



Internship report on:

Ice-cream Process of Taufika Foods and Agro Industries Ltd.

Submitted to:

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Submitted By:

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Date of Submission: 13-05-19

	Letter of Transmittal	
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Date: 13/05/2019

Prof. Dr. Bellal Hossain Head

Department of Nutrition and Food Engineering Faculty of Allied Health Sciences

Daffodil International University

Subject: Submission of Internship report.

Dear Sir,

With due respectfully to state that, I am hereby submitting my Internship report, which is a part of the B.Sc in NFE program curriculum. It is a great achievement to work active supervision. This report is based on, Igloo Ice Cream and Milk Unit. This Internship gave me both academic and practical exposures.

I will be highly obliged if you are kind enough to receive this report and provide your valuable judgment.

Sincerely yours,

Md. Shamim Ahammed

ID: 162-34-536

Department of Nutrition and Food Engineering

Faculty of Allied Health science

Daffodil International University

	Certificate Approval	
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I am pleased to certify that, My internship report on Lovello Ice-cream at Taufika foods and Agro Industries Ltd. conducted by Md. Shamim Ahammed bearing ID:-162-34-536 of Department of Nutrition and Food Engineering has been approved for Defense/Viva Exam under my supervision Md.Shamim Ahammed worked at Taufika foods and Agro-Industries Ltd.

I am pleased to hereby certify that the data and test presented in the report are authentic work of Md.Shamim Ahammed . I strongly recommended the report present by Md.Shamim Ahammed for further academic recommendation and defense/viva-voce. Md.Shamim Ahammed bears a strong moral character and a very pleasant personality. I wish his all success in life.

Bellal

Professor Dr. Md. Bellal Hossain
Head
Department of Nutrition and Food Engineering
Daffodil International University

	Acknowledgements	
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First of all, my gratitude goes to the almighty Allah for giving me the patience and capability to complete my duty and responsibilities in a well and sound health. Then my parents, who had put me on the map and supported me in every situation.

I would like to express my gratitude to **Professor. Dr. Md Bellal Hossain**, Head of the Dept. of Nutrition and Food Engineering, Daffodil International University for creating this enormous scope of practical knowledge in the curriculum and providing me valuable guidance to complete my work.

My deepest respects and thankfulness to **BM Rabbany**, Chief Human Resource Manager Lovello Ice Cream Ltd, and for allowing me to complete the internship in Lovello Ice cream.

I greatly appreciate **Md. Rafiqul Islam** Assistant Manager Quality Assurance Dept, **Md Shahadot Hosan**, Deputy Manager Admin & Compliance, **Md. Abdul Mojid** , Assistant General Manager Production, **Md. Mostafa**, Deputy Manager, Electrical Dept. for giving me valuable time, sharing knowledge and teaching me various practical aspects of industrial life and organizational behavior.

I am bound to the Executives, Junior Executives, Lab Assistants of the Quality Assurance Dept.,**Md. Saddam Hosan**, officer (QA), **Md. Liton Miah** Asst. Production Officer,**Md. Tarikul Islam** Asst. Quality Assurance Officer, **Md. Shamim Hosan**, Asst. Manager, Mechanical Dept. **Md. Mozibur Rahman** Sr. Tech Officer. **Md. Mafuzur Rahman** Electrical Dept. Designation (TE).**Md. Mamun**, Mechanical Dept. Designation (Operator), **Md. Amir Shohel**, Refrigeration Unit, Designation (Tech. Officer), Admin, Distribution of Lovello Ice cream for supervising, helping and sharing valuable information and cooperation.

Tables of Contents

SI No	Contents	Number of page
01	Cover page	(i)
02	Letter of transmittal	(ii)
03	Certificate approval	(iii)
04	Acknowledgements	(iv)
05	Summary	1
06	History	02
	Aim of Training	03-04
07	Production Department	05-09
08	Sequence of Mix	10
09	Flow chart of mixing unit	11
10	Tetra hoyer rollo-23 machine	12
11	Comet C ₂	13
12	Hoyer straight line -600	14
13	Continuous freezer	15
14	Cone baking unit	16
15	Product list	17
16	Freezer	18
17	Ice cream cone unit	19
18	Conclusions	20

	Summary	
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In my Bachelor of Science Degree in Nutrition and Food Engineering, I got an opportunity to work at Taufika Foods and Agro Industries Ltd Lovello Ice-Cream which is the part of my Internship program. The duration of my internship was 09- February-2019 to 15- March -2019. Taufika Foods and Agro Industries Ltd in Lovello Ice-Cream is a very popular and dairy based company in Bangladesh, which is situated in Bashile, Kathali, 6 no. Valuka Union Parishad, Mymensingh. Lovello Ice-Cream has many type of department. My concern to all this department getting some knowledge.

The motto of Lovello Ice-Cream “Beats of My Heart” suits best to define its various type of products, with more than 50 stock keeping units and 52 items product for retailers and business entrepreneurs. Ice creams of Lovello ice-cream is not only made for only the retailers but also the company is finely serving the demand of the commercial clients of the food business such as premium ice cream serving parlors and Ice cream cake. To reach every pocket of the country the company has established 11 points of major distributors or dealers all over the Bangladesh.

As the student of Nutrition and Food Engineering of Daffodil International University Three students were given the opportunity to complete our internship five weeks in Lovello ice-cream.

