



Daffodil
International
University

Internship report on

Production & Quality Control of Dairy Product

Bangladesh Milk Producers Co-operative Union Limited (Milk Vita)

Submitted To

Tasmia Tasnim

Senior Lecturer

Department of Nutrition and Food Engineering

Faculty of Allied Health Sciences

Daffodil International University

Submitted By

Mst. Mita Khatun

ID:183-34-811

Department of Nutrition and Food Engineering (NFE)

Faculty of Allied Health Science (FAHS)

Daffodil International University

E-mail : mita34-811@diu.edu.bd

Date of submission: 11 August 2022

Letter of Transmittal

Ms. Fouzia Akter
Assistant Professor & Head
Department of Nutrition and Food Engineering (NFE)
Faculty of Allied Health Science (FASH)
Daffodil International University

Subject : Submission of Internship Report.

Dear Madam,

With due respect, I hereby submit my internship report on Milk Producers Co-operative Union Limited (Milk Vita), which was a required prerequisite of Daffodil International University's NFE program. The goal of this internship was to provide me with knowledge and experience in the dairy production line and quality control area. I believe that the knowledge and experience I gained during my internship will be useful in my future professional life. I while Have tried my best to make the best out of it and avoid any kind of mistake.

Your support in this regard will be highly appreciated. Sincerely yours I would greatly appreciate it if you could shed some light on the report for me by sharing your ideas and opinions. Additionally, if you have any questions concerning my report, I will be happy to address them.

Sincerely yours

Mita

Mst. Mita khatun

ID : 183-34-811
Department of Nutrition and Food Engineering (NFE)
Faculty of Allied Health Science (FAHS)
Daffodil International University

Letter of Authorization

Ms. Fouzia Akter

Associate Professor & Head

Department of Nutrition and Food Engineering (NFE)

Faculty of Allied Health Science (FASH)

Daffodil International University

Subject : An announcement regarding the validity of the Internship Report

Dear Madam,

I, Mita Khatun, officially certify that the internship report I'm presenting was independently created by me after I finished working at Milk Vita for three months. And everything in this report is accurate. I further declare that this report and its components have not been filed elsewhere.

Sincerely yours

Mita

Mst .Mita Khatun

ID : 183-34-811

Department of Nutrition and Food Engineering (NFE)


Faculty of Allied Health Science (FAHS)

Daffodil International University

Certificate of Approval

I am pleased to certify that the internship report on Milk vita conducted by **Mita Khatun** , bearing respectively ID No: 183-34-811 of the department of Nutrition and food engineering has been approved for presentation and defence/viva-voice

I am also pleased to hereby certify that the data and finding presented in the report are the authentic work of Mst Mita khatun. I strongly recommended the report presented by Mst Mita khatun, for further academic recommendations and defense /viva-voice. Mst Mita khatun bears a strong moral character and a very pleasant personality. It has indeed a great pleasure working with her. I wish her all success in Life.

<p>Ms. Fouzia Akter Associate Professor & Head Department of Nutrition and Food Engineering (NFE) Faculty of Allied Health Science (FASH) Daffodil International University</p>	<p> Tasmia Tasnim Senior Lecturer Department of Nutrition and Food Engineering(NFE) Faculty of Allied Health Science (FASH) Daffodil International University</p>
---	--

Acknowledgement

The individual cannot accomplish anything. For their thoughtful advice, suggestions, directions, and cooperation, I owe a lot of people. I would like to begin by thanking the Almighty God for enabling me to finish my internship report in a professional and suitable manner. Then, I'd want to express my gratitude to my honorable teacher Tasmia Tasnim, a lecturer in the faculty of allied health sciences' department of nutrition and food engineering. Every time I needed something, she was there to help, and she provided the correct guidance for getting the project done. This program will enable me to develop a promising career. The opportunity to thank Abu Md. Shariful Islam, the general manager,

Engineer Md. Shariful Islam Talukder, the deputy general manager, Md. Anwar Islam, the quality controller, and Abul Kalam Azad, the production officer, is a pleasure. Limited by Bangladesh Milk producers' Cooperative Union. I had a wonderful time working on this project and really loved it. Only the generous contributions of all Milk vita & co. Ltd. employees made this possible. My performance during this course will undoubtedly benefit me in my line of work. I want to thank every Milk Vita staff for their kind assistance and cooperation while I was an internship.

