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Formulation and Development of Milk Based Breakfast Drink

By

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Formulation and Development of Milk Based Breakfast Drink

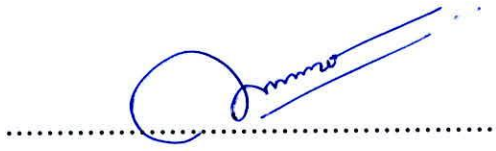
By

C.P. SAMARASEKARA

M.Sc. 2008

DECLARATION

The work described in this thesis was carried out by me under the supervision of Dr. K.K.D.S. Ranaweera, Head, Department of Food Science and Technology, University of Sri Jayewardenepura and Ms. I. Amarasekara , Quality Assurance Manager, Kotmale Milk Company Pvt. Ltd, Mulleriyawa .Sri Lanka. A report on this had not been presented or accepted in any previous application for a degree.



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C.P. Samarasekara

We hereby certify that the above statement made by the candidate is true and that this thesis is suitable for submission to the University for the purpose of evaluation.

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Affectionately dedicated

to

My Parent and Teachers

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ABSTRACT

Breakfast is the most important meal of the day. A good breakfast provides necessary nutrients and good fuel to get the body functions. Breakfast drink is made up of milk, rice and soybean which provide an excellent source of carbohydrate, protein, fat, fibre, vitamin and minerals .Breakfast drink as a wholesome food product is suitable for children, adults and pregnant mothers. The breakfast cereal drink will be the most popular and usable strategy to enhance and increase human health condition up to higher level. The objective of the study was to formulate nutritious and economical cereal breakfast drink using fresh milk as a base.

Breakfast drink samples were formulated and made by adding various ratios of milk, soybean and rice of the total weight. Breakfast drinks samples were evaluated organoleptically by a group of panelists using a statistical analysis in order to find the best formula. The selected best formula was adjusted by adding stabilizer flavor enhancers and color. The best formula was finalized by sensory evaluation and statistical analysis. The selected samples were stored at +4°C to determine development of any defects in specific physical, chemical, biological and sensorial properties during the expected shelf life period. Proximate analyses were used to determine the nutritional composition of the sample selected. The sensory quality, acidity and pH of the breakfast drink were monitored at weekly intervals during shelf life.

Better consumer acceptable wholesome breakfast drink can be prepared with moisture is 73.30%, free fat is 0.75%, total fat is 7.42%, protein is 4.20, crude fibre is 9.3%, ash is 0.68 and carbohydrate is 5.15%. Maximum storage life is 7 days under refrigeration temperature without any indication for microbial growth and there was no change in organoleptic quality. It is a microbiologically safe product with 0.15 titratable acidity and 6.66-6.70 pH range. There was no Coliform growth observed in this selected best sample.

The flavor profile modification of selected best formula is recommended further and the study about the natural available stabilizing agent and heat sterilization method should be study further.