	<h2>History of the Company</h2>	
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Lovello is a manufacture under Taufika foods and agro industries ltd. Taufika foods and agro industries it is an organization under Taufika group. Taufika has established at 2005 by Md. Ekramul Haque. He is an engineer and he worked almost 20 years for a foreign company in Malaysia. Then after 2000, he came back in Bangladesh and launched this group. The group started Taufika engineering LTD (TEL) which involved in engineering business and build of steel and RCc building, project management and Turnkey general civil construction etc. Since when it has started, it is manufacturing only healthy, Halal and savory Lovello Ice Cream prepared of imported high quality raw materials using state-of-the-art technology.

Lovello, confide in confirming long-term presence by being profitable and successful. They, so deeply take on customers' suggestion, give best attempt and improve as well as add new volumes to their business so that they can confirm anointing in this extremely competitive ice cream industry. This technique has qualify them to effectively dispute the challenge. And that challenge is to stay competitive with the front edge technologies and making quality full product and having a good portion of market share. Close competitor of lovello is polar, it have already same amount of shares in the market So , from here its clear Lovello commits in producing value added products and showing the business's commitment to utilize resources effectively.

Lovello introduce the extensive choice of ice cream to its consumers, compare with other competitors in the market. Lovello is Introducing a total of fifty seven items .But popular ones are couple toub, hidden heart, heart beats, kulfi, shell & cone, Choco bar, Choco blast and family pack items. Lovello has good flavors than what helping them to compete in the industry and constantly introducing new and innovative items. With times lovello is giving the indication of become leading ice cream seller in this industry.

They Started with Choc-bar, which is now contributing 11% of the total sales mainly, constructs of Choco bar and mini choc. Both of those are vanilla flavored and implicated with chocolate and deliver consumers an energetic feeling and they satisfy themselves into it. Then our next analysis about Hidden heart which has already five percent contribution in sales and has flavor of vanilla and strawberry ripple implicated by hazelnut coating and also have coconut taste.

Aim of Training:

Internships provide an opportunity for students to link theory with practice and further serve as a temporary labor pool for those agencies that have committed to participate in the Internship program. The department fulfills its mission of preparing students for significant professional and managerial positions in all the sectors. Relevant professional development topics and workshops are discussed weekly.

Objectives:

The main objective is to hazard free safe production and quality control of Ice cream, that's help to gain real life exposure and get a clear idea about dairy product as well as promoting brand.

The specific objectives of this study are as following:-

- Focused on the hygienic production and quality control of Lovello Ice cream and have had an idea of activities Lovello Ice cream.
- Earned knowledge about different activities of the organization.
- Identification the hazard during the processing and production of Ice cream in the plant, and finding how to take necessary steps.
- Identification different critical control point in Ice cream.
- The processing of Ice cream
- Satisfaction of the requirement of NFE Program.
- Complete information about Taufika Foods and Agro Industries Limited (Lovello Ice cream).

Scope of this Study:

This study has been conducted on dairy based industry and standard quality control activities of Lovello Ice cream. This report has been prepared through extensive discussion with internal processing, quality assurance of final product. The main focus of this internship training is the hygienic production and quality control of Ice cream, compositional standard and quality processing of milk products carried by the Dairy Producers Company. The report covers details about the hygienic production and quality control Ice cream. However, the study is related to the hygienic production area and quality control department and this section I got an opportunity to only work in this area.

Primary Sources of Activities

- ❖ Practical deskwork in lovello Ice cream.
- ❖ I was recruited as a trainer where my job is to learn how dairy related practical knowledge gain.
- ❖ Collected data sometime employee's internal management of lovello Ice cream experienced worker.
- ❖ During my job I have experienced a lot of important things about dairy based product section which is helping me to do my report.

Secondary Sources of Activities:

- ❖ Official website of lovello Ice cream.
- ❖ Secondary data has been provided by my onsite supervisor
- ❖ **Mr. Rafiqul islam** (QC manager).
- ❖ Newspaper, journal, articles etc.
- ❖ Annual report of lovello Ice cream

Production Department of Lovello Ice-cream

Production Department

Production Department holds the responsibility for which the company is established. the dept. is responsible for the producing of best quality with the help of other departments. The dept. works for (24 hour) like the quality assurance whenever it is needed. This dept. holds the highest number of the active personnel among all the departments. So great responsibilities come with greater number of the personnel. Production department produce ice cream upon market demand.

