PRODUCTION AND QUALITY CONTROL AT GOLDEN HARVEST

BY

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Submitted to the Department of Nutrition and Food Engineering in the partial fulfillment of B.Sc. in Nutrition and Food Engineering

Supervised By

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DAFFODIL INTERNATIONAL UNIVERSITY
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APPROVAL

This Internship titled "**PRODUCTION AND QUALITY CONTROL AT GOLDEN HARVEST**", submitted by **Ripa Ghosh** to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The presentation has been held on----

EXAMINING COMMITTEE

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Harun Ar-Rashid, Assistant professor, Department of NFE,** Daffodil International University. We also declare that neither this internship nor any part of this internship has been submitted elsewhere for award of any degree or diploma.

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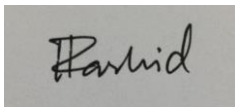

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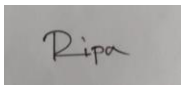

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I would like to express my sincere gratitude to everyone who cooperated in the preparation of this internship report. It would not have been possible without the cooperation members and mentor. They are so cooperative and friendly as well.

First, I would like to express my gratitude to Almighty for giving me the strength and opportunity to successfully complete the report during this period.

The internship report has been prepared as an internal part of **NFE** program at **Daffodil International University.** I am indebted to a number of persons for their suggestion, direction and co-operation that have enable me to prepare this report.

I am grateful to my respected teacher and supervisor **Md. Harun-Ar Rashid, Senior Lecturer** for his help and cordial guidance to my work.

I would like to express our heartiest gratitude to **Dr. Nizam Uddin, Associate Professor and Head In-Charge**, Department of NFE, for his kind help to finish our project and also to other faculty member and the staff of NFE department of Daffodil International University.

Finally, I must acknowledge with due respect the constant support and patients of my parents.

EXECUTIVE SUMMARY

The Internship was conducted at Golden Harvest from 21 June to 28 July 2022. This factory has two units as Agro unit and Ice-cream unit. This mainly manufactures difference types of foods like snacks items (like French fries, samosa, singara, nuggets, spring roll, meat ball, fish ball, pop chicken, chicken strips and so on), frozen based items (like paratha, tehari, mutton biriani, morug polaw etc.), various types ice-cream etc. To prepare this ice creams they are used skimmed milk or full cream milk, vegetable fat, sugar, RBD (Refined, bleached, deodorized) coconut oil, stabilizer or emulsifier, color, flavor, water etc. They are focus on quality control and assurance of products or materials (storing to distribution). For quality control they are checking: Raw materials (RM), packaging materials (PM), finish goods (FG). And for quality assurance, they are following three tests: Physical test [RM, PM, FG], chemical test [RM-Mandatory, PM], microbiological test. [RM, FG]. By these tests they identified the actual hazard on food and develop the quality, reduce risks, gain productions and customer loyalty. They also maintain hygienic system like: CIP (Clean-in-place), it refers to a method used to clean production facilities and pipelines. The plant is cleaned in circular processes. They follow 5 steps of cleans. And another one is COP (Clean-out-of-place), it refers to systems and equipment that require special handling for disassembly, relocation, or cleaning and disinfection. They use for sanitizing water, chlorine, detergents. They always ensure that, all equipment, floor, products will be clean & safe. They try to make hazard free situation and produce unhygienic products. And finally, I have to say that they are very polite & friendly. It's an open place to learn about industries level, there all functions, materials, methods.

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CHAPTER 1

1. Introduction

1.1 Introduction

This internship is a part of the Bachelor of Science in Nutrition and Food Engineering (NFE) program that provides an on-the-job experience to students. I was placed as a trainee at Golden Harvest, Hotapara, Monipur, Gazipur. This internship program provided me with my first on-the-job experience and education in a variety of fields. During my internship, I was able to become acquainted with the Golden Harvest working environment. My internship was only 30 days long.

Golden Harvest has so many types of departments like Administration department (HR & Admin), VAT department, Accounts, Production, Quality Control, Maintenance, Store, and Distribution. From this company we have learned following activities:

- Make the necessary production plan according to the schedule provided by the production department.
- Firstly, we know about the plant layout of the production line.
- To know about the procedure of production.
- Note all the information about the production line.
- Maintain quality control parameter as per specification in Bangladesh Standard.
- Quality assurance of production.
- Know about packaging quality
- Knowledge on product costing, labeling, packaging, distribution or shipping procedure
- They always focus on their products quality.
- They achieved national and international certificate like HACCAP, ISO 22000:2005, 9001:2008, BSTI, HALAL
- Have to submit all information by an assignment.

1.2 Aim of training

The internship was theory and practical based training. It helps us to develop our job skills, communications skills, help to gain knowledge about industrial sector; it also develops work habits and attitudes necessary for job success. This builds a record of work experience. During internship, a supervisor who guides us and provides information and leaning us about the production very well follows us up.

Internships are a great way to apply what I learning the classroom to real-world experiences. Learning is one thing, but using those abilities and taking them to the job market is a terrific opportunity to explore other professional and career pathways that meet individual interests. An internship allows us to get experience in the job sector we wish to pursue. This not only provides people an advantage when applying for employment, but it also prepares them for what to anticipate in their area and boosts their confidence in their work. Having an internship improves us in the workplace and expands our professional network. There is a great chance of getting a job by connecting with people, so networking is key. Internships are an excellent way to meet experts in our intended job sector as well as other students who share their interests. Moreover, this is the best platform of learning system and proofs you.

CHAPTER 2

2 Description Of Organization

2.1 Overview of Golden Harvest:

Golden Harvest Info Tech Limited was established in 2000. Started production of frozen foods in Bangladesh in 2006. Golden Harvest Agro Industries Ltd. Is a listed company, which is the one of the pioneer sin frozen food, manufacturing in Bangladesh. The brand is known nationally and internationally for its wide range of ready-to cook frozen products. Golden Harvest Ice Cream Co. Limited is a new comer to the Bangladesh ice cream industry with the BLOOP brand. Bangladesh's ice cream industry is growing steadily at a pace of around 12% per year. The company distributes nationwide and exports to the United States, Canada, Australia, the Middle East and European countries, and maintains temperatures at -18°C through its cold chain network. All of this ensures the highest quality products from farm to fork. This company makes easy our daily life. It's a popular company to all over worldwide. There are various products are produced in Agro and ice cream floor. The Agro sector offers around 68 types of frozen foods and the ice cream 'Bloop' brand offers around 40 various variants including sticks, cups, cones, calippo, sorbets, tubs, cakes and many more.

All companies of Golden Harvest

Golden Harvest Agro Industries Ltd.	Fatehpur Estate Ltd.
Golden Harvest Ice Cream Ltd.	Golden Harvest Commodities Ltd.
Golden Harvest Foods Ltd.	Golden Harvest InfoTech Ltd.
Golden Harvest Express.	Golden Harvest Developers Ltd.
Golden Harvest Dairy Ltd.	Sonali Life Insurance Co. Ltd.

Table no 1: Product list of Golden Harvest Agro industries Ltd

No.	**Product name**	No.	**Product name**
1.	French fries	28.	Pop chicken
2.	Deshi paratha	29.	Chicken strips
3.	Deshi ghee paratha	30.	Chicken burger patty
4.	Premium deshi paratha	31.	Beef burger patty
5.	Mega deshi paratha	32.	Sweet and hot wings and Drumlets
6.	Aloo paratha	33.	Tehari
7.	Rice rooti	34.	MorogPolaw
8.	Atta rooti	35.	Chicken shami kabab
9.	Single bite chicken samosa	36.	Mutton biriani
10.	Single bite beef samosa	37.	Onion paste
11.	Single bite vegetables samosa	38.	Garlic paste
12.	Chicken samosa	39.	Ginger paste
13.	Vegetable samosa	40.	Smoked chicken kabab
14.	Mini chicken spring roll	41.	Mini shahi chicken moglai
15.	Mini beef spring roll	42.	Aloo chop
16.	Vegetable spring roll	43.	Pakora
17.	Mini singara	44.	Piaju
18.	Vegetable singara	45.	Ifter platter
19.	Aloo puri	46.	Evening snacks
20.	Dal puri	47.	Amar tiffin
21.	Fish finger	48.	Whole chicken
22.	Mega/ mini chicken nuggets	49.	Frozen aloo chop
23.	Kids chicken nuggets	50.	Frozen pakora
24.	Chicken meat ball	51.	Satkora beef curry
25.	Fish ball	52.	Chicken bhuna khichuri
26.	Chicken sausage	53.	Spring roll pastry
27.	Spicy chicken sausage		

Table no. 2: Product list of Golden Harvest Ice cream industries Ltd:

No.	**Product name**	No.	**Product name**

1.	Magic Malai	20.	Exotic Chocolate
2.	Zafrani Kulfi	21.	Single Sundae
3.	Sharbat Ice Lolly	22.	Valentino Ice Cream
4.	Junior Chocobar	23.	Premium Shor Malai
5.	Vanilla Ice Cream	24.	Double Sundae Caramel and Vanilla
6.	Chocolate Ice Cream	25.	Double Sundae Chocolate and Vanilla
7.	Mango Ice Cream	26.	Double Sundae Strawberry and Vanilla
8.	Strawberry Ice Cream	27.	Kheer Mohon
9.	Classic Chocobar	28.	Premium Doi Ice Cream
10.	Squeezy Lazz Mango	29.	Premium Shahi Shondesh
11.	Orange-O-Tung	30.	Premium Cake Fruity Ripple Ice Cream
12.	Lemon-O-Tung	31.	Shor Malai
13.	Two -to-Tango	32.	Premium Chocolate Lust
14.	Conetastic Vanilla	33.	Full Toss
15.	Chocobar	34.	Conetastic Vanilla & Strawberry
16.	Bloop Megastar	35.	Conetastic Vanilla & Chocolate
17.	Bloop Chocostar	36.	Lazz Mango
18.	Premium Strawberry Fresco	37.	Exotic Vanilla
19.	Premium English Toffy Delight		

2.2 About Golden Harvest Industrious ltd

Golden Harvest is one of the leading business groups in Bangladesh with diversified interests in food, dairy, commodities, information technology, logistics, real estate, aviation, infrastructure development and insurance. Golden Harvest Info Tech Limited was established in 2000. It was an export- oriented software company in its early days. Then another field was developed. Golden Harvest Ice Cream Ltd. Is a new entrant into the ice cream industry in Bangladesh under the brand name BLOOP. The ice cream industry in Bangladesh is growing steadily around 12% per year and is estimated to reach BDT 10 billion in the 2014-15 financial year. Golden Harvest has established a brand-new factory from Tetra Pack Sweden and is operated under the supervision of an experienced Dan is the production manager. The brand offers about forty different variations, including sticks, cups, cones, calippo, sorbets, tubs, cakes and many more.

2.3 Mission, vision and value of Golden Harvest ltd

Company’s Mission

Consistently deliver international standard innovative products & services for improved lifestyle.

Company’s Vision

To be the most trusted and preferred brand to every household in Bangladesh.

The core values of company

The core values are Trust, Responsibility, Collaboration, Customer focus, Quality.

1. **Trust:** Our customers can trust our products because we act with integrity and do what is right.
2. **Responsibility:** We take responsibility, ensure safety of our people and products, contribute to our local communities, and care for our environment.
3. **Collaboration:** We leverage our strengths and capabilities across our organization to earn customers' respect and loyalty.
4. **Customer focus:** We are passionate about our customers and consumers and embrace their priorities as our own.
5. **Quality:** We are committed to offer the highest quality products at all times to our customers globally.

CHAPTER 3

3 Agro Processing Plant

3.1 Agro based items: (Ready to Cook and Ready to Eat foods)

1. Paratha items (Deshi Paratha, Deshi Ghee Paratha, Premium Deshi Paratha, Mega Deshi Paratha.)
2. Snacks items (French fries, Samosa, Spring Roll, Singara)
3. Meat items (Nuggets, meat ball, chicken sausages, pop chicken, chicken strips, chicken burger patty, beef burger patty, Sweet and hot wings and Drumlets)
4. 'Ready to Eat' items (Tehari, Morog Polaw, Chicken Shami kabab, Mutton Biriyani, Smoked Chicken Kabab)

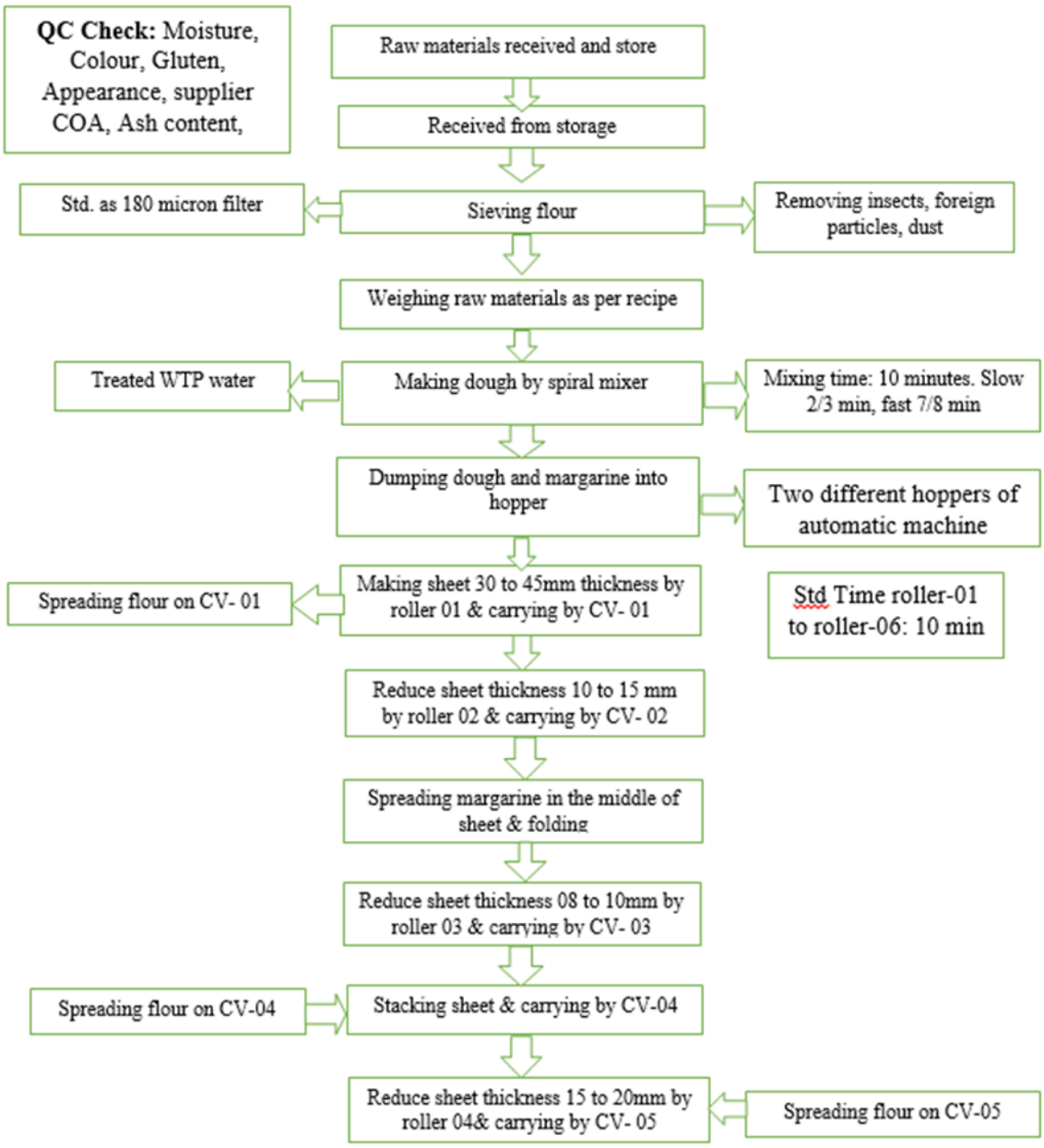
3.2 About Paratha production:

Golden Harvest Group is a diversified corporation located in Gazipur, Dhaka, Bangladesh. It produces many frozen food products. However, one of the best-selling frozen items is frozen paratha. It's a Ready-to-Cook food. About one third earning that comes from this segment. This is very famous around the world. It makes easier our daily life. It helps in our corporate life. It becomes tasty and delicious day by day. The paratha section has several types of parathas like Deshi Paratha, Deshi Ghee Paratha, Premium Deshi Paratha, Mega Deshi Paratha, Aloo Paratha and more. It contains 28 layers of paratha. The paratha spread out about 5-6 kg/cm2 by Pressing machine. In products, distribution and storage division strictly maintain the proper temperature. It remains below -18℃ temperature. In Bangladesh, the self-life of frozen paratha is one year. Besides Golden Harvest frozen paratha is also available in Australia, USA, Middle Eastern countries as those countries prefer processed as ready to cook food. Due to the unique characteristics of the product, Golden Harvest frozen paratha can appeal to people of different professions, ages and localities. In export, the self-life of frozen paratha is two years.