I appreciate everyone's assistance, advice, counsel, inspiration, and support.

Table of Contents:

Page No

Chapter 1	i-vi
• Introduction	
• Objective	
Chapter 2	1-19
• Production Section	
Chapter 3	20-25
• Quality Control Section and conclusion	

Introduction

Emergency Nutrition Information System (ENIS) Chapter 1

Regarding Milk Vita One of the main agricultural industries in the nation is the dairy industry. The current administration is eager to implement programs in light of the specified goals since the primary national goal is to narrow the wealth gap between the rich and the poor and to offer low-cost inputs to farmers. It has been acknowledged that a group of cooperatively organized small farmers are already receiving some rural benefits through the Bangladesh Milk producers' Co-operative Union Limited (BMPCUL). Background of Milk Vita At Lahirimohanpur, a dairy plant with a daily capacity of 2,000 liters was developed in 1946. Using the easy rail communication technology, Pabna's current goal is to convey milk products to the Calcutta (India) market. In 1952, a private firm called Eastern Milk Products Limited bought this dairy from its original owner when India and Pakistan were divided. In 1965.

Mission:

1. Our goal is to become dairy sector self sufficient by 2025.
2. To satisfy the need for nutrients.
3. Milk vita's operations contribute to the bonding of rural and urban communities by promoting rural products to city inhabitants, and on the other hand

Objective: Providing the greatest logistical support in the milk industry to hard-core poor, landless, and marginal farmers and the villagers in order to increase national milk production and collection and create more milk-based products Our goal is to:

1. To increase the secondary income of landless, marginal, and extremely poor farmers who live in relatively remote rural areas of the nation by purchasing their milk at a fair price through a guaranteed market inside the co-operative framework.
2. Providing city residents with a steady supply of nutritious, and safe milk and milk products at a reasonable cost.

Definition of milk: Milk is the only food that keeps us alive for the first few months of life. Milk has a mild, sweet flavor. The whitish, nutrient-rich fluid known as milk comes from the organs of warm-blooded mammals. Acetone, SFAs, and acetaldehyde, which give fresh milk its scent, are all present. A glass of cow milk has a pH between 6.4 and 6.8.



Figure 1: Milk

Composition of milk :