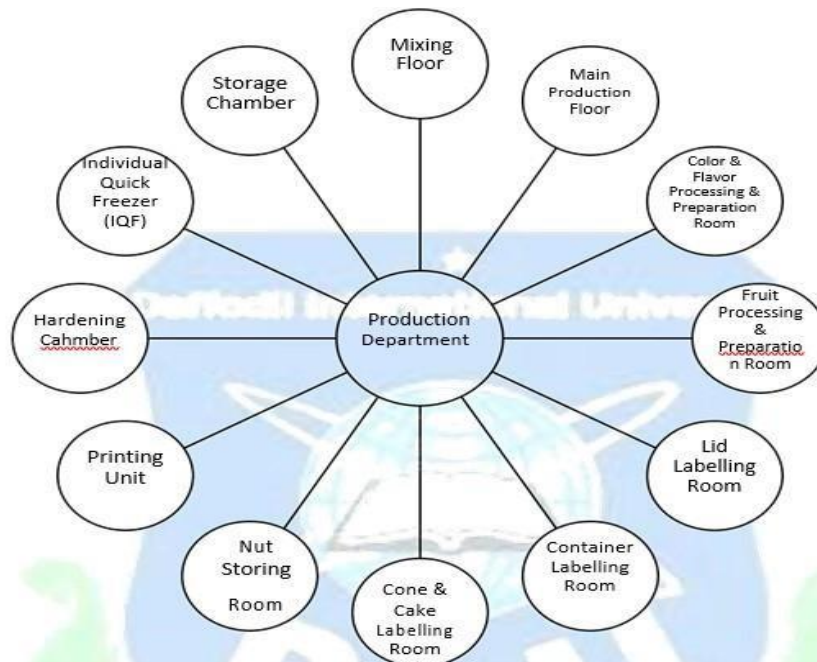


Figure: Subunits of the Production Department

In the mixing floor the basic raw materials and ingredients are gathered and mixed together in the ratio set the production office. Sometimes colors, flavors, are added here/ in the floor there are pasteurizer, homogenizer, aging and mixing tanks, reprocess tanks are available to carry the regular unit operation.

In the color and flavor processing room, he needed colors and flavors needed for certain products are prepared according to the recipes formulated by the production and research and development (R&D) dept. then mixed with the basic mix.

Process flow diagram for ice cream manufacture:

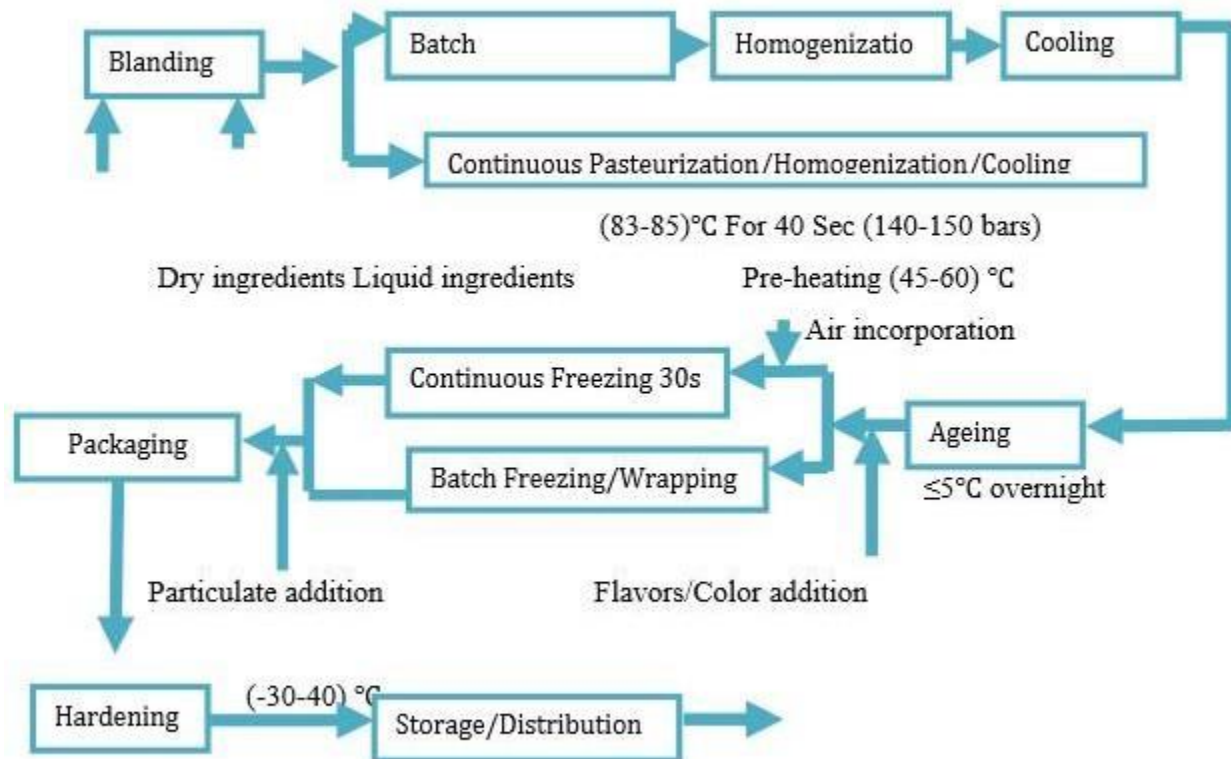


Figure: General flow diagram of ice cream production.

Fruits used for inclusion and as main ingredient are washed, peeled, blended and processed for further operations are prepared here in hygienic condition then transported to the production or mixing floor.

The mixes enter the main production floor from the mixing floor to the main production floor. Here the mixes are mixed with color, flavor if needed. Over run, Hardening is carried here. The cones directly enter the (IQF) from the machines as well as the cup items, Ripple enters the hardening room at a temperature minimum (-25 C) for best hardening for approximately (20 minutes), then comes out. Rest of the items enters the (IQF) for further processing.

Lid and container labelling is done in to separate rooms. Here the workers stick the labels on the containers and lids supplied by the plastic unit or external suppliers manually.