Figure no. 3.2: Paratha

3.2.1 **SKU:** Premium Desi paratha/ Mega paratha/ Premium Paratha

Ingredient: Flour, Salt, Sugar, Chilled water, Baking powder, Margarine.



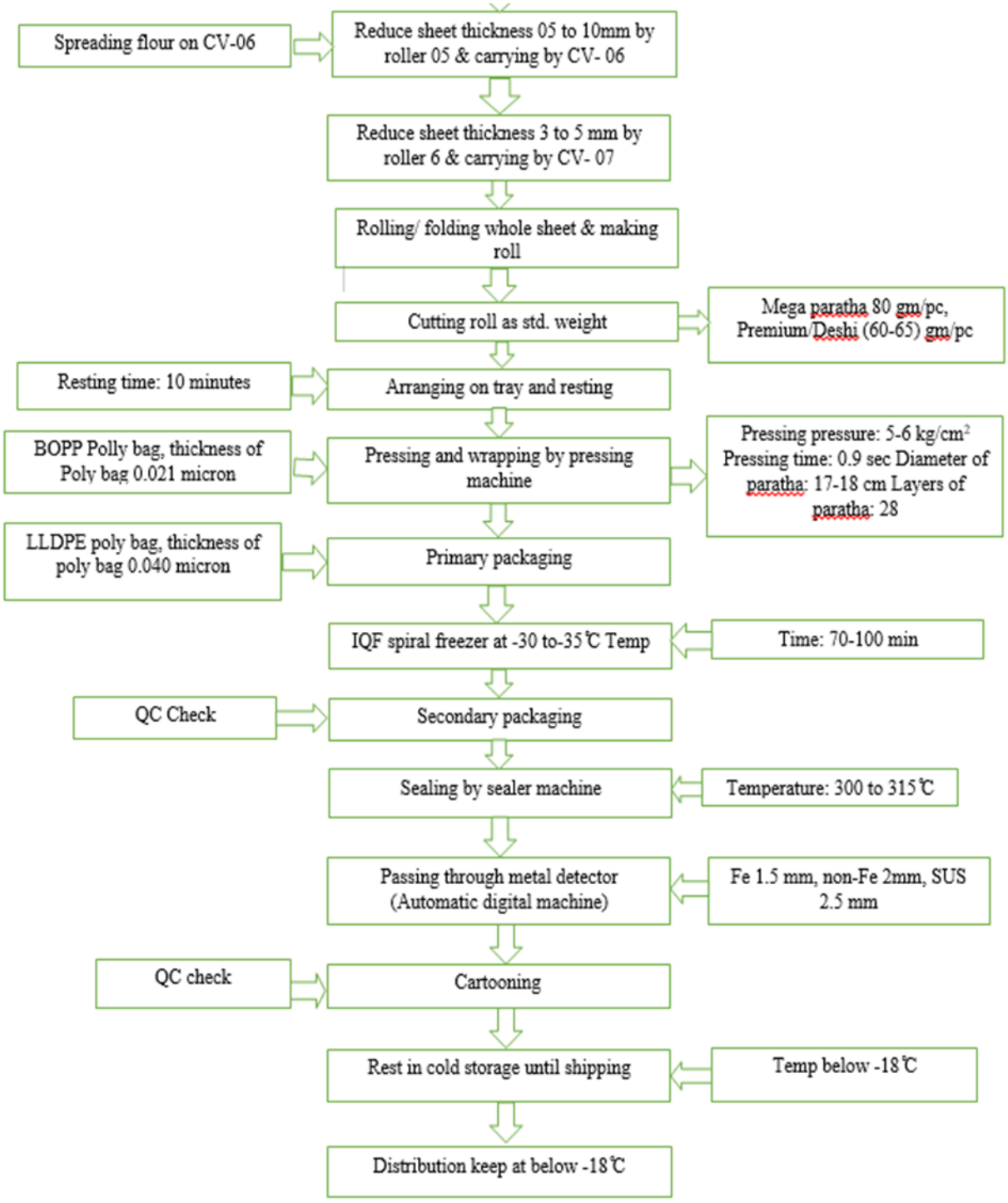


Figure no. 3.2.1: Diagram of Paratha Production

3.3 Snacks Production Details

Frozen snacks items are very popular now a days. Among the world, Golden Harvest snacks items are so delicious and good quality. It's saving our time because they are all ready to cook food. Just fry the products like French fries, samosa, singara, fish finger, spring roll etc. and enjoy it in evening time or morning time. If you have never purchased frozen food before and have some reservations about it, the following interesting facts about frozen foods will persuade you to do so right away. Like:

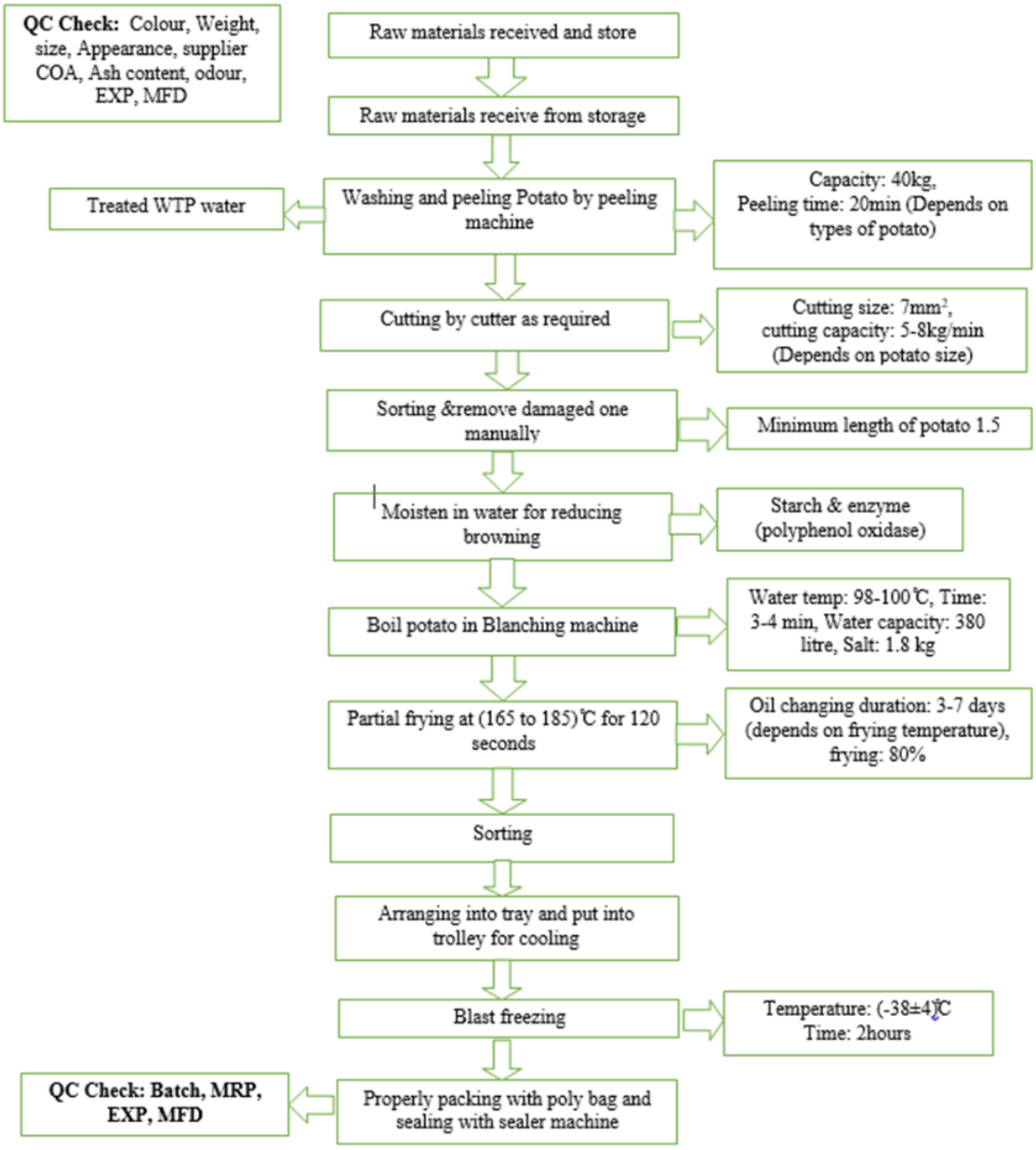
- Frozen food is healthy and good quality
- It's ready to cook items.
- Save our valuable time
- It has longer shelf than fresh food.

Figure no 3.3: Snacks items

3.3.1 Processing Flowchart of French Fries

SKU: French Fries (Straight cut)

Ingredients: Potato, Salt, Water, Soybean oil.



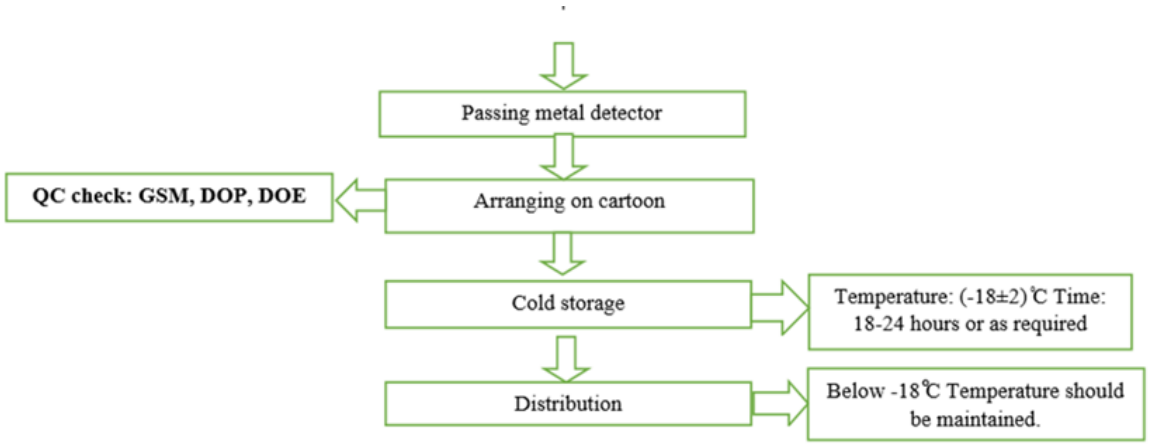


Figure no. 3.3.1: Diagram of French Fries production

Figure no. 3.3.1: French Fries (Straight cut)

3.3.2 Processing Flowchart of Samosa:

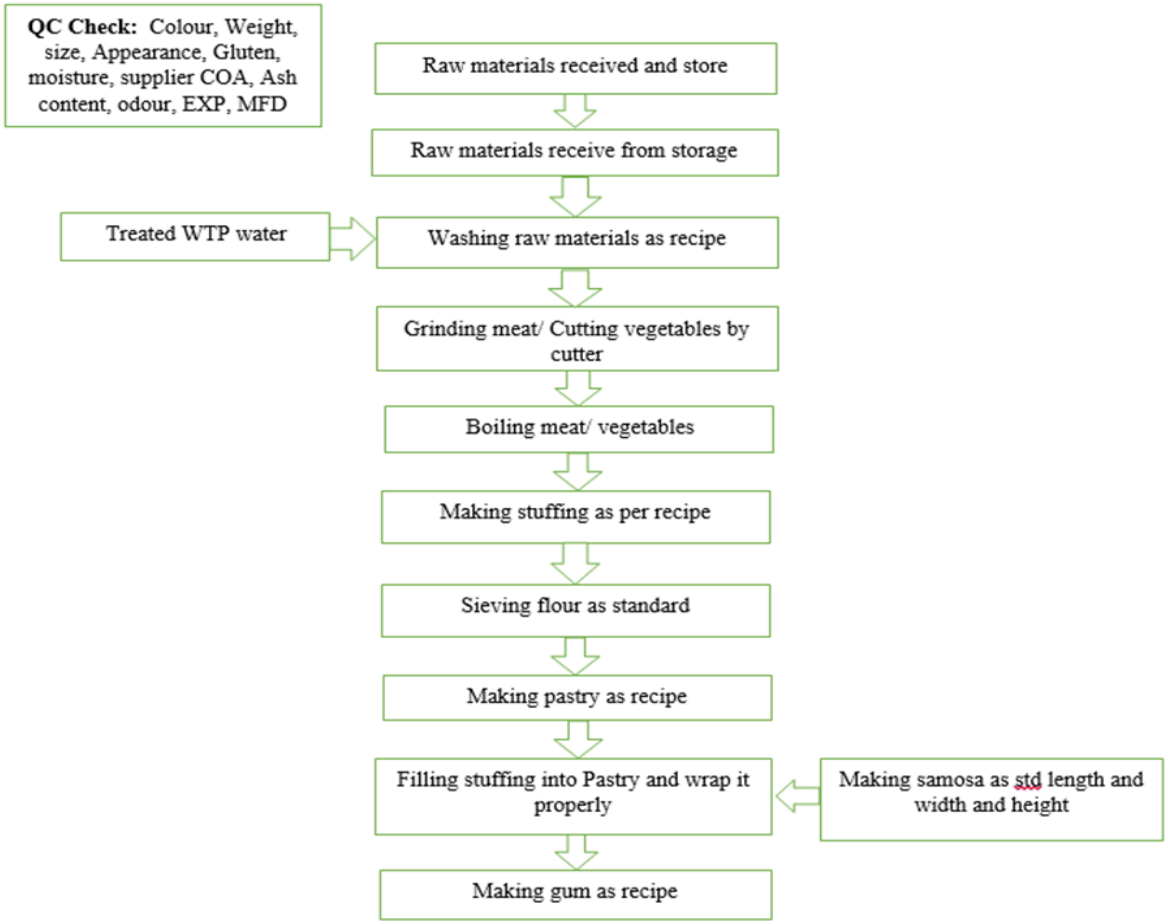
SKU: Single Bite Chicken Samosa/Chicken Samosa/Single Bite Beef Samosa/Vegetable Samosa.