Name	%
Water	87.7 %
Carbohydrate	4.9 %
Fat	3.4 %
Protein	3.2 %
Minerals	0.7 %

Table :1 The milk content was shown in percentage

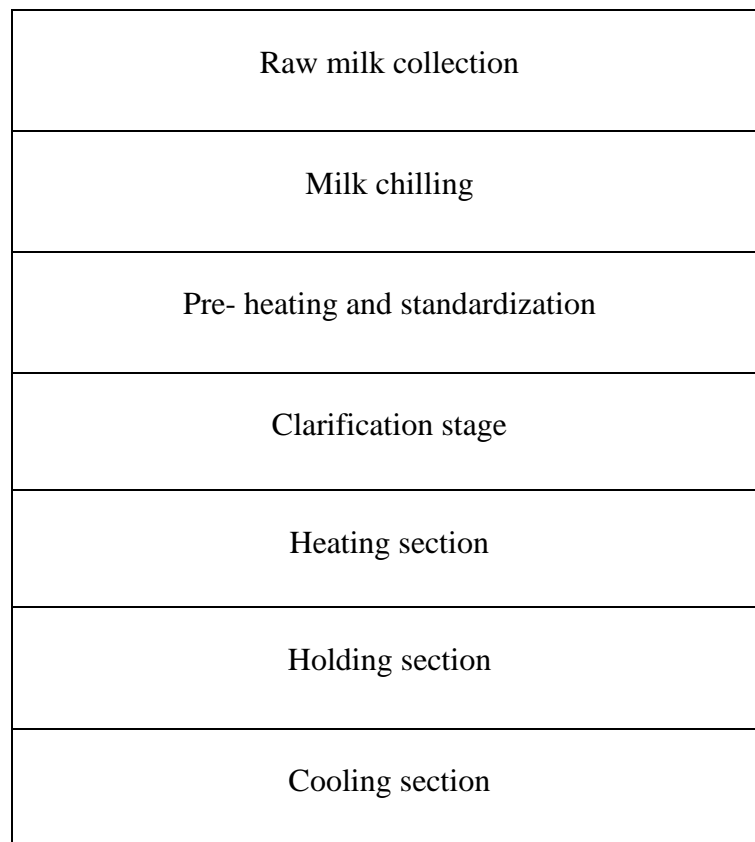
Production section

Pasteurized Milk Processing

Definition of Pasteurized Milk :- Pasteurized milk is raw milk that has been treated to a specific temperature and time to kill microorganisms that may be present in raw milk.

Pathogens are microorganisms that cause illness, such as bacteria.

Flow Diagram of Pasteurized Milk



Rasmalai Production

Rasmalai: Rasmalai is one kind of dessert type food its south ASIAN syrupy dessert popular in the Indian subcontinent and regions with south Asian diaspora.



Figure 2 Rasmalai

Flow chart of Rasmalai

Raw milk collection
80 liter Milk
Add sour water

Remove Excess water from Chana
Homogenization stage
Add Baking Powder +Sugar+ Flour
Mixing and kneeing the dough
To make sugar syrup add
Formed into small balls
Balls cooked into sugar syrup
Dilute sugar Syrup
Heat Milk
Reduced the Milk
Transfer Balls into Milk
Packaging
Cooling
Marketing

ROSOGOLLA PRODUCTION

Rosogolla: Rosogolla, often spelled rosogolla or rosogolla, is a syrupy south Asian delicacy beloved in parts of the Indian subcontinent and south Asian diaspora.



Figure: 3 Rosogolla

Flow chart of Rosogolla

Raw milk collection
80 liter Milk
Add sour water
Chana

Cooling
To make sugar syrup
Add Flour
Mixing and make Balls
Transfer balls into Sugar syrup
Cooling
Packaging

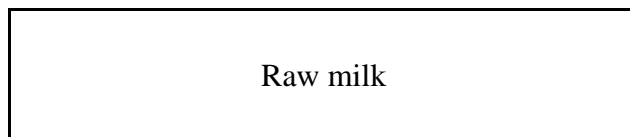
CHEESE PRODUCTION

When the curd or coagulum has reached its ultimate pH, it is sliced using knives. In major processing plants, the cheese is chopped vertically and horizontally with massive, sharp, multi-bladed wire knives that also stir the cheese pieces. The soft cheese is sliced into large bits.



Figure: 4 Cheese

Flow chart of Cheese



Add citric acid
Heating at 37 ⁰ c rennet addition
Milk Curding
Remove Access
Cutting
Packaging
Storing
Marketing

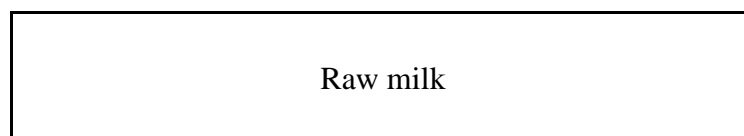
CHANA MISTY

Chana misty: Originating from the Indian subcontinent, chenna is a type of curd or cheese made from water buffalo or ordinary cow milk by starting the whey through filtering and adding food acid and calcium lactate in place of rennet.