Ice Cream Shelf Life

Finished Products are kept in storages behind the production floor and then transported to the transporting vehicles. The Temperature of the 1st storage is minimum (-18C) and the second one is minimum (-26 C). Spoiled but fit for reprocessing; those products are preserved in those facilities too for further uses if they pass the quality tests.

Overrun

Over run is the most important unit operation done in this floor. Overrun means, incorporation of air into the mix with high speed and low temperature to increase the volume of the mix as the standard.

If Overrun is done more than the standard, that means, the weight of the products in (gram) is less than the standard. On the other hand, if the Overrun is lower than the standard, the weight of the product in (gram) is more than the standard. Moreover, any irregularity in the Overrun process will affect the mouth feeling, taste, smoothness and texture of the product.

$$\text{Overrun} = \frac{\text{Mix weight} - \text{Ice cream weight}}{\text{Ice cream weight}} \times 100\%$$

Lovello Ice-cream has own ice cream processing Plant in Bhaluka,Mymensingh.They always ensure to quality during processing. The most of raw materials are collected from Australia, Newzland ,Singapore etc. They are using tetra pak technology machineries during Ice-cream processing. Every steps of processing to maintain ISO and BSTI standard. The following processing unites are used for production of Lovello Ice-cream below:

- ❖ Mixing Unite
- ❖ Production Floor Unite
- ❖ Cone Baking Unite

- ❖ Packaging Unite
- ❖ Engineering Unite

There are 4 Production Lines in Lovello .Following products are produced in these lines.

- Rollo-23
- Comet C2
- Straight Line (SL) 600
- Continuous Freezer

	Mixing Unite	
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Lovello Ice-creams has own Mixing Unite that is most important parts for ice-cream mixing .In this process, pasteurization, hominization process are followed.

Name of Machine: Premix HTST 2000

Capacity: 2000L/hours

Amount of Batch: 2500 kg or 2200 Kg

Types of Mix used:

- 1) White mix>>> 1) vanilla, Mango, Strawberry, toffee
- 2) Choloate Mix
- 3) Mango mix
- 4) Strawberry mix
- 5) Kulfi Mix
- 6) Shahi kulfi mix
- 7) Choco blast mix>>> 1) Caramel ripple 3gm, Choco blast coating, Al monds 3 gm.
- 8) Kheer mix
- 9) Malai mix

- 11) Doi mix
- 12) Shehi Khajur Mix(Gur)
- 13) Cake mix>>> Shai sandesh, black forest, Choco beats
- 14) Super premium mix (Fat--14%)

Number of Mixing Tank:

