Akesowan, A., Choonhahirun, A.

**Quality assessment of reduced-calorie Thai mung bean marzipan made with erythritol-sucralose blend and soy milk**


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**Abstract**

This study aimed to investigate the effects of sugar and coconut milk substitution by erythritol-sucralose blend and soy milk, respectively on physical properties and sensory acceptance of Thai mung bean marzipan. Four reduced-calorie marzipans coded as T1 (50% erythritol-sucralose and 25% soy milk), T2 (50% erythritol-sucralose and 50% soy milk), T3 (75% erythritol-sucralose and 25% soy milk) and T4 (75% erythritol-sucralose and 50% soy milk) were studied. They had significantly higher (p < 0.05) pH and L*, lower (p < 0.05) consistency, but no difference (p > 0.05) in titratable acidity as compared with the control. While, a yield value, which may be either high or low, was dependent on a soy milk level used. An acceptance test revealed decreasing scores of taste, flavor and texture in reduced-calorie marzipans; in addition, their higher percentages of frequency distribution were obtained in "ideal level" for sweet and flavor attributes. The most preferable reduced-calorie formulation was the T3 marzipan and it also achieved the highest score for consumer purchasing decision among the others. With regard to the control, it presented a reduction of fat, carbohydrate and total caloric values about 16.1, 20.4 and 16.4%, respectively.

**Author Keywords**

Erythritol-sucralose; Low-calorie foods; Soy milk; Sugar and fat substitution; Thai desserts

**References**

- Akesowan, A.
  **Quality of reduced-tat chiffon cakes prepared with erythritol-sucralose as substitution for sugar**

- Alais, C., Linden, G.


- Belitz, H.D., Grosch, W., Schieberle, P.
  **Amino acids, peptides, protein**
  In: Belitz, HD, Grosch W and Schieberle P, eds, edition, Springer-Verlag, Berlin, Germany

- Choonhahirun, A., Akesowan, A.
  **Partial fat and sugar substitution with soy milk, inulin and sucralose on quality of Thai pandanus custard**

- Cochran, W.G., Cox, G.M.

- Conforti, F.D., Davis, S.F.
  **The effect of soya flour and flaxseed as a partial substitution for bread in yeast bread**

- Ikya, J.K., Gernah, D.I., Ojobo, H.E., Oni, O.K.
  **Effect of cooking temperature on some quality characteristics of soy milk**

- Jariyawaranugoon, U., Akesowan, A.
  Effect of thyme and lemongrass extracts on quality characteristics of Thai coconut custard dips during storage

- Knetch, R.L.
  In: Pennington, NL and Baker, CW, eds, Sugar. Van Nostrand Reinhold, New York, USA

- Lawless, H.T., Heymann, H.

- Newsome, R.
  *Sugar substitutes*
  In: Altschull, AM, ed, Marcel Dekker, New York, USA

- Pathomrungsiyounggul, P., Grandison, A.S., Lewis, M.J.
  Effect of calcium carbonate calcium citrate, tricalcium phosphate, calcium gluconate and calcium lactate on some physicochemical properties of soy milk

- Seow, C.C., Gwee, C.N.
  *Coconut milk: Chemistry and technology*

- U-Sing Co., Ltd., 3 June 2012. Sucralose D-et<sup>®</sup>.[On-line]. Available