Ingredients:

For Chicken Samosa: Chicken thigh, onion, carrot, papaya, soybean oil, ginger, garlic, green chili, mixed spices, salt, testing salt, bay leaf.

For Beef Samosa: Beef, onion, papaya, soybean oil, ginger, garlic, green chili, mixed spices, salt, testing salt, bay leaf.

For Vegetable Samosa: Carrots, papaya, onion, garlic, ginger, chili, mixed spices, bay leaf, salt, testing salt, soybean oil.



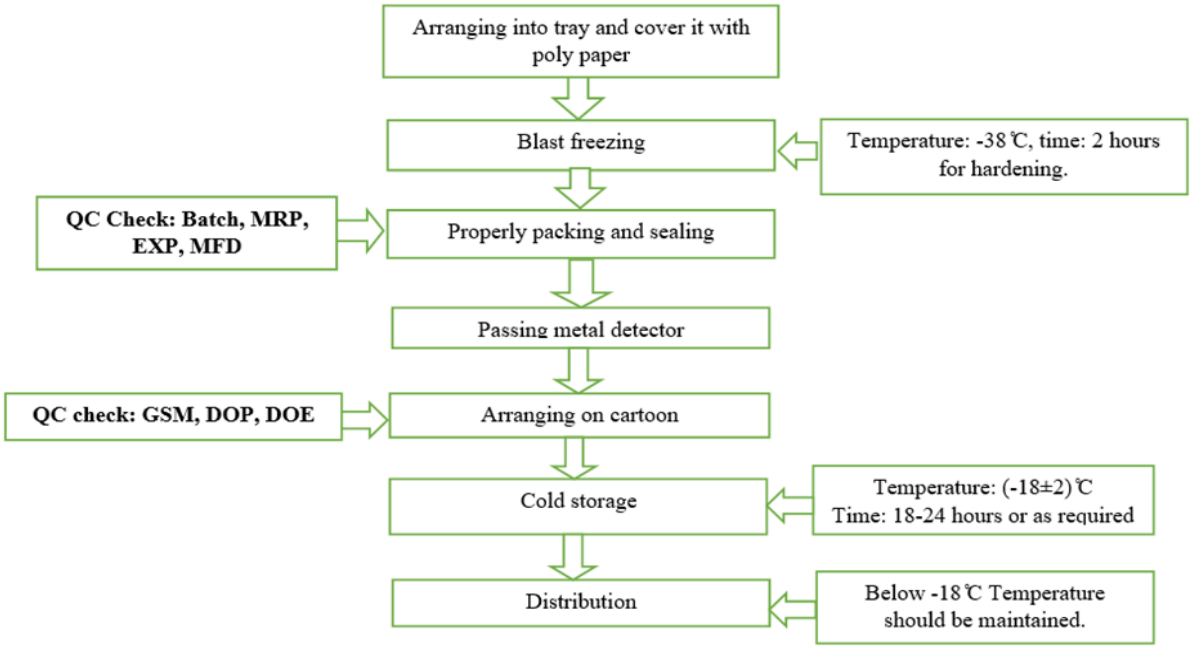


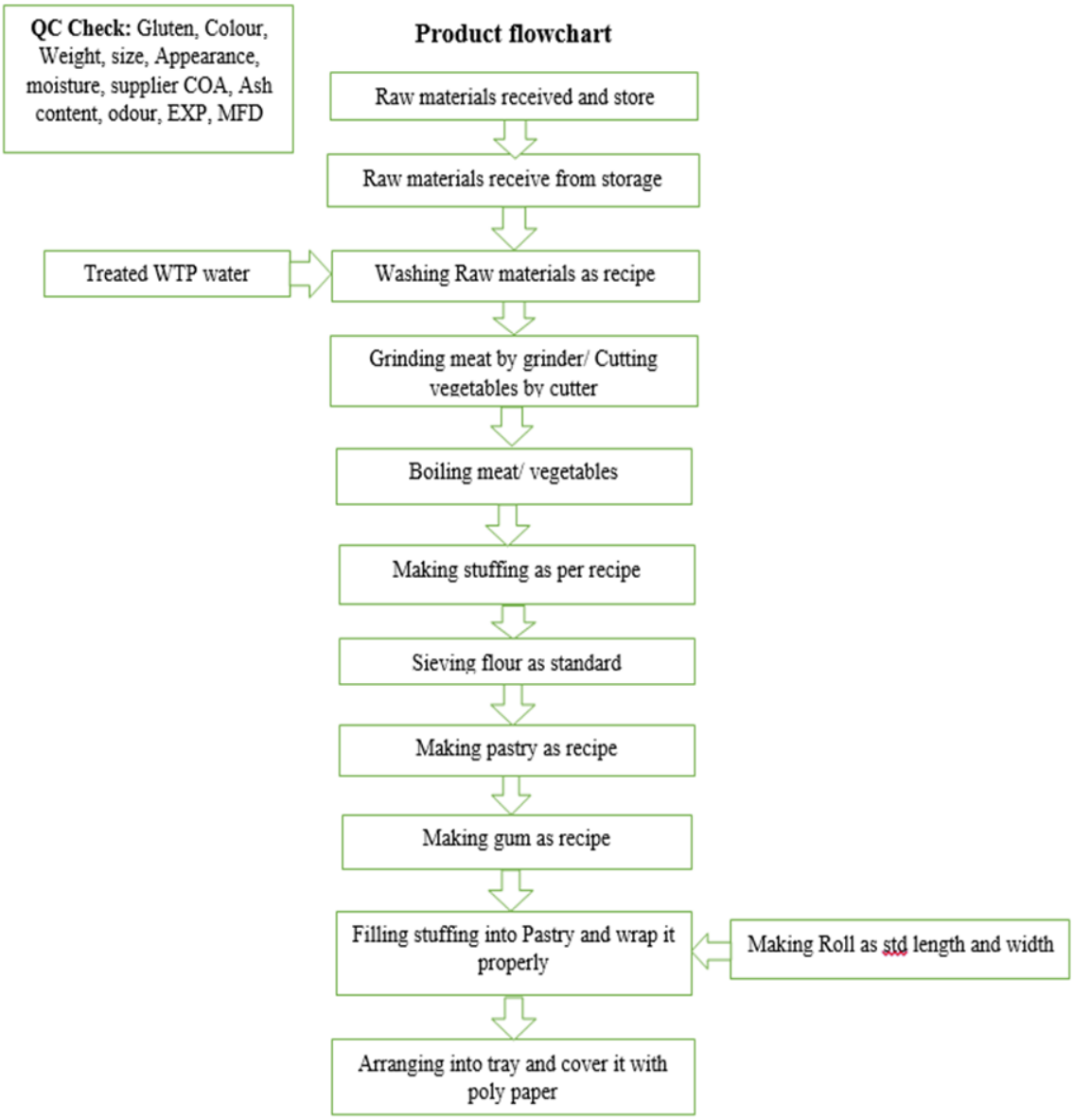
Figure no 3.3.2: Diagram of samosa production

Figure no. 3.3.2: Single Bite Chicken Samosa/Chicken Samosa/Single Bite Beef Samosa/Vegetable Samosa.

3.3.3 Processing Flowchart of Spring Roll:

SKU**:** Mini Chicken Spring Roll/ Mini Beef Spring Roll/ Vegetable Spring Roll.

Ingredients: For Mini Chicken S. R: Chicken, Flour, Soy bean oil, Salt, Sugar, Ginger, Garlic, Onion, Mixed Spices, Coriander leaf, Bay leaf, MSG, Chili, Cinnamon powder, Water **For Mini Beef S. R:** Beef, Flour, Soy bean oil, Salt, Sugar, Ginger, Garlic, Onion, Mixed Spices, Coriander leaf, Bay leaf, MSG, Chili, Cinnamon powder, Water **For Vegetable S. R:** Carrot, papaya, Soy bean oil, Salt, Sugar, Ginger, Garlic, Onion, Mixed Spices, Bay leaf, G. Chili, Soy Sauce, Water.



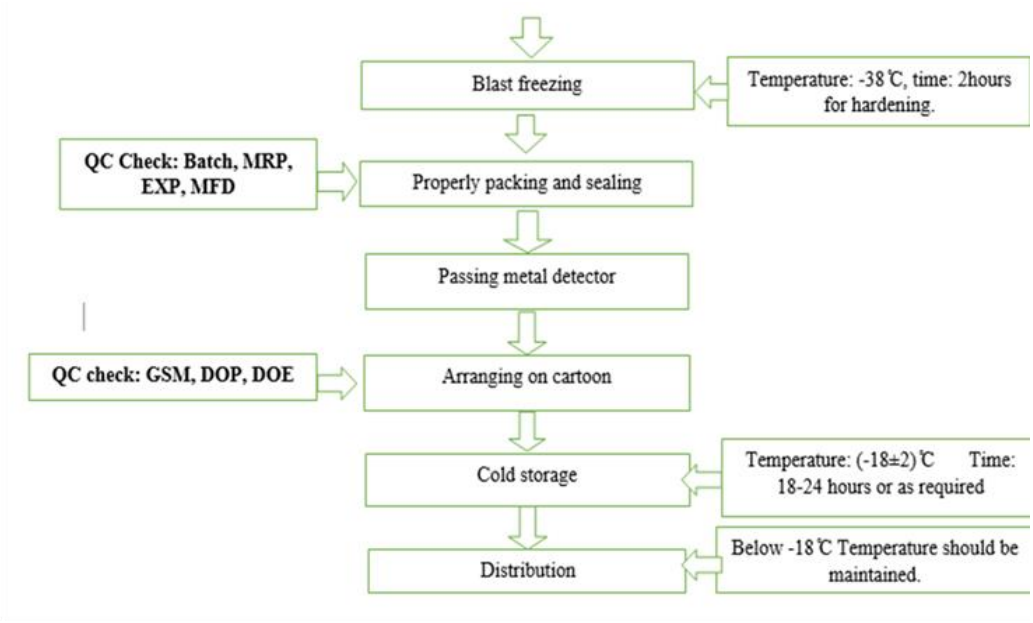


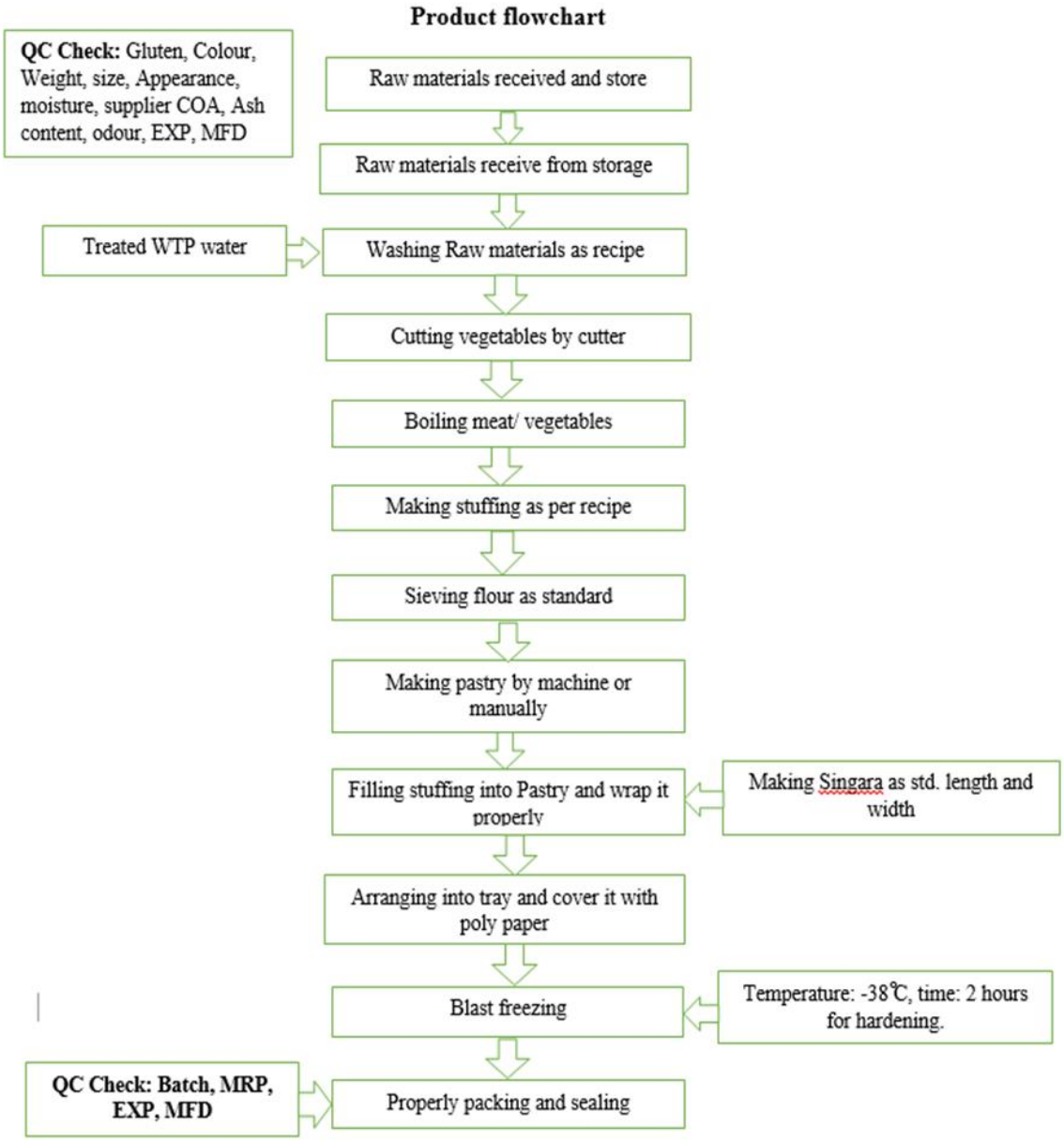
Figure no. 3.3.3: Diagram of Spring Roll production

Figure no. 3.3.3: Vegetable Spring Roll, Mini Beef Spring Roll, Mini Chicken Spring Roll.

3.3.4 Processing Flowchart: of Singara:

SKU: Mini Singara/ Vegetable Singara.

Ingredients: Potato, Flour, Onion, Papaya, Black bean, Soybean oil, peanut, Ginger, Garlic, Salt, coriander leaf, green chili, mixed spices, Cumin Powder, Turmeric Powder, Cinnamon, Bay leaf.