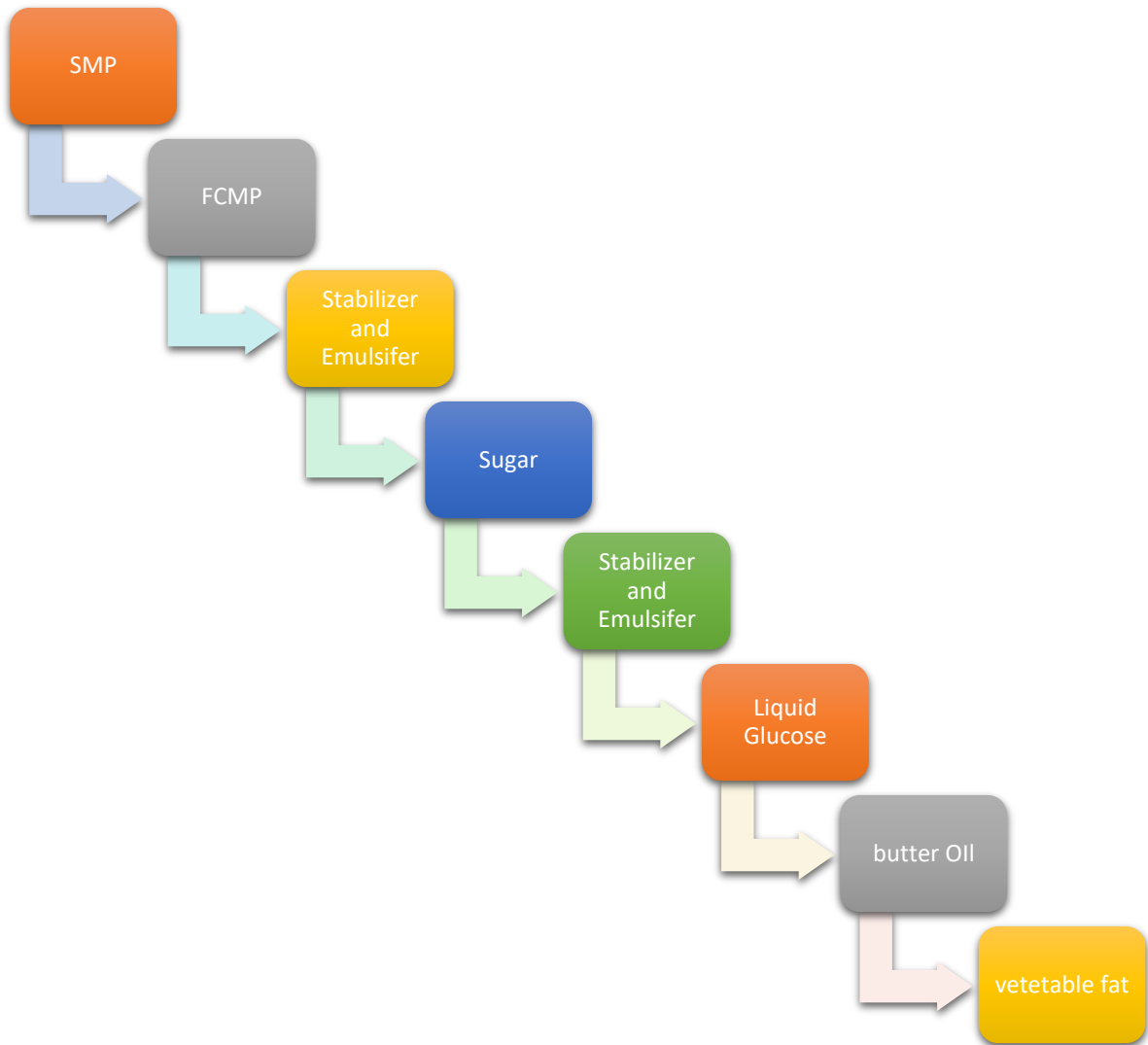
Mixing Tank no-1

Mixing Tank no-2

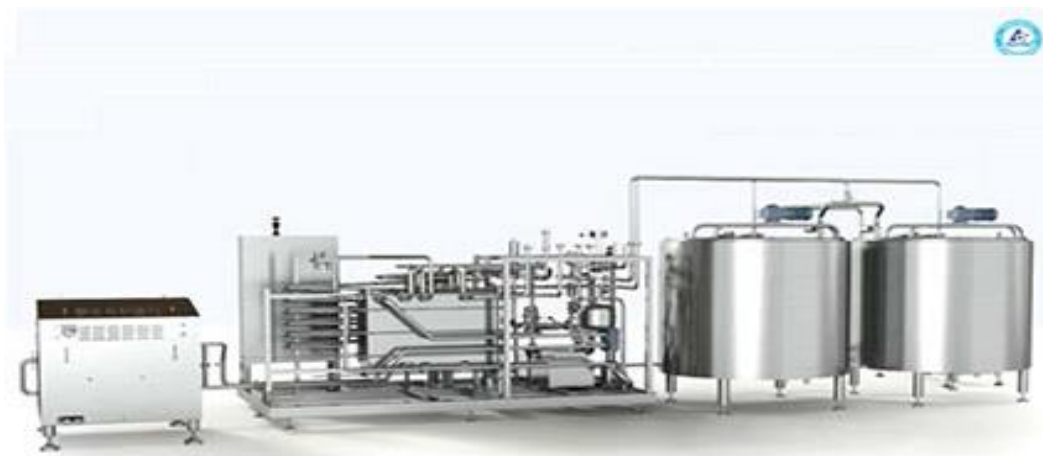
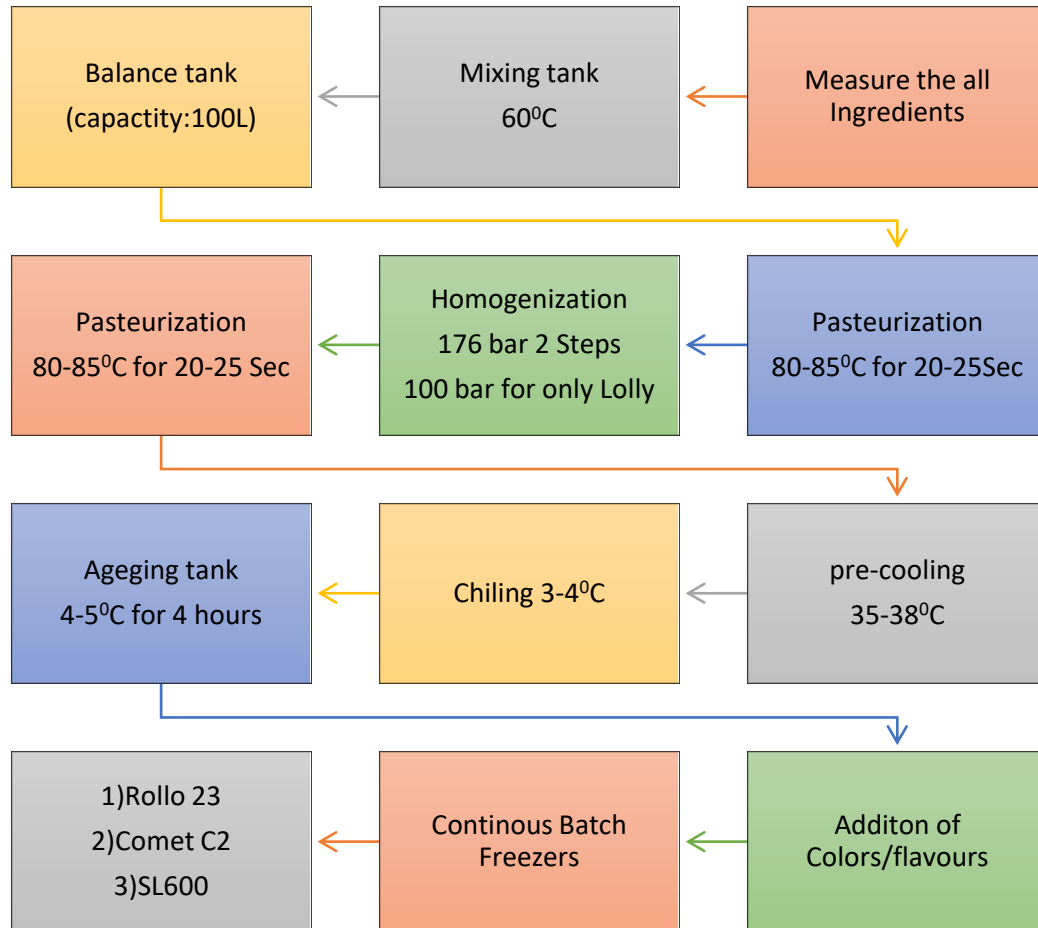
Components for Ice-cream Mix:

Main Ingredients	Inclusions
Skim milk powder (SMP)	Cassata mixed fruits
Full Skim milk powder (FCMP)	English toffee
Sugar	Vanilla cake
Butter oil	Mango chunk
Vegetables Fat	pine apple
Stabilizer	Raisns
Emulsifer	Almonds nut
Liquid Glucose	Nuts
Cocoa powder	Pea Nuts
Colour and Flovurs	Ripple
treated water	coating and chocolate Brownie etc.

Sequence of Mix:

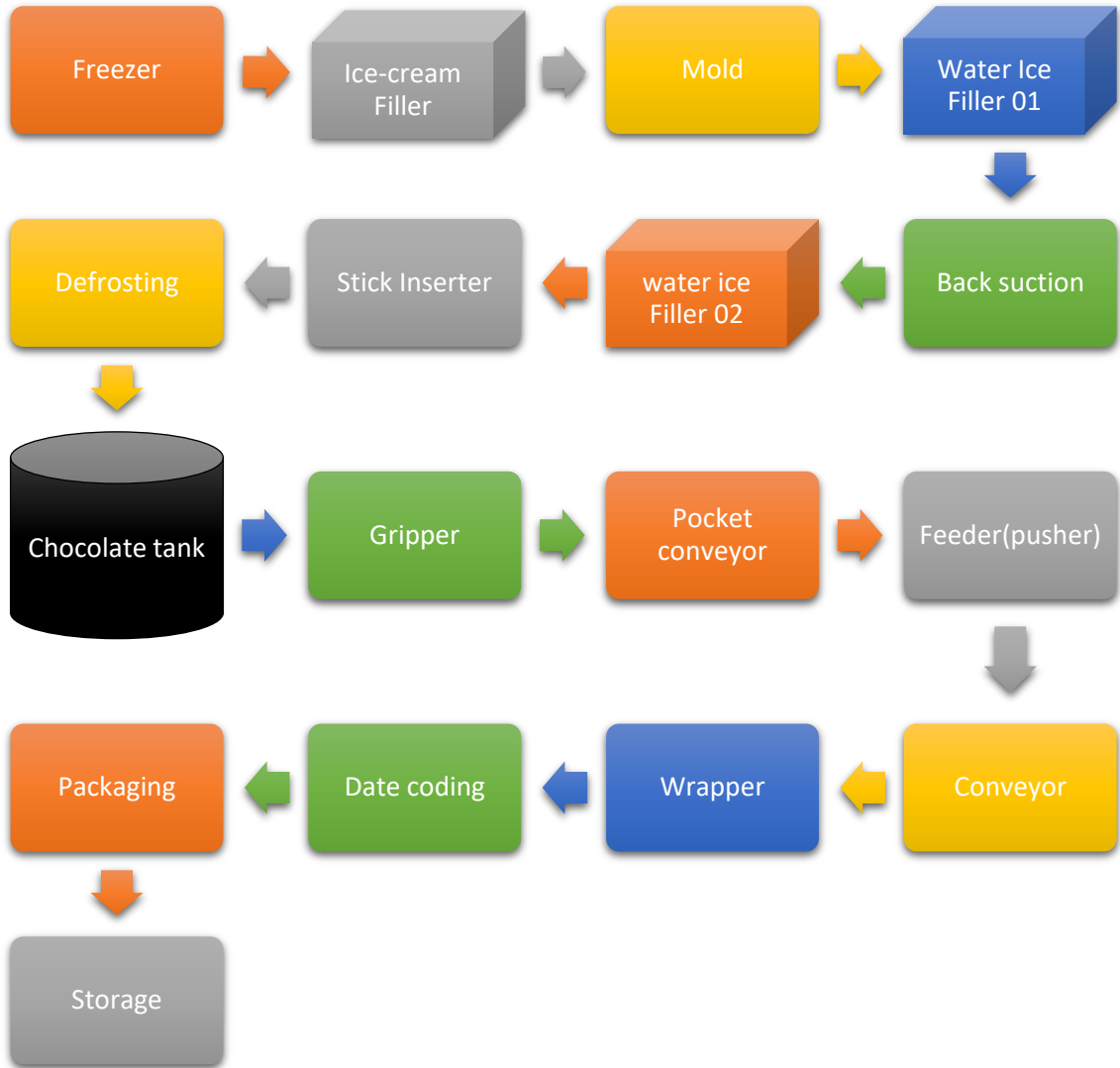


Flow chart of Mixing Unite



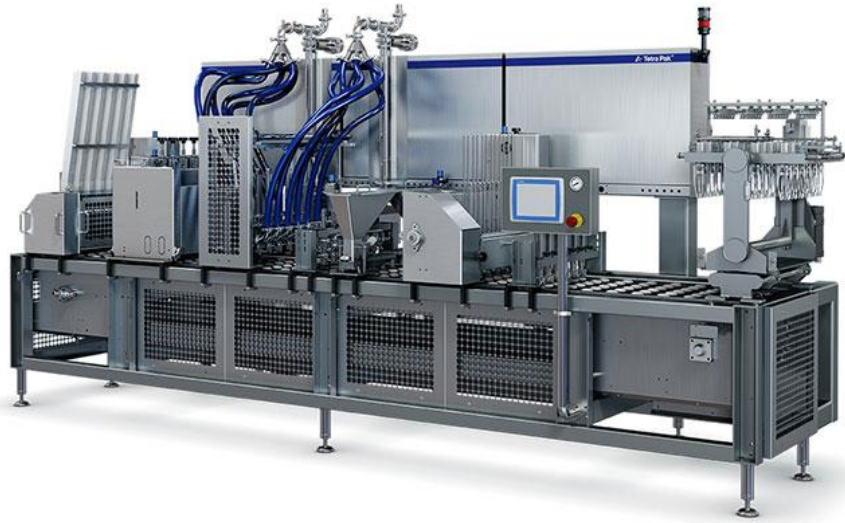
