

Formulation and Development of Milk Based Breakfast Drink

By

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Formulation and Development of Milk Based Breakfast Drink

By

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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.

A handwritten signature in blue ink, consisting of a large circular loop followed by a series of wavy lines and a long horizontal stroke extending to the right. The signature is positioned above a horizontal dotted line.

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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

Table of contents

Table of content	i
List of Table	vi
List of figures	vii
Acknowledgement	viii
Abstract	ix
1.0 Introduction	1
1.1 Introduction	1
1.2 Objectives	2
2.0 Review of Literature	3
2.1 Food requirements	3
2.2. Available Energy of Nutrient	4
2.2.1. Carbohydrates	4
2.2.2. Lipid	5
2.2.2.1 Role of Fat and Oil in Biological System	6
2.2.3. Protein	6
2.2.3.1. Role of Protein in biological System	7
2.2.4. Enzyme	8
2.2.5. Vitamin	8
2.2.6. Mineral	9
2.2.7. Food Color	10
2.2.8. Food Flavor	10
2.2.9. Food Additives	11
2.3. Breakfast Drink	11
2.4. Indigents of Breakfast Drink	11
2.4.1. Cow Milk	11
2.4.1.1. Secretion of Milk	12
2.4.1.2. The Chemistry of Milk	12
2.4.1.3. Composition of Cow's Milk	12

2.4.1.4. Milk Fat	13
2.4.1.5. Protein in Milk	14
2.4.1.6. Class of Milk Protein	14
2.4.1.7. Casein	14
2.4.1.8. Whey Protein	15
2.4.1.9. Enzyme in Milk	15
2.4.1.10. Lactose	16
2.4.1.11. Vitamin in Milk	16
2.4.1.12. Mineral and Salts in Milk	17
2.4.1.13. Physical Properties of Milk	17
2.4.1.14. Bacteria in Milk	17
2.4.2. Soybean Composition	18
2.4.2.1. Nutritional composition Soybean	18
2.4.3. Cereal	21
2.4.4. Rice	21
2.4.4.1. Composition of Rice	22
2.4.4.2. Nutritional Factors of Rice	22
2.4.4.3. Rice Germination	23
2.4.4.4. Processing of Rice	23
2.5. Process Requirement	25
2.6. Resazurin Test	26
2.7. LTLT Pasteurization	26
2.8. HTST Pasteurization	26
2.9. UHT Treatment	27
2.10. Cooling	27
2.11. Microbial Culture	28
2.11.1. Different Culture Media	28
2.11.2. Type of Different Culture media	28
2.11.3. Nutrient Agar (NA)	29
2.11.4. Pour Plate Techniques	29
2.11.5. Agar	30

2.11.6. Coliform Bacteria	30
3.0 Materials and Methodology	31
3.1 Materials	31
3.1.1 Preparation of Malted Rice flour	31
3.1.2. Preparation of Soya Flour	31
3.1.3 Preparation of Breakfast Drink	31
3.1.4 Proximate analysis	33
3.1.4.1 Determination of Moisture content -Oven drying method	32
3.1.4.2Determination of Free fat – Soxhlet Extraction method	32
3.1.4.3 Determination of Total Fat	32
3.1.4.4 Determination of Protein	33
3.1.4.5 Determination of Crude Fibre	33
3.1.4.6 Determination of Ash	34
3.2 Methodology	35
3.2.1 Preparation of the Malted Rice flour	35
3.2.2 Preparation of Soya flour	36
3.2.3 Preparation of Breakfast drink	36
3.2.4Assessment of sensory qualities	37
3.2.5 Testing criteria	37
3.2.6 Preparation of variety and testing the samples	37
3.2.7 Statistical Analysis	37
3.2.9 Proximate analysis	38
3.2.9.1 Determination of Moisture content	38
3.2.9.2 Determination of Lipids	38
3.2.9.2.1 Determination of free fat –Soxhlet Extraction method	38

3.2.9.2.2 Determination of Total fat	39
3.2.9.3 Determination of Proteins	40
3.2.9.4 Determination of Crude fibre	41
3.2.9.5 Determination of Ash	42
3.2.9.6 Determination of Carbohydrates	42
4.0 Results and Discussion	55
4.1 Preparation of milk based cereal breakfast drink	43
4.2 Sensory Analysis	43
4.3 Selection of best breakfast drink sample	44
4.3.1. Taste	44
4.3.2. Color	44
4.3.3. Texture/mouth feel	44
4.3.4. Appearance	45
4.3.5. Smell	45
4.3.6. Overall acceptability	45
4.4 Proximate analysis of selected best product	46
4.5 Shelf life evaluation	46
4.6 Microbiology Assessment	46
4.6.1 Microbiology Quality of the final product	47
5.0 Conclusion and Recommendation	48
5.1 Conclusion	48
5.2. Recommendation	48
REFERENCES	49
Appendix 01	50
Appendix 02	51
Appendix 03	52
Appendix 04	54
Appendix 05	55

Appendix 06	56
Appendix 07	57
Appendix 08	58
Appendix 09	59
Appendix 10	60
Appendix 11	62
Appendix 12	63
Appendix 13	64

List of Table

2.1. Nutrient Available Energy	4
2.2. Recommendation Daily Allowances of Vitamin and diseases to their acute deficiency	9
2.3. Biological Function of some Minerals	10
2.4. Main Constituent of cow's Milk	13
2.5. Nutritional Composition of Soybean	19
2.6. Nutritional Composition of Rice	24
4.1 summarizes the estimated mediums and sum of rank for each attribute tested	44

List of Figure

3.1. Ingredients of Breakfast Drink	33
4.1. Coliform Plates of Finished Product.	50
4.2. TPC Plate of Finished product	50
4.3. TPC Plate of Finished product during shelf life	50
4.4. TPC Plate of Finished product after shelf life	50

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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.