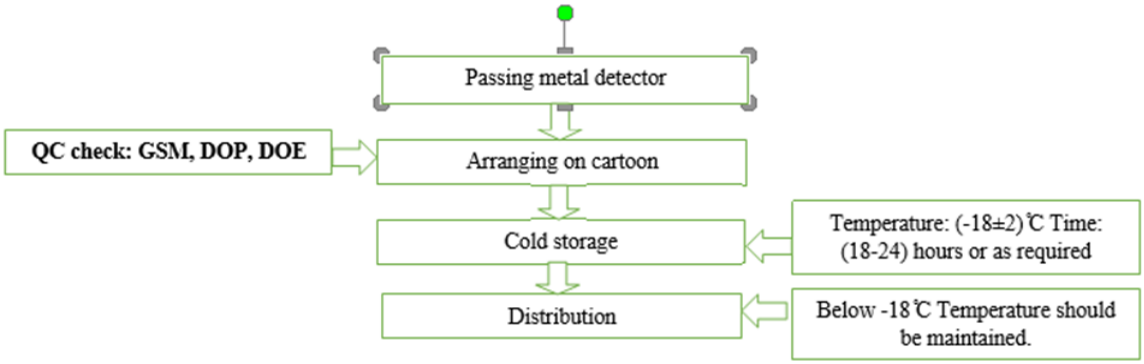


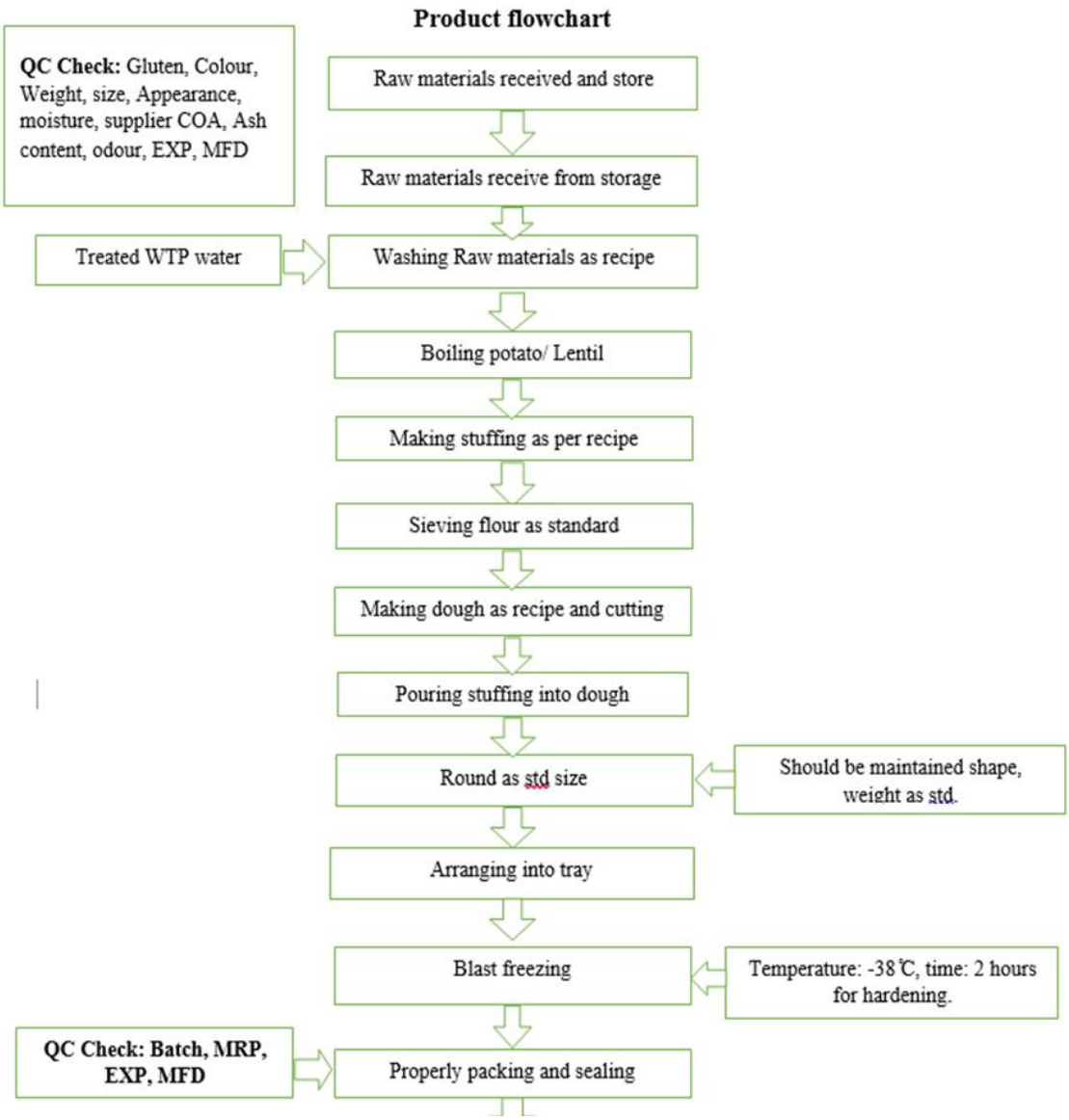
Figure no. 3.3.4: Diagram of singara production

Figure no. 3.3.4: Mini Singara/ Vegetable Singara.

3.3.5 Processing Flowchart of Dal puri/ Aloo puri:

SKU: Dal puri/ Aloo puri (454gm):

Ingredients:
For Dal Puri: Dal, Soybean oil, Sugar, Salt, Ginger, Garlic, Onion, Mixed Spices, Bay leaf, Coriander, Chili, Cinnamon, MSG, Turmeric powder, Soybean.
For Aloo Puri: Potato, Soybean oil, Sugar, Salt, Ginger, Garlic, Onion, Mixed Spices, Bay leaf, Coriander, Chili, Cinnamon, MSG, Turmeric powder, Soybean.



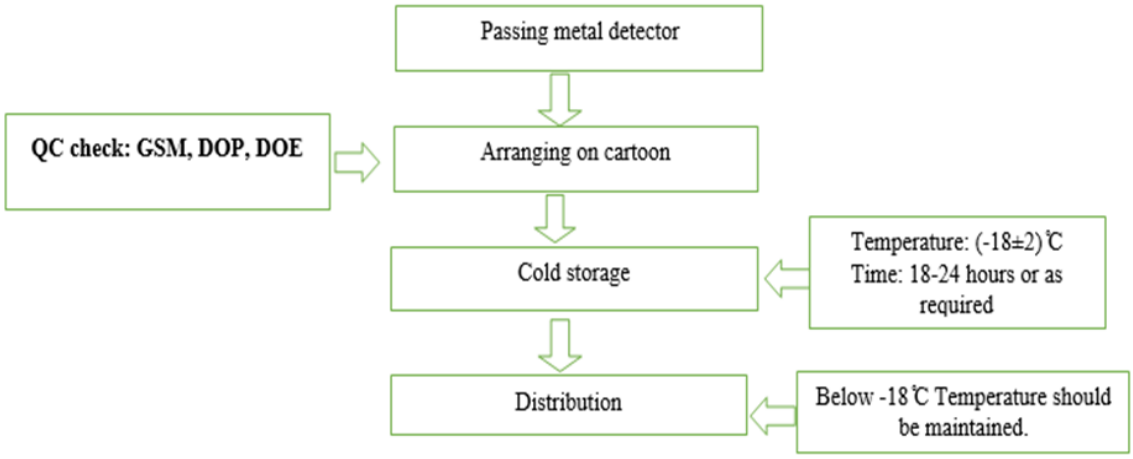


Figure no. 3.3.5: Diagram of Dal puri/Aloo puri production

Figure no. 3.3.5: Dal puri/Aloo puri

3.4 Meat items details and Processing and Flowchart

Meat items like nuggets, chicken meatball, chicken sausages, pop chicken etc. are famous for our daily life. These items are savings our time & energy. Also, give us healthy foods. Because they maintain all food safety requirements, nutritional values, quality, taste etc. Frozen foods do not need any preservatives for longer life, because microorganisms cannot grow in cold storage (below -18℃). Meat items are also containing rich amount of protein intake. They help reduce our appetite or hunger levels as protein makes us feel full for longer.

Figure no. 3.4: Meat Items

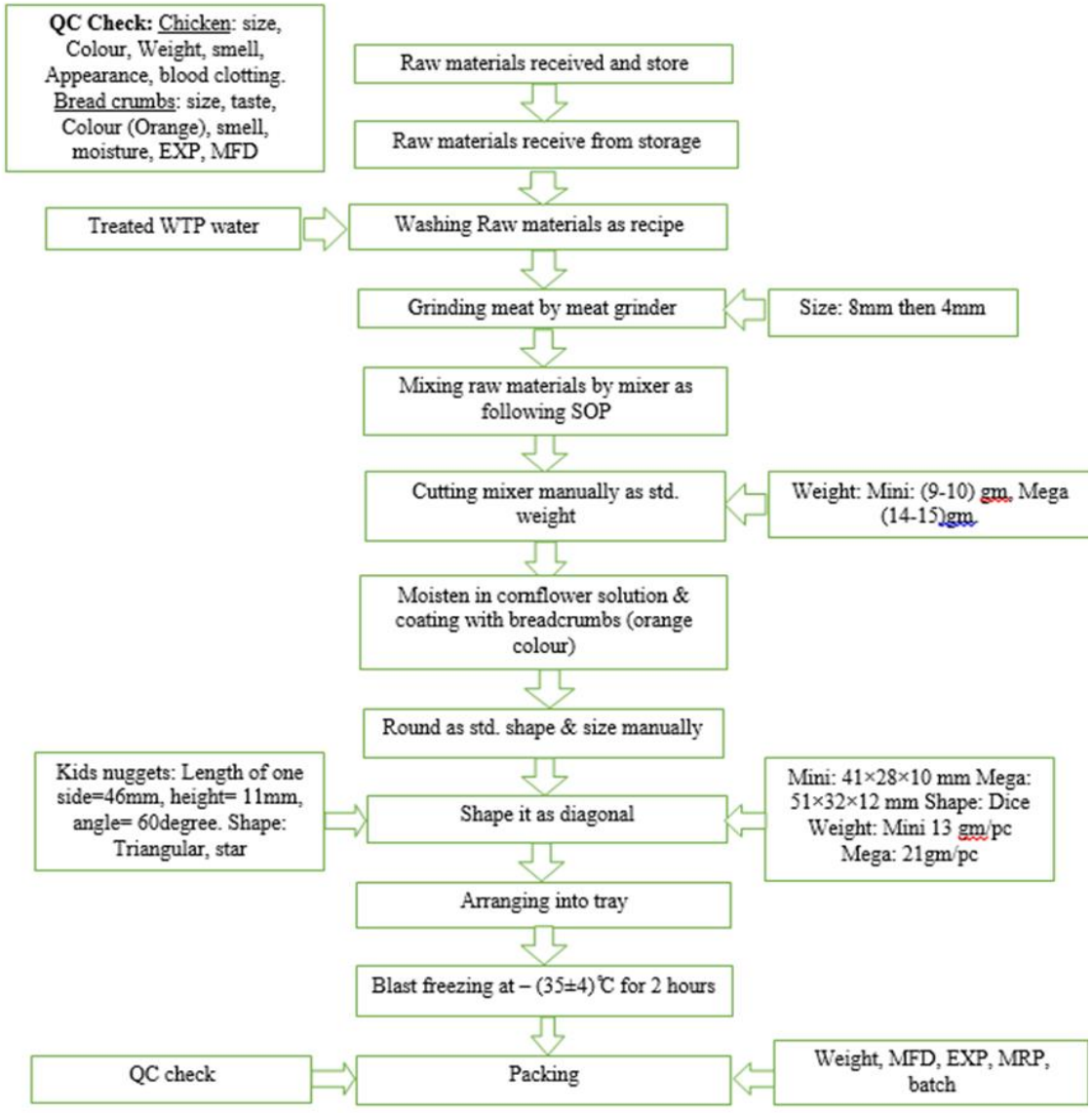
3.4.1. Processing flowchart of Nuggets

SKU: Mega Chicken Nuggets/ Mini Chicken Nuggets/ Kids Chicken Nuggets

Ingredients:

For Mega/Mini Chicken Nuggets: Breast meat, skin meat, Salt, Seasoning, Jelly powder, Soya protein, Chilled water. Bread crumbs (Orange color)

For Kids Chicken Nuggets: Potato, Soybean oil, Sugar, Salt, Ginger, Garlic, Onion, Mixed Spices, Bay leaf, Coriander, Chili, Cinnamon, MSG, Turmeric powder, Soybean.



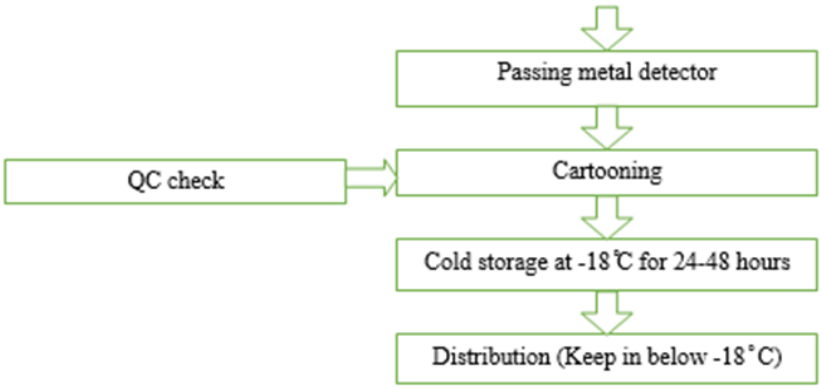


Figure no. 3.4.1: Diagram of Nuggets production

Figure no. 3.4.1: Mega Chicken Nuggets/ Mini Chicken Nuggets/ Kids Chicken Nuggets

3.4.2. Processing Flowchart of Sausage

SKU: Chicken sausage/ Spicy chicken sausage

Ingredients: Meats (Breast, Thigh, Skin), onion, garlic paste, ginger paste, paprika color, sugar, salt, testing salt, starch, acid, jelly powder, red chili powder.

