of greater yam (*Dioscorea alata* L.) noodle in order to better understand nutritive value, noodle texture characteristic and sensory acceptances of greater yam noodles. Greater yam noodles were prepared by using wheat flour (WF) augmented with 20, 30, 40 and 50% greater yam flour composite mix to make yellow alkaline noodle (YAN). Addition of incremental amount of greater yam flour resulted in significantly different ( $p < 0.05$ ) decrease in greater yam noodle brightness, L value, and yellowness, b value but significantly different ( $p < 0.05$ ) increase in greater yam noodle redness, a value. In addition, cooked noodle texture (elasticity) also decrease significant different ( $p < 0.05$ ) with increasing greater yam flour. However, acceptable wheat flour: greater yam flour (WF:YF) noodles were still possible with greater yam incorporation of 20, 30 and 40%. This study was also carried out to compare and establish the changes in chemical properties of moisture content, carbohydrate content and protein content of greater yam noodle. The result showed that for all the substitution of yam flour resulted in continues decline in moisture content of sample noodles. The carbohydrate compositions of greater yam noodles were still high and gave a comparable data to yellow alkaline noodle (YAN). Protein content varies according to the noodle type to achieve the desired eating quality. There is an optimum flour protein content required for each noodle type. The sensory evaluation of five sample noodles were compared Three of the sensory attributes (colour, smell and firmness) showed significantly difference with decrease in mean score of selected formulation noodles. While, the panelists indicated that these sample noodles did not reveal any significantly difference ( $p < 0.05$ ) in other three attributes which were moistness, flavour and overall acceptance.

## CIRI-CIRI FIZIKOKIMIA DAN PENERIMAAN SENSORI TERHADAP MEE UBI BADAK (*Dioscorea alata* L.)

### ABSTRAK

Kajian ini dilakukan untuk menentukan ciri-ciri fizikokimia dan menilai penerimaan sensori terhadap mee ubi badak (*Dioscorea alata* L.) supaya lebih memahami kesan penggantian tepung ubi badak ke atas tepung gandum dalam penghasilan mee ubi badak dari segi nilai pemakanan, analisis tekstur dan juga penerimaan pengguna. Mee kuning tersebut disediakan dengan penambahan 20, 30, 40 and 50% tepung ubi badak dalam penghasilan mee kuning. Penambahan tepung ubi badak telah menyebabkan pengurangan secara signifikan ( $p < 0.05$ ) dari segi kecerahan, nilai L, dan juga kekuningan, nilai b tetapi penambahan secara signifikan ( $p < 0.05$ ) dari segi kemerahan, nilai a bagi mee ubi badak tersebut. Tambahan pula, penambahan tepung ubi badak dalam formulasi mee juga menyebabkan pengurangan sifat tekstur (elastik) mee ubi badak. Walaubagaimanapun, tiga formulasi baru iaitu dengan penambahan 20, 30 dan 40% tepung ubi badak dalam formulasi mee masih dapat diterima. Di samping itu, kajian ini juga dilaksanakan untuk membandingkan dan mewujudkan perubahan dari segi kandungan kimia iaitu kandungan kelembapan, kandungan karbohidrat dan juga kandungan protein dalam mee ubi badak tersebut. Hasil analisis menunjukkan kandungan kelembapan menurun dengan penggantian tepung ubi badak. Kandungan karbohidrat mee ubi badak masih dianggap tinggi dan standing dengan mee kuning. Kandungan protein yang dikehendaki adalah berbeza dan banyak berkaitan dengan jenis mee yang diperbuat supaya kualiti mee dapat dicapai. Takat optimum mee juga banyak berkaitan dengan mee yang dihasilkan. Analisis sensori yang menilai lima sampel mee dengan enam atribut dibandingkan iaitu warna, bau, kepadatan, kelembapan, rasa dan penerimaan keseluruhan. Antara tiga atribut iaitu warna, bau dan kepadatan menunjukkan perbezaan yang signifikan. Manakala, senarai panel menandakan bahawa tiga atribut yang lain iaitu kelembapan, rasa dan penerimaan keseluruhan tiada perbezaan yang signifikan antara sampel mee tersebut.