Mix unite Machine

	Tetra Hoyer Rollo-23 Machine	
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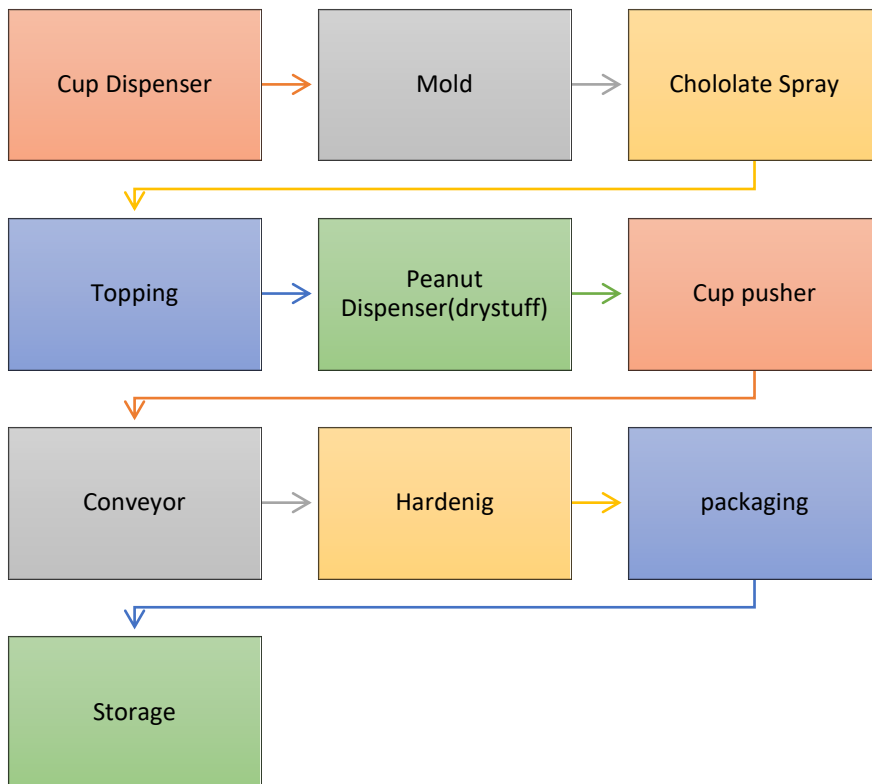


Tetra pak hoyer Rollo Machine

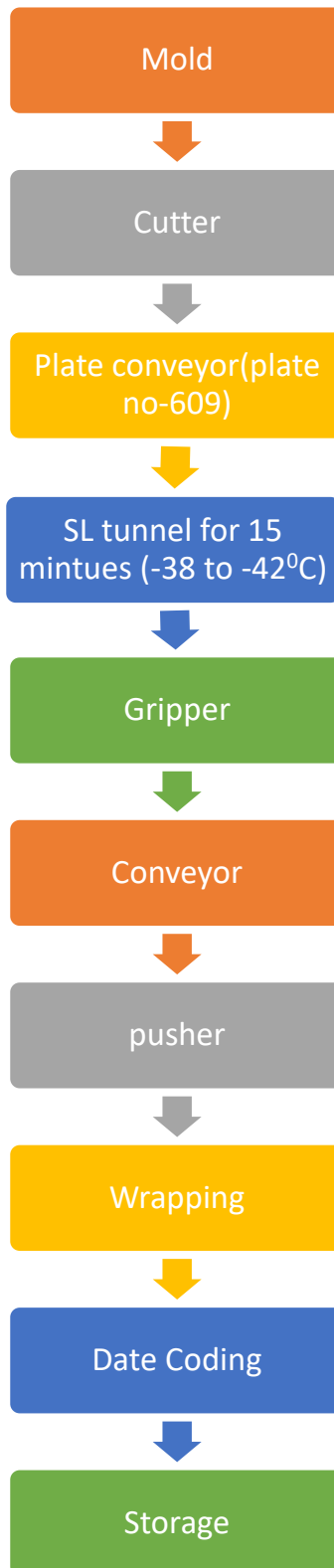
Comet C2



Flow chart of Comet C2



Hoyer Straight Line 600



Continuous freezer



Freezer	Capacity(Liter/Hour)
Continous Freezer no-1	700
Continous Freezer no-2	300
Continous Freezer no-3	700
Continous Freezer no-4	300
Continous Freezer no-5	700