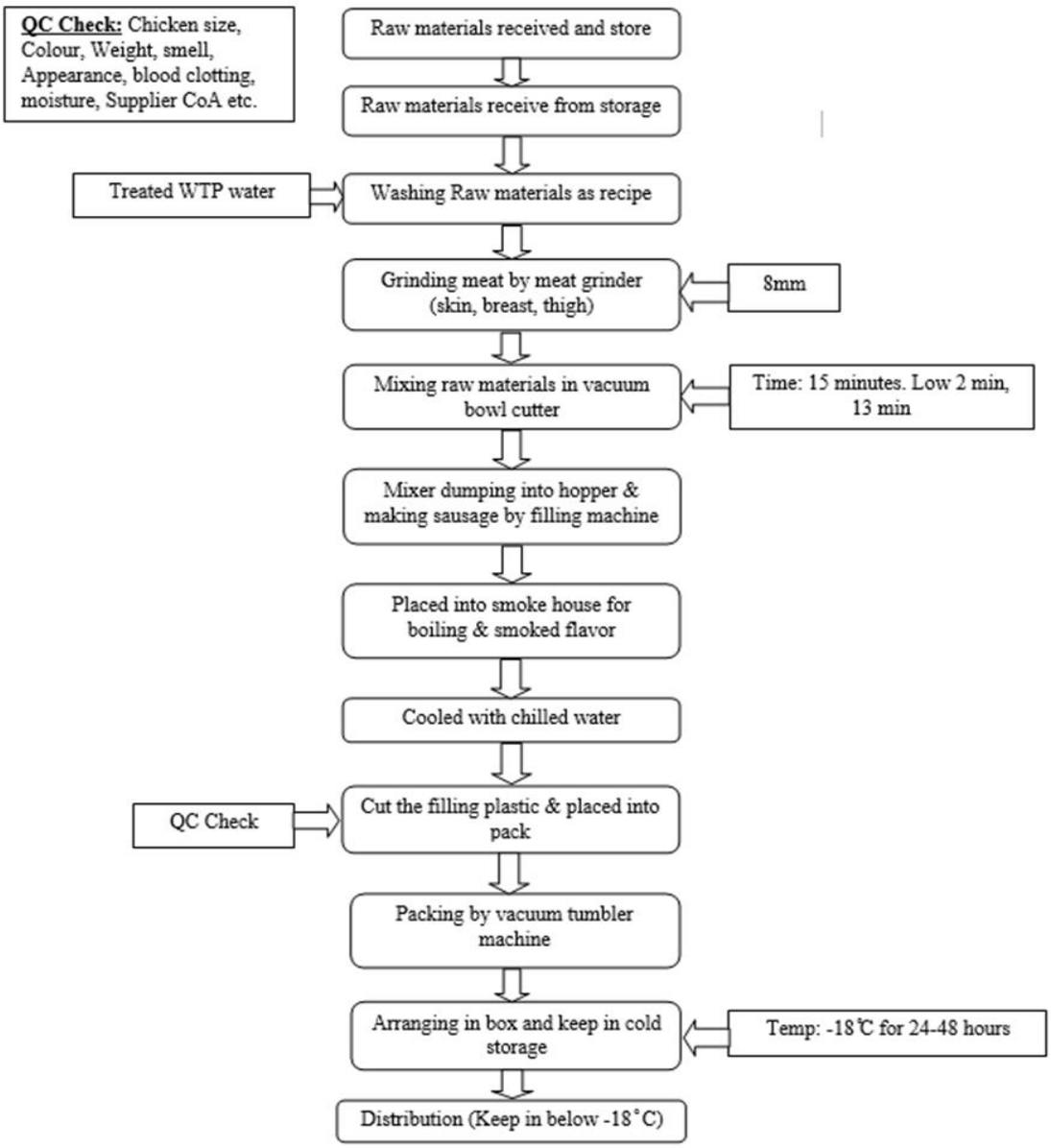


Figure no. 3.4.2: Diagram of sausage production

Figure no. 3.4.2: Chicken sausage/ Spicy chicken sausage

CHAPTER 4

4 Ice Cream Processing Plant

4.1 Golden Harvest Ice-Cream Ltd

Golden Harvest Ice-Cream Ltd., with the brand BLOOP, is a popular brand in the Bangladesh ice-cream industry. The ice-cream industry in Bangladesh is growing at a steady rate of around 12% per year and is estimated to be worth BDT 10 billion in fiscal year 2014-15. Golden Harvest has established a brand-new plant from Tetra Pack Sweden, which is managed by a highly experienced Danish production manager. Sticks, cups, cones, calippo, sorbets, tubs, cakes, and many other variations are available from the brand. This floor made verities types of ice cream like especially Choco bar (classic, junior,), vanilla ice cream (cup, box), bloop megastar, bloop chocostar, magic malai, conetastic vanilla, Exotic chocolate, single sundae and so on are very popular items in ice cream section. There two types of ice cream as plain & composite. Plain ice cream is made by one type of item or flavor like vanilla ice cream, chocolate ice cream, full toss. And, composite ice cream is made by more than two types of items or flavor like megastar, conetastic vanilla & chocolate, conetastic vanilla & strawberry. The two items of ice cream compose with different types of ingredients.

Table no 4.1: Requirements for ice cream

Characteristics	Plain	Composite
Mass in gram, per liter (min.)	525	540
Total solid, % by mass, (min.)	36	36
Total milk Solid not fat (SNF)	10-11	10-11
Vegetable fat, % by mass (min.)	10	8.0
Acidity, % by mass (lactic) (max.)	0.22	0.22

Sugar, % by mass (max)	16	16
Stabilizer/Emulsifier % by mass (max)	0.5	0.5
Total colony counts, per gram (max.)	1000000	1000000

4.2 Ice-cream Unit: (Floor)

1. Raw materials Storage
2. Mixing room:
    - Mixing hopper
    - Mixing tank
    - Homogenizer
    - Pasteurizer
    - Heat exchanger
3. Production Line:
    - Aging Tank
    - Continuous Freezer
    - Rollo 23 machine. [For Choco-bar/ Kulfi]
    - SL [Straight line] Ice-cream machine (Extruder Included)
    - Comet C2 machine. [for big cone]
    - Calippo Machine [for small cone & Cup]
    - Micron machine [for Cup]
    - IQF freezer [For SL Machine]
    - IQF freezer [For Cone/Cake Ice-cream]
    - Blast freezer.
    - Packaging area.
    - Cold Storage. (1,2,3)
4. Machine maintenance Room
5. CIP room
6. Flake Iced room
7. Packaging & raw materials storage

8. WTP [Water Treatment Plant]
9. Cone biscuit making unit.
10. Ante Room
11. Ice-cream Flavor room
12. Cone Biscuit Dehumidification room.

4.3 General flowchart of ice cream

Table no. 4.3: Ingredients of Ice cream

Skim milk powder/ full cream milk, Luxilac 815 stabilizer/ emulsifier, sugar, vegetable fat/milk fat, RBD coconut milk (Refined, bleached & deodorized), color, flavor. Glucose syrup, water.

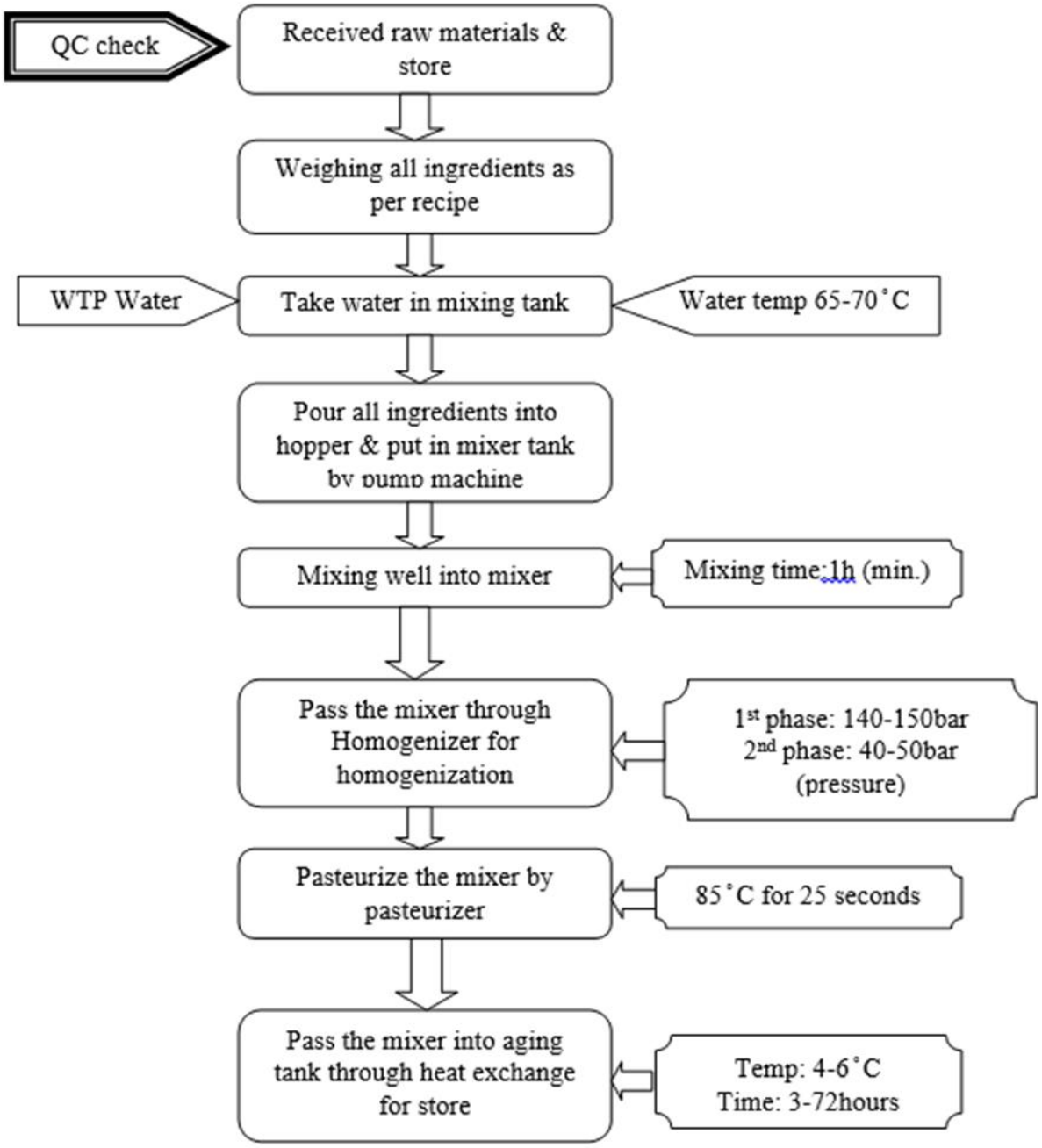


Figure no. 4.3: Diagram of General flowchart of ice cream

4.3.1 Product Details

Figure no. 4.3.1: Zafrani Kulfi, Chocobar

Table no. 4.3.1: Requirements for Magic Malai/ Zafrani kulfi/Junior chocobar

Magic Malai	**Zafrani kulfi**
Cold brine = -39.7 °C (For hardening)	Cold brine = -39.7 °C (For hardening)
Warm brine = 13 °C (For discharge)	Warm brine = 13 °C (For discharge)
Machine = Rollo 23	Machine = Rollo 23
Fin seal = 180 °C	Fin seal = 180 °C
End seal = 205 °C	End seal = 205 °C
Cream weight = 34.2 gm	Cream weight = 34.2 gm
Wrapper weight = 0.75 gm	Wrapper weight = 0.75 gm
Wrapper thickness = 0.04 mm	Wrapper thickness = 0.04 mm
Stick weight = 1.1 gm	Stick weight = 1.1 gm
Gross weight = 36.05 gm	Gross weight = 36.05 gm
Carton size = 30 Pcs	Carton size = 30 Pcs
Price/ Pcs = 15 taka	Price/ Pcs = 10 taka
Total mold = 966	Total mold = 966

Junior Chocobar (48 ml)	**Chocobar (72 ml)**
Cold brine = -39.7 °C (For hardening)	Cold brine = -39.7 °C (For hardening)
Warm brine = 14 °C (For discharge)	Warm brine = 14 °C (For discharge)
Machine = Rollo 23	Machine = Rollo 23
Fin seal = 150 °C	Fin seal = 180 °C
End seal = 125 °C	End seal = 200 °C
Cream weight = 30.2 gm	Cream weight = 45.2 gm
Wrapper weight = 0.85 gm	Wrapper weight = 1 gm
Wrapper thickness = 0.04 mm	Wrapper thickness = 0.04 mm
Stick weight = 1 gm	Stick weight = 1.1 gm
Carton size = 30 Pcs	Carton size = 24 Pcs
Price/ Pcs = 15 taka	Price/ Pcs = 30taka
Total mold = 966	Total mold = 966
Chocolate coating = 9.5 gm	Chocolate coating = 13 gm
Chocolate coating temperature = 32°C	Chocolate coating temperature = 32°C
Gross weight = 41.55 gm	Gross weight = 60.3 gm

SKU: Magic malai / Zafrani Kulfi:

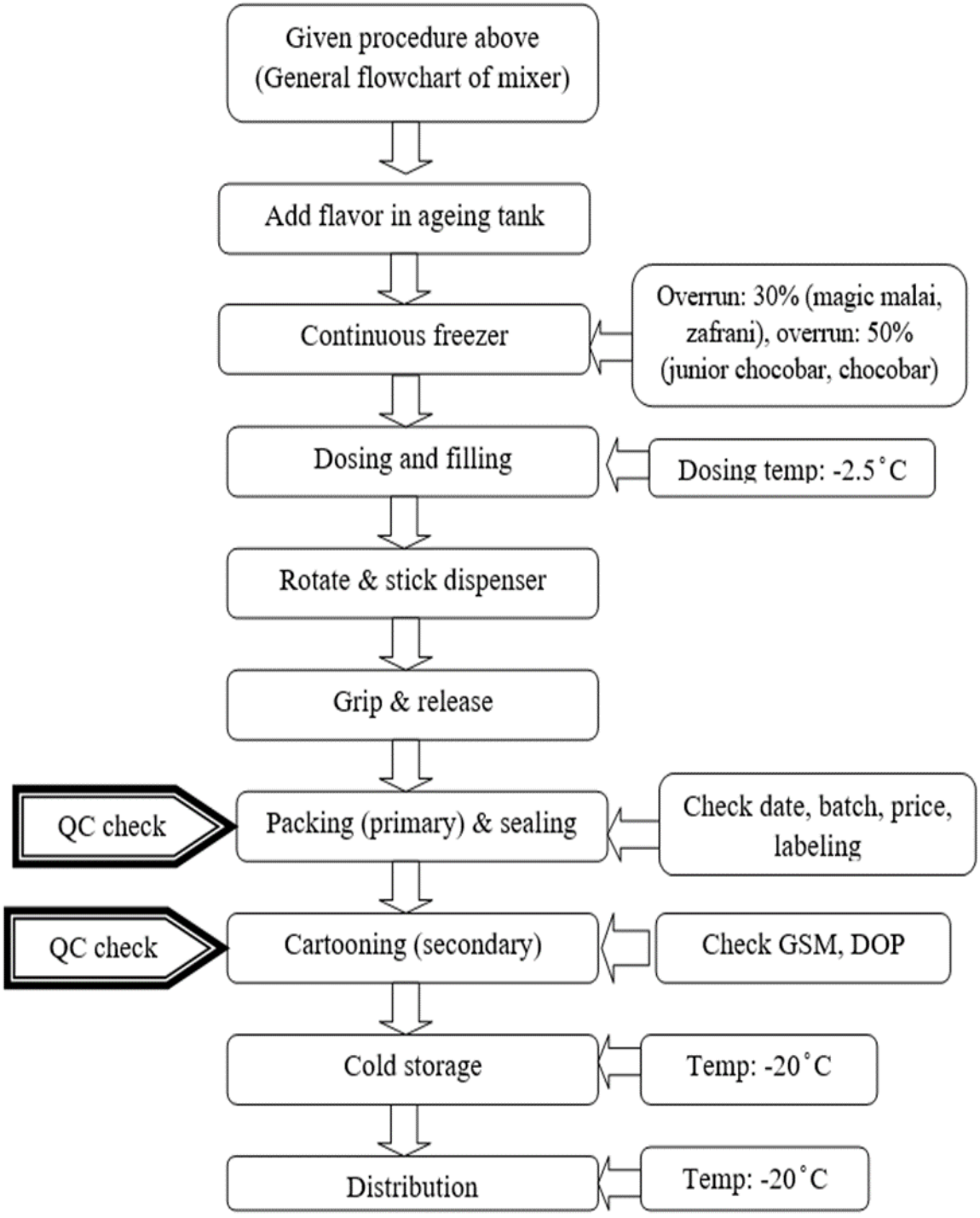


Figure no. 4.3.1: Diagram of Magic malai / Zafrani Kulfi

4.3.2 Product Details:

Table no. 4.3.2: Bloop Megastar/ Bloop Chocostar (82 ml)