Figure: 5 Chana misty

Flow chart of Chana Misty

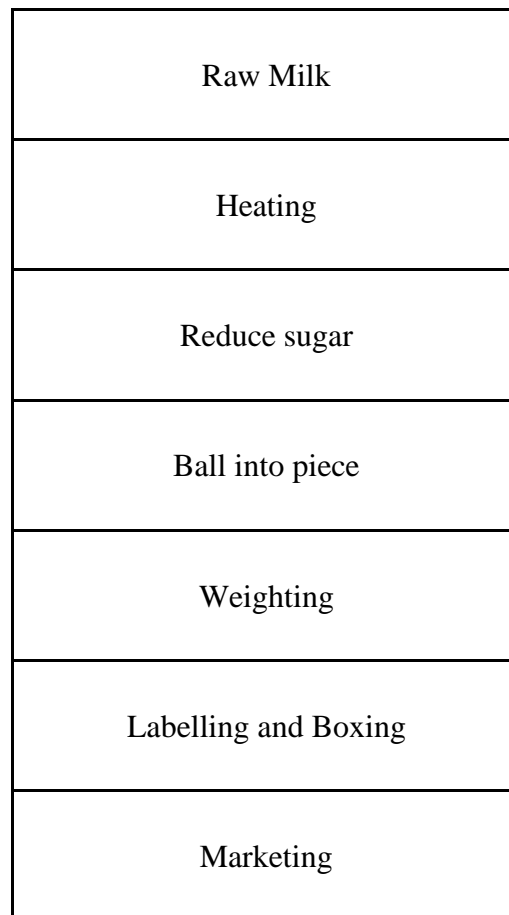


Add sour water + Flour
Remove excess water
Chana
Add sugar
Set into tray
Cutting
Labeling and Packaging
Cooling
Marketing

PERA SANDESH



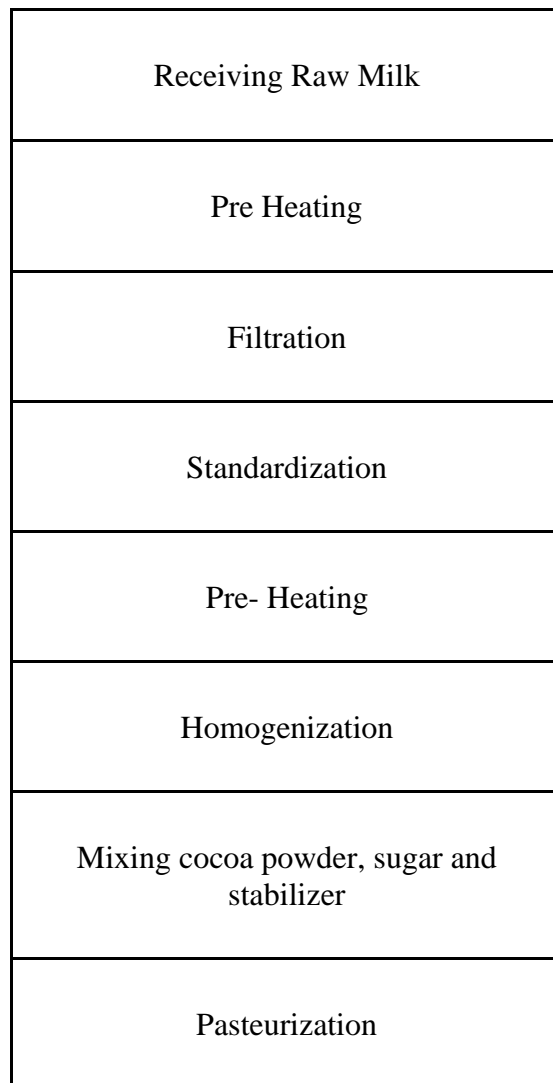
FLOW CHART OF PERA SANDESH



CHOCOLATE MILK PRODUCTION

Chocolate Milk: Chocolate milk and other flavored milk are created from the same high quality milk as plain white milk, and no, it does not come from brown cows. Chocolate milk is produced from white milk with cocoa and sugar added. There is no tainted or aged milk used in the production of milk or dairy products.

Flow chart of Chocolate Milk



Cooling

Bottling and Storage

Quality control section

Alcohol test

The alcohol test establishes if milk is susceptible to coagulation as a result of established acidity and salt imbalance. Corrosiveness test is another name for the stage test. The ethanol used for this test is 68 percent. Typically, it is done in a ratio of 1:1, however in milk-vita, ethanol: test, it is done in a ratio of 2:1. (milk).