Cone baking Unite



Starland cone baking Machine



Hand pusher

Flow chart of cone baking Machines:

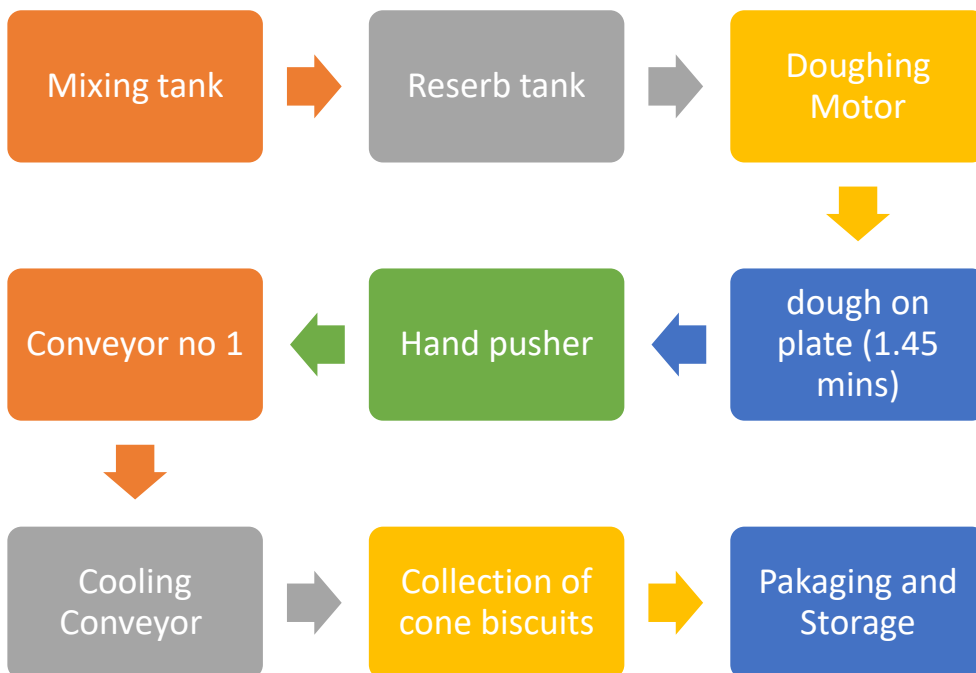


Table-7: Machine Name with the product list

Rollow-23	Straight Line (SL-600)
1. Chocobar	1. Hidden heart single
2. Malai	2. Heart beats single
3. Kulfi	3. Crunchy barmini
4. Shell &Cone	4. Crunchy barmega
5. Lemon Lolly	5. Hazal Beats mini
6. Orange Lolly	6. Hazal Beats Mega
7. Sixty Nine	7. Toffee beats
	8. Choco-blast

Machine Name with the product list

SI No.	Commet C-2
1	150 ml Vanilla cup
2	150 ml Strawberry cup
3	150 ml Mango cup
4	150 ml Choc. Cup
5	100 ml Vanilla cup
6	100 ml Strawberry cup
7	100 ml Mango cup
8	100 ml Choc. Cup
9	72 ml Vanilla Cone

Machine Name: Freezer

Product List

- ❖ 250 ml Tubs (vanilla, chocolate, mango, strawberry)
- ❖ 500 ml Tubs (vanilla, chocolate, mango, strawberry)
- ❖ 1 Liter Tubs (vanilla, chocolate, mango, strawberry)
- ❖ 2 Liter Tubs (vanilla, chocolate, mango, strawberry)
- ❖ 5 Liter Tubs (vanilla, chocolate, mango, strawberry)
- ❖ 1 Liter Shai Khejur Malai
- ❖ 1 Liter ShaiSwandesh
- ❖ 1 Liter Khejur Malai
- ❖ Double Sundae Vanilla & Caramel
- ❖ Double Sundae Vanilla & Mango
- ❖ Double Sundae Vanilla & Strawberry
- ❖ Swirly Sundae (strawberry)
- ❖ Swirly Sundae (chocolate)
- ❖ 1 Liter Round Shape Cake
- ❖ Swing Ball
- ❖ 120 ml Shai Khejur Malai Cup

Lovello Ice Cream Cone Unit

Raw Materials

- ❖ Flour
- ❖ Sugar
- ❖ Soya
- ❖ Lecithi
- ❖ Starch
- ❖ Salt
- ❖ Water
- ❖ Vanila

Temperature

- ❖ 170-175⁰C for mini cone.
- ❖ 180- 185⁰C for big cone.

Machine Capacity

- ❖ 4500 - 5000 pic per hour.

Conclusions:

Lovello Ice company has been started its production from 2013 for commercialization with national sales and demand supply , keeping low cost high quality different tested Ice Cream in Bangladesh As a result , they have shared a good space in the market with new concept at consumers satisfaction in view of Marketing Aspects. Day after day, this Company will create new adventure with new taste base products supply through a strong Research and Development team.