Requirements	**Megastar**	**Chocostar**
Stick weight	1.6 gm	1.6 gm
Coating weight	17 gm	17 gm
Wrapper weight	1.7 gm	1.7 gm
Bar weight	44.1 gm	44.1 gm
Liquid coating temperature	32 °C	32 °C
Packed cutting temperature	140 °C	140 °C
Center point temperature	150 °C	150 °C
Gross weight	61.4 gm	61.4 gm
Final product core temperature	-22 °C	-22 °C
Price	40 taka	40 taka
Carton size	18 Pcs	18 Pcs
Machine	SL machine (straight line)	SL machine (straight line)

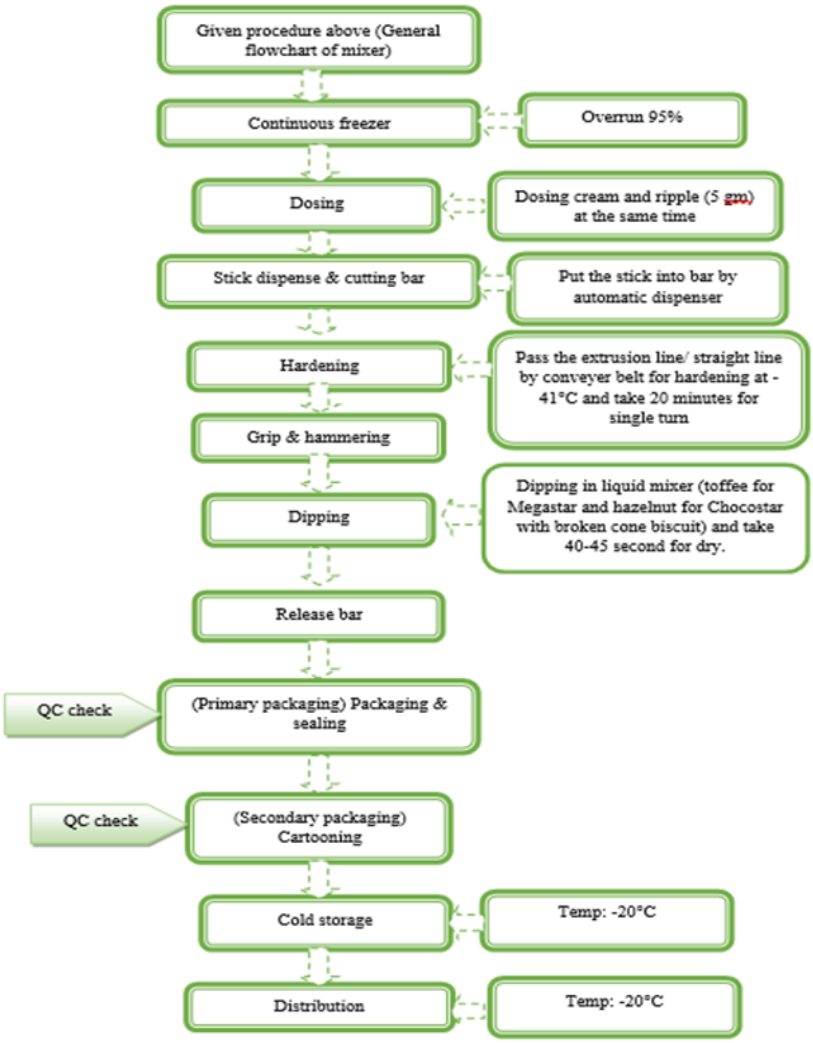


Figure no. 4.3.2: Diagram of Bloop Megastar/ Bloop Chocostar Production

4.3.3 Product details

Figure no. 4.3.3: Vanilla/ Chocolate/ Mango/ Strawberry ice cream (50ml & 100ml)

Table no 4.3.3: Requirements for cup ice cream

REQUIREMENTS	Cup (50ml)	Cup (100ml)
Machine	Micron	Micron
Cream	29 gm	54.2 gm
Cup + lid	4.10 gm	4.90 gm
Gross weight	33.10 gm	59.1 gm
Price	15 tk	25 tk
Speed	40 RPM	40 RPM
Production	4800 pc/hour	4800 pc/hour
Total mold	32	32
Carton size	24pcs	18pcs

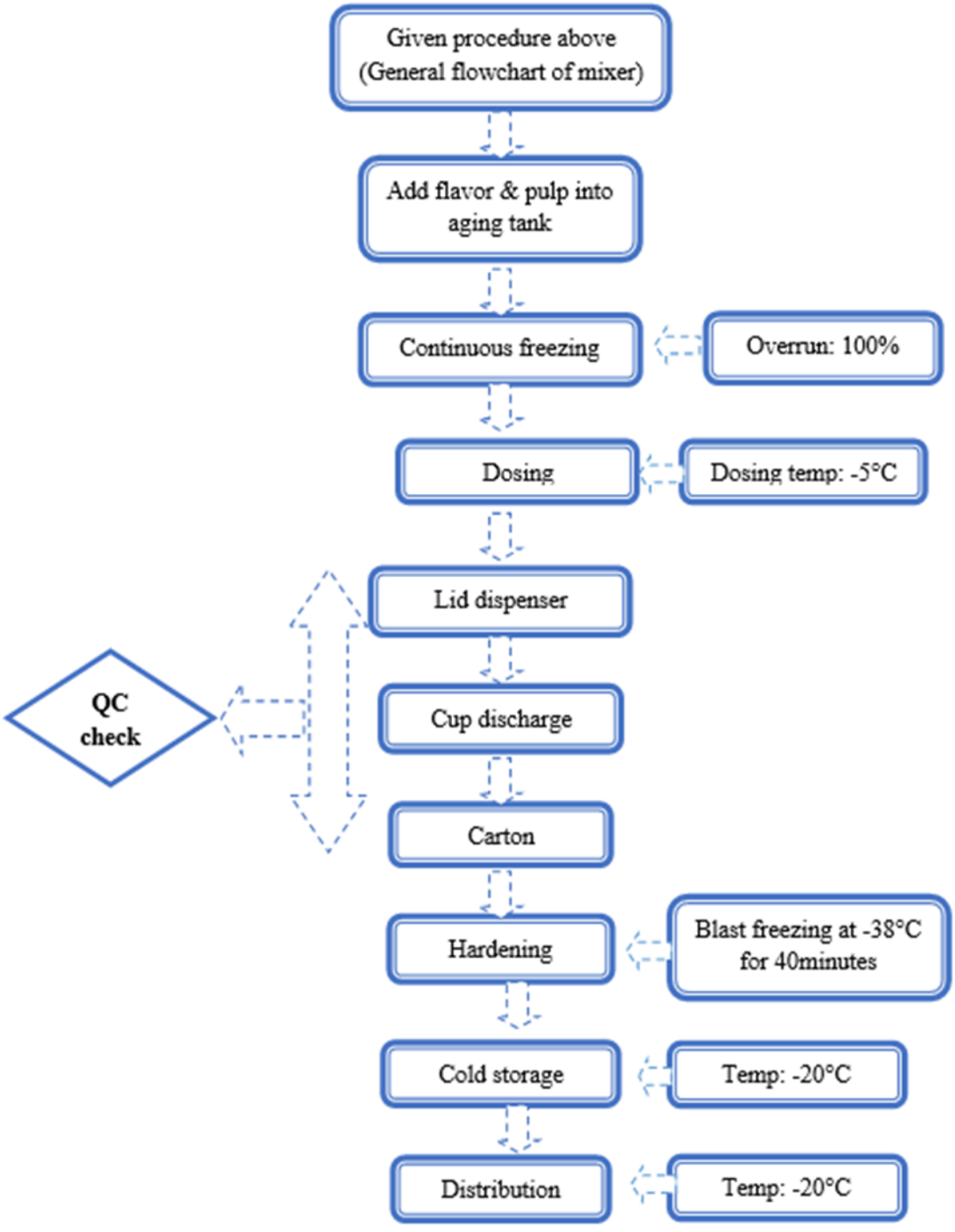


Figure no. 4.3.3: Diagram of Vanilla/ Chocolate/ Mango/ Strawberry ice cream Production

4.4 Cone biscuits details & processing:

Ingredients: Flour, Palm oil, Water, Lecithin, Sugar, Salt

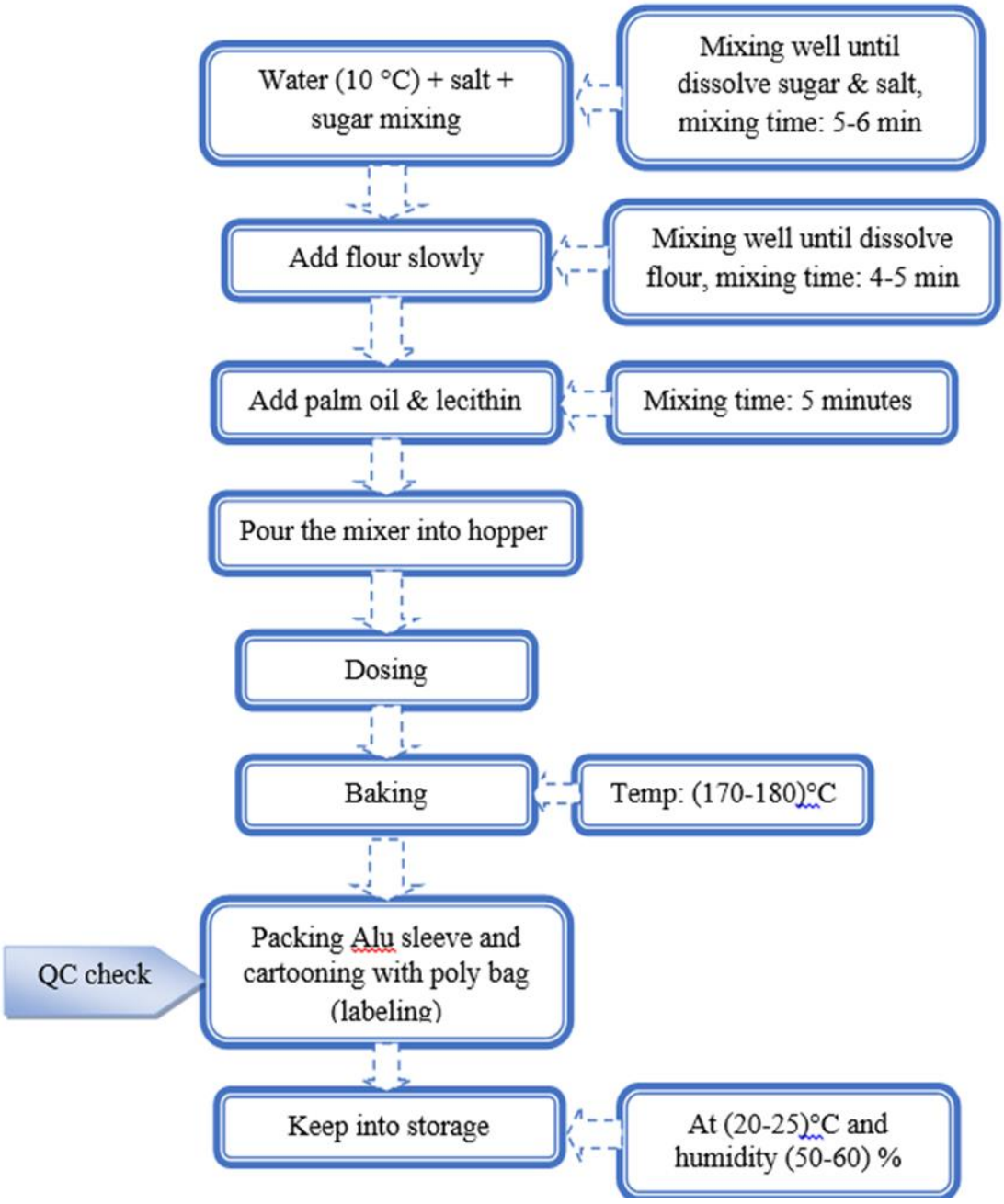


Figure no 4.4: Diagram of cone biscuit processing

4.4.1 Product details

Figure no. 4.4.1: Conetastic vanilla (70ml)

Table no. 4.4.1: Requirements for conetastic vanilla

Requirements	Conetastic vanilla (70ml)
Machine	Calippo
Production	3000liter/hour
Overrun	100%
Cream	30 gm
Chocolate spray	3.5 gm
Peanut	0.8gm
Topping	2 gm
Cone biscuit weight	10.1 gm
Alu sleeve weight	2.40 gm
Gross weight	48.8 gm
Price	30tk
Cartoon size	24pcs

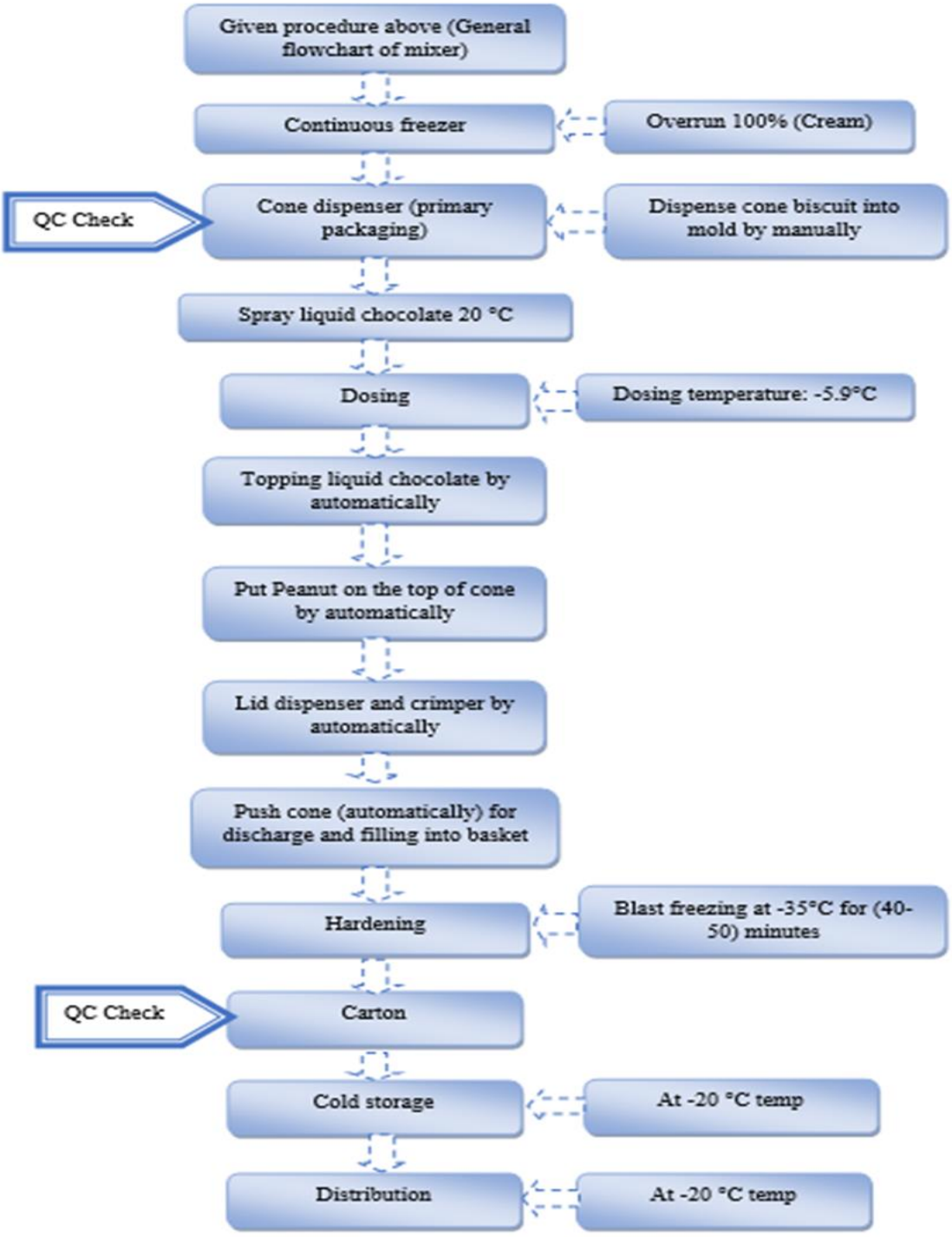


Figure no 4.4.1: Diagram of conetastic vanilla production

4.4.2 Product details:

Figure no. 4.4.2: Conetastic vanilla, conetastic vanilla & strawberry, conetastic vanilla & chocolate (100ml)