Reagents :

1. Test tube.
2. Pipette.
3. Ethanol.
4. Sample (Milk).

Procedure

1. A test tube is first filled with 2ml of 68 percent ethanol using a pipette, and

2. Then 1ml of milk is added.

- For a while, shake the sample.
- Liquor is affirmative if milk coagulates and remains stable with the test cylinder's body.
- Is not as suitable for additional processing as sanitized milk.
- Liquid milk will not coagulate if A pipette is used to add 2ml of 68 percent ethanol to a test tube before adding 1ml of milk. Quor is unfavorable, and this milk is helpful for subsequent action.

Soda test : Neutralizers for milk are added, and these include hydrated lime, sodium hydroxide, and sodium carbonate. Brick red will appear if there is soda in the milk. Dairy farmers use soda to extend the shelf life of their milk.

Apparatus:

- Test tube
- Ethanol 100%
- Pipette
- Rosalic acid
- Sample

Process :

1. In a test tube, add two milliliters of milk followed by two milliliters of 100 percent alcohol before adding two drops of rosalic acid.
2. It is assumed that milk is tainted if its hue changes to a pinkish crimson.
3. If the soda test yields a negative result, this milk is used for the next step.

Fat test: Another aspect of the milk quality control test is the fat test. It is important for assessing the milk as well. Due to milk-predetermined vita's milk price based on fat rate.

Mechanical assembly and hardware:

1. Butyric meter, Lockstep, and pin.
2. Sulfuric acid
3. Amyl liqor.
4. Centrifuge machine.

5. Sample (Milk).

Technique:

1. First, 10 ml of sulfuric corrosive are added to the butyrometer, and then 10.75 ml of milk.
2. after that, 1ml of amyl alcohol is also added to the blender.
3. Water has been added to the blender to change it.
4. The butyrometer is then bolted using a lock-stop and a pin.
5. Next, shake the blender as necessary.
6. After that, run the butyrometer at 110 RPM and 60 °C for 3 minutes in the axis machine.
7. Next, calculate the fat rate using open eyes.
8. Although 3.5 is the average, it typically ranges from 3.2 to 4.2.

Salt test: sodium test It is yet another test of debasement. To increase the SNF of milk, people add salt.

Equipment and reagents :

1. Test tube.
2. Silver Nitrate (AgNO_3).
3. K_2CrO_4 .
4. Sample milk.

Method:

1. Test a test tube with 5ml of silver nitrate.
2. Pour in 4–5 drops of K_2CrO_4 .
3. Finally, drink 1ml of milk.
4. If there is dark shading in the blender, the salt test was probably unsuccessful.
5. If the shading changes to a little yellowish shade, the salt test was successful.

Sugar Test: One type of corruption test is the sugar test. Since certain terrible human groups intentionally put sugar to milk to increase its thickness, Therefore, authorities conduct this test to find

out.

Mechanical assembly and Equipment:

1. Test tube.
2. Test tube holder.
3. Bunsen burner.
4. Resorcinol
5. Sample milk.

Strategy: 1 . At first 5ml resorcinol are taken into a test tube.

2. Then include 1ml milk into the test tube.
3. After included milk it becomes coagulate.
4. Then use the holder to hold the test cylinder to place it into the Bunsen burners' flam.
5. Keep it going until it bubbles.
6. After that, give the mixer some time to cool.
7. If the blender turns brick with red shading within a few seconds, the sugar test is positive.
8. If the blender has a little reddish tinge, the sugar test was unsuccessful.

Formalin test :

Reagents and apparatus

1. Conc. sulfuric acid
2. Sample
3. Pipette

Procedure

1. Put 2 ml of milk and 2 ml of condensed milk in a test tube. While shaking, sulfuric acid is poured onto the test tube's sides.
2. The presence of formalin is indicated if a violet or blue ring develops where the two layers meet.

Conclusion

I learned a lot during my internship at Bangladesh Milk Producers Co- Operative Union Limited (Milk Vita), which was well-run. I firmly believe that working for this reputable organization has given me a ton of real-world experience. Everyone in authority, including the employees, was very helpful to me. All items and machinery systems are of excellent caliber. Finally, I would want to express my gratitude to Milk Producers Co- Operative Union Limited (Milk Vita), a reputable firm, and its authority for offering me this opportunity.