Table no. 4.4.2: Requirements for Conetastic vanilla, conetastic vanilla & strawberry, conetastic vanilla

Requirements	Conetastic vanilla	Conetastic vanilla & strawberry	Conetastic vanilla & chocolate
Production	4800 liter/hour	4800 liter/hour	4800 liter/hour
Overrun	100%	100%	100%
Cream	50 gm	Vanilla cream 26gm & strawberry cream 26gm	Vanilla cream 26gm & chocolate cream 26gm
Chocolate spray	5 gm	5 gm	5 gm
Peanut	1.2 gm	1.2 gm	1.2 gm

Topping	4 gm at 30°C	4 gm at 30°C	4 gm at 30°C
Cone biscuit weight	14.1 gm	14.1 gm	14.1 gm
Alu sleeve weight	4.60 gm	4.60 gm	4.60 gm
Gross weight	78.5 gm	80 gm	80.5 gm
Price	45 tk	50 tk	50 tk
Machine	Comet c2	Comet c2	Comet c2
Carton size	14pcs	14pcs	14pcs

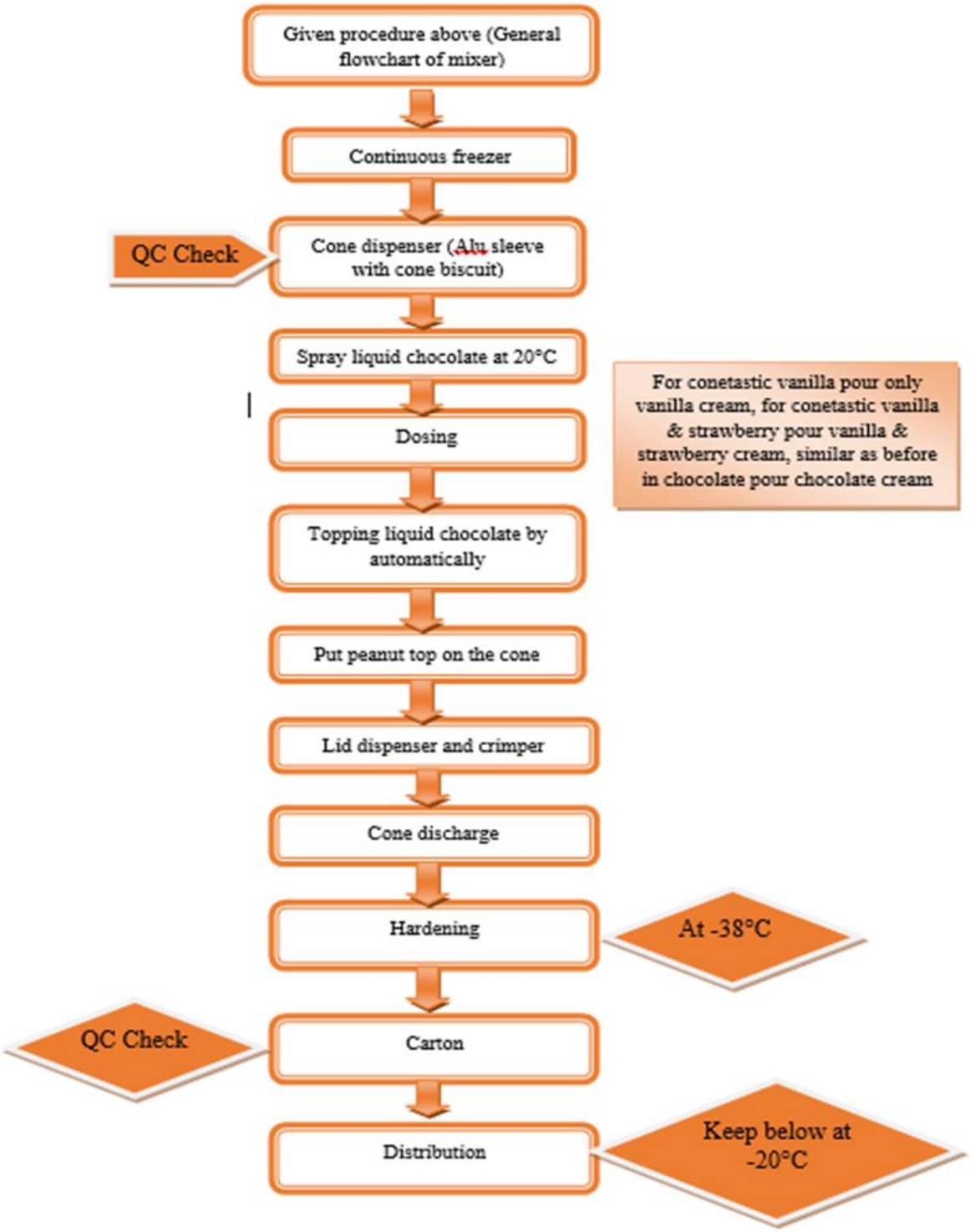


Figure no. 4.4.2: Conetastic vanilla production

4.4.3 Product details

Figure no. 4.4.3: Exotic vanilla / Exotic chocolate (110 ml) (Premium)

Table no. 4.4.3: Requirements for Exotic vanilla / Exotic chocolate

Requirements	Exotic vanilla/ chocolate
Production	4800 liter/hour
Overrun	100%
Cream	56 gm
Chocolate/ strawberry ripple spray	5 gm
Topping	5 gm
Peanut	1.3 gm
Cone biscuit weight	13 gm
Alu sleeve weight	2 gm
Machine	Comet c2

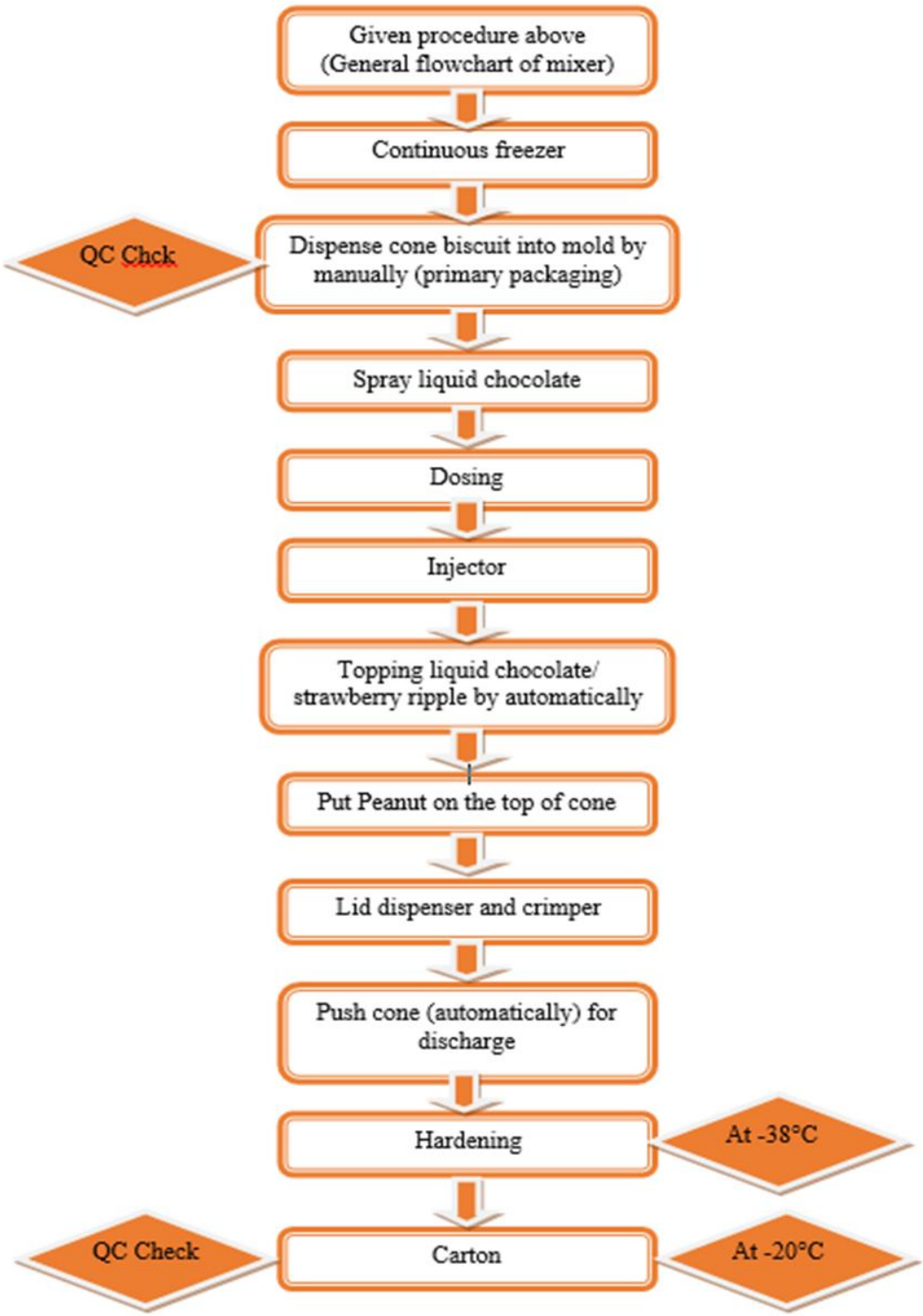


Figure no. 4.4.3: Exotic vanilla / exotic chocolate processing

4.4.4 Product details

Figure no. 4.4.4: Single sundae (120 ml)

Table no 4.4.4: Requirements for Single sundae

Requirements	Single sundae
Overrun	100%
Vanilla	54 gm
Dosing temp.	-5°C
Chocolate ripple	5 gm
Chocolate ripple temp.	32°C (std. 28 to 32) °C
Net weight	57 gm
Gross weight	76.5 gm
Machine	Comet c2
Price	35 tk

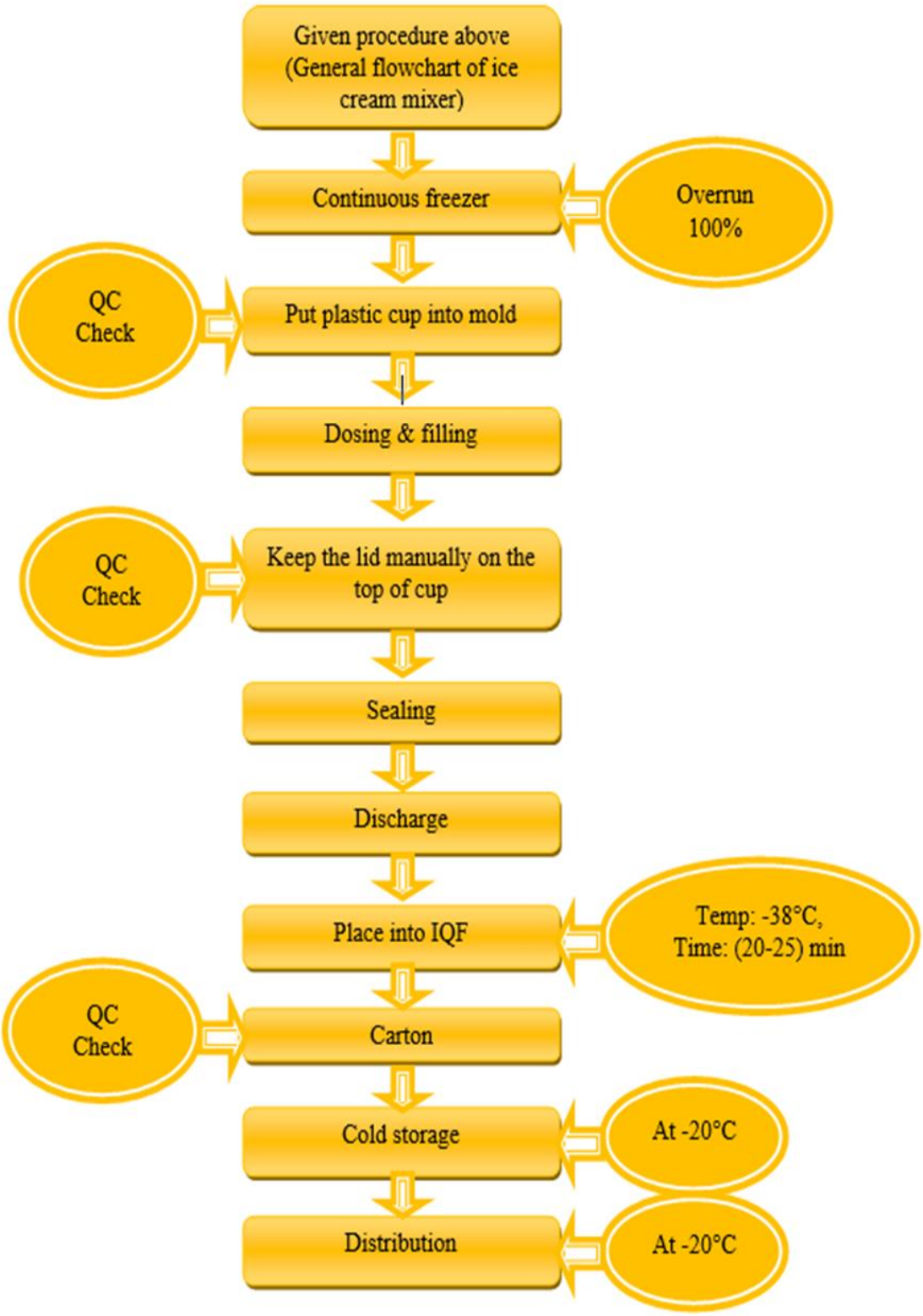


Figure no. 4.4.4: Diagram of Single sundae processing

CHAPTER 5
Lab Equipment Name

5.1 Lab Equipment's:

1. pH meter
2. Brix meter
3. Micro oven
4. Laminar airflow
5. Digital autoclave
6. Colony counter
7. Micro-scope
8. Thermometer
9. BOD Incubator
10. Water bath
11. Digital Analytic balance
12. Magnetic Hot plate stirrer
13. Moisture analyzer
14. Gluten Tester
15. Viscometer
16. Distilled water plant
17. Vortex mixture
18. Lab refrigerator
19. Stomacher
20. Glassware dryer
21. Drying oven
22. Electric muffle furnace (EMF)
23. Bunsen burner
24. Burette kit
25. Centrifuge machine

CHAPTER 6

6.1 QC parameter & test: (Agro Sector)

Table no. 6.1.1: Name of Raw Materials (Wheat flour)

Name of parameter	Standard specification
Appearance & color	Creamy white
Moisture	Max. 13%
Gluten % (wet basis)	Min. 36% for high gluten & min. 24% for low gluten.
Gluten % (dry basis)	Min. 12% for high gluten and min. 8% for low gluten.
Gluten index	80-100%
Titration acidity in 90% alcohol	Max. 0.1 % for both
Falling number	Min. 200
Protein (dry basis)	Min. 12/8%
Total ash content	0.40- 0.55%
Total insoluble ash content	0.040 -0.055%
Granularity over of 180 microns	Min. 95%
Damage starch	Max. 7%
Sedimentation value	35-40 ml
Mycotoxin	Nil
Foreign particles (Hazard)	Foreign particle free
Insect	Free
Packaging condition	Intake
MFD, EXP	As per COA
Supplier COA	Mandatory

Table no. 6.1.2: Name of Raw Materials (Potato)

Name of parameter	Standard specifications
Color	Khaki
Preferred brand	Diamond
Pcs/kg	4-5
Moisture	76-80%
Damage	Damage free
Insect cutting	Insect cutting free
Foreign particle	Free
Dust	Free
Shape	Taller
MFD/ EXP	As per COA
Supplier COA	Mandatory

Table no. 6.1.3: Name of Raw Materials: Chicken meat (Breast/ thigh/ skin)

Name of parameter	Standard specifications
Appearance and color	Characteristics and cleaned
Cleanliness	Properly clean
Disease free	Bird flu free
Water	No added water
Preservative	No preservative
Hemorrhage blood	Free
Feather	free
Smell	Bad smell free or natural smell of meat
Size and shape	As per standard
Weight / piece	Breast (160-165) gm Thigh (130-135) gm Wings (38-40) gm Drumlets (40-45) gm
Bones	Characteristics
Foreign particles	Free
MFD	As per COA
EXP	As per COA
Supplier COA	Mandatory

Table no. 6.1.4: Oil test of French fry

No.	Name of parameter	Standard specification
1.	Appearance and color	As per standard

2.	Flavor	No bad odor/ flavor
3.	% Of FFA	Max. 1%
4.	% Of acid value	Max. 2%
5.	Peroxide value	Max. 10

6.2 Ice cream sector

QC parameter: (Carton)

Physical appearance: Carton's color, brand information, logo, "Do not drop" logo, "Recycle sign", BSTI logo, BSTI code (1083), HACCP certified, Product information, manufacturing details, exp details, storing details etc.

1. **Soaking time:** 25 minutes.
2. **Carton weight:** Minimum 140 gram
3. **Carton size**:
    - **a.** Length: 225mm,
    - **b.** Width: 150mm,
    - **c.** Height: 145mm
4. **Ply**: Three
5. **Hole:** 6, **Diameter of hole:** (27-28) mm
6. **GSM** (Grams per square meter) check: (Carton has three layers)
    - **a.** Duplex = 250
    - **b.** Media = 150
    - **c.** Linear = 150

Procedure:

- Cut (2*2) cm= $(length \times weidth)$from carton
- Separate 3 layers carefully from the carton.
- Take weight from each layer by analytical weight balance.
- Calculation

Formula of GSM:

Duplex/ Media/Linear = (Taken weight from D/M/L $\times 10000) \div (Lenght \times weight)$

7. **Corrugation:** Minimum 135%

Procedure

- Cut 10 cm (Length) from carton and collect the media layer from the carton.
- Wet with water by dropper
- Now check the increase level that how much increased (Length)

- The increasing length will be corrugation.

Note: Less corrugation effect on carton, can be broken

8. Glue flap: (20-25) mm
9. Lock length: 15 mm
10. Thickness of carton: 2 mm
11. Thickness of lamination: 20 microns (15 microns acceptable)

6.2.1 **Plastic cup- 100ml**

QC check:

1) **Printing quality**: As per company standard.
2) **Actual volume**: 100 ml

Procedure:

a) Take 100 ml water into plastic cup by measuring cylinder (250 ml).
b) Check the amount of water, if need extra water then add as needed (carefully).
c) The extra water is 5 ml, so the actual volume is 105 ml

3) Weight of cup: (4±0.2) gm
4) Top diameter: 75 mm
5) Bottom diameter: 57 mm
6) Neck height: 13±1 mm
7) Neck diameter: 68.5 mm
8) Total height of cup: 50 mm
9) Wall thickness: 0.4 mm
10) Sheet thickness: 0.7 mm
11) Printing layout: check (size, weight, information)
12) Lid check:
    a) Top lid: 68.5 (According to container neck diameter)
    b) Lid sticker (Glue check) [Here GSM check is not important factor.]
    c) Date (MFD, EXP), Batch no, Quantity, MRP.

6.2.2 Classic Choco bar ice-cream (52ml)

QC Check:

1. Wrapper check:
    a. Type of wrap: BOPP pearled
    b. Length of wrap: 200 mm
    c. Width of wrap: 165 mm
    d. Thickness of wrap: 0.4 microns
    e. Weight of wrap: 1.2 gm
    f. Reel length: (1200-1400) meter
2. Sticker check:

a. Sticker thickness: 0.03 micron (by makeup solution)
b. Core diameter of Bobbin: 76 mm

3. Layout of wrapper**:** Ingredients, Batch no, Date (MFD, EXP), MRP, Environment logo, BSTI logo etc.

6.2.3 Single sundae cup- 100ml

QC Check:

1) Check the fitting of lid with container.
2) Top diameter: 66 mm
3) Lid diameter: 69 mm

Ice-cream Box (500ml/1000ml/5000ml)

QC Check:

1) Should be open and close lid from the container easily/ smoothly.
2) Should be equal top and bottom side of box.
3) Dropping test.
4) Check if extra materials have in the box.
5) Check out the transparent of the box. (If easily transparent into the box, then measure the thickness of box.)

Table no. 6.2.3: Checking parameter: (Requirements for ice-cream)

Characters	**Requirements for plain ice-cream**	**Requirements for composite ice-cream**
Cream amount (Per litter)	525(min.)	540(min.)
Total solid (% by mass)	36(min.)	36(min.)
Total milk solid (% by mass)	10(min.)	8(min.)
SNF (solid not fat)	10-11	10-11
Vegetable fat/ milk fat (% by mass)	10(min.) 10% (Regular)	8 (min.) 12% (Premium)
Acidity (% by mass)	0.22 (max.)	0.22 (max.)
Sugar (% by mass)	16(min.)	16(min.)
Stabilizer/ Emulsifier	0.5 (max.)	0.5 (max.)
Total colony count (per gram)	100,000 (not more than)	100,000 (not more than)
Total coliform count (per gram)	10 (not more than)	10 (not more than)
Phosphates test of mix	Negative	Negative
Moisture (max.)	60%	60%

6.3 QC test

6.3.1 **Determination of fat:**

Apparatus:

- Butyrometer (Using for measuring fat content)
- Aluminum stopper
- Centrifuge machine (1100 RPM)

Reagents:

- 96% sulfuric acid
- Amyl alcohol
- Distill water

Procedure:

1. Take 0.5gm fat sample, add 10.75 ml sulfuric acid and also add 1ml amyl alcohol in a butyrometer.
2. Shake it well with aluminum stopper by hand for 2 minutes
3. Take it into centrifuge machine and carefully and also balance at 1100 RPM for 5 minutes.
4. Determined the fat content.

6.3.2

Table no. 6.3.2: Vegetable fat/ vegetable oil test

No.	Name of parameter	Standard specification
1.	Appearance	Light yellow with smooth texture
2.	Odor	Bland, neutral odor
3.	Melting points	(32-34) %
4.	Moisture	Max. 0.1% by mass
5.	Free fatty acid (FFA)	Max. 0.1% by mass
6.	Peroxide value	Max. 1
7.	Iodine value	Min. 32
8.	MFD	COA
9.	EXP	COA
10	Batch no.	Available
11.	Packaging condition	Intake
12.	Supplier COA	Mandatory
13.	Quantity	Should be mentioned

6.3.3 Determination of per-oxide value

Reagents:

- Per oxide value (Prepare solution: Chloroform 20ml, Acetic acid 10ml, total solution 30ml)
- Starch solution (Prepare solution: 0.5gm starch in 100gm boil distil water)
- Potassium iodide (Prepare solution: 8gm potassium iodide in 6gm distil water)
- Sodium thiosulfate ($Na_2S_20_3$) – 0.01N solution prepare

Procedure:

1. Take 5gm oil. (Room temperature)
2. Add per-oxide value solution into the sample.
3. Then add potassium iodide 0.5ml solution
4. Rest in dark room for 1 minute
5. Add 30 ml distil water and 5 drops starch solution. The solution turns into light blue color.
6. Titrate the solution with sodium thiosulfate until the color will less.
7. Note the burette reading
8. Calculation.

Formula:

Per-oxide value= *(B.R* Normality of sodium thiosulfate* mass* 1000) ÷ sample weight*

6.3.4 Determination of iodine value

Reagents:

- 0.1 N silver nitrate ($AgNO_3$)
- 5% potassium chromate indicator (K_2CrO_4)

Procedure:

1. Take 5gm sample, add 45ml distil water (10% solution)
2. Dissolved it well
3. Then add 1ml K_2CrO_4 indicator. The color turns into pale yellow
4. Titration with silver nitrate (0.1 N solution)
5. Take the burette reading
6. Calculation

Formula:

Iodine value= *(B.R* normality of $AgNO_3$* 0.00584* 100) ÷ (sample weight* 0.1)*

6.3.5 Determination of Free Fatty Acid

Reagents:

- Ethanol
- 0.1N NaOH
- Fat sample
- Phenolphthalein indicator

Procedure:

1. Take 5gm sample in a conical flask (250 ml)
2. In another conical flask, take ethanol solution for neutralization and take (5-6) drops phenolphthalein indicator and added with 5gm sample
3. If change the color of solution, mix it well by heating.
4. Again, add phenolphthalein indicator and titrate it with NaOH solution.
5. Observe the color for 1 minute.
6. Calculation

Formula:

FFA= *(B.R*Normality of NaOH* Mass* 100) ÷ (Sample weight* 1000)*

6.3.6 Determination of Acidity

Apparatus:

- Beaker
- Dropper
- Burette with stand.
- Measuring Cylinder — 25 ml.
- Stirring Rods — glass.

Reagents:

- 0.1N NaOH
- Distill water
- Phenolphthalein indicator

Procedure:

1. Take 2ml sample with 8ml distill water into a beaker by measuring cylinder
2. Then add (4-5) drops phenolphthalein indicator.
3. Shake it well.

4. Titrate it with 0.1N NaOH by burette with stand.
5. Titration the solution until the color turns into faint pink color.
6. Calculation.

Formula:

Acidity% = *(Burette reading× normality of NaOH×Mass×100) ÷ (sample weight× 1000)*

6.3.7 Table no: 6.3.7: Skimmed milk/ low fat milk powder Test

Name of parameter	Standard specifications	Method
Appearance	White and free from lumps	Visual
Odor	No objectionable odor	Organoleptic
Moisture	Max. 4% by mass	Moisture analyzer
Milk fat	Min. 0.5% by mass	Garber
SNF (Solid not fat)	Min. 34% by mass	Analyzer
Titratable acidity	Max. 18ml/0.15% of 0.1N NaOH	Analytical
Total Ash (Dry basis)	Max. 8.2%	Analyzer
Packaging condition	Intake	Visual
Supplier COA	Mandatory	Physical
Quantity	Mentioned	Physical

6.3.8 Brine test

Brine solution (60% water, 33% calcium chloride, 7% caustic)

1. **pH test:** (Standard: 6.4-7.4)

Procedure:

- Take brine sample in a beaker
- Now dipping the pH strip into the sample
- Match the color with pH box and record the result

2. **Baume test: (Standard 31.5)**

- The brine solution takes into 20° temperature by heating

- Then solution placed into a measuring cylinder (250ml) and fill it with top of the cylinder.
- Now slowly the Baume meter dip into the solution
- Take the result.

NOTE: If the result less than 31.5 then add 25 kg calcium chloride for every 0.5 of Baume scale.

3. **Density:** Standard (1.280-1.286)
   - Take a pycnometer (25ml) and make it zero by weight balance.
   - Fill with brine solution and take weight
   - Calculation

Formula:

Density= Sample weight ÷ volume of Pyrex

6.3.9 WTP (Water Treatment Plant)

Table no. 6.3.9: Parameter of WTP

Name of parameter	Standard specification
Taste	No off taste
Odor	No off odor
Appearance	No visible color
Presence of dust	No visible dust
pH	6.4-7.4
phosphate	< 4 ppm
Total Hardness	<300 ppm
Iron	<0.3 ppm
Total Dissolved Solid (TDS)	<500 PPM

1. Total hardness test:

Reagents:

- Hardness buffer = 5 drops

- Water = 5ml
- Calmagite solution = 1 drop
- EDTA = 1ml

Procedure:

- Take 5ml water in a beaker
- Then add 5 drops of hardness buffer and 1drop of Calmagite solution into water
- Titrate it with 1ml EDTA solution.
- Observe the color until it turns into dark violate color.
- Calculation

Formula:

Total hardness = (Final reading – Initial reading) × 300

2. Iron test:

Reagents:

- Water = 5ml
- FE_1 = 15 drops
- FE_2 = 30 drops
- FE_3 = 1 spoon

Procedure:

- Take 5ml water in a beaker
- Add 15 drops FE_1, 30 drops FE_2 and 1 spoon of FE_3 into water.
- Shake it well
- Rest for 5 minutes
- After 5 minutes, observe the color and note down the result.

CHAPTER 7

7. CIP & COP

7.1 CIP & COP

These cleaning techniques provide processors with an additional form of process control since they each improve the sanitation team's capacity to more clean and sterilize production equipment, hence enhancing food safety and quality assurance.

CIP: CIP referred as “clean-in-place”. It is a cleaning system. It is a procedure of interior cleaning process like processing tanks, homogenizers, mixers, blenders, fillers & transfer lines. This system use in every foods & beverages factory to clean the environment and keep safe foods. In ice-cream floor using this cleaning system. There are 5 steps of CIP. And 4 steps are doing every day. (Pre-rinse, caustic wash, hot water wash, sanitizing rinse)

Step 1: Pre-rinse. (Normal water): Circulation for 15-20 minutes.

Step 2: Caustic Wash (140° – 185° F): In this process, detergent as caustic is the main ingredients to wash the surface of equipment. The efficiency of a pump can be improved by using a non-foaming formulation to assist reduce germ. In addition, it will stop tanks from being overfilled with foam when the recirculation system starts up. Caustic washes soften fats and make them easier to remove. Also known as caustic soda, sodium hydroxide or NaOH, the alkali used in caustic washes have a very high pH in a concentration range of 0.5-2.0%. Concentrations as high as 4% may be used for highly soiled surfaces.

Step 3: Intermediate Rinse (Nitric Acid): About 1.5% of HNO_3 drop in normal water and use this once in a month for (15-20) minutes.

Step 4: Final Rinse. (Hot water). About up 60°C. In freezer, wash it at 55°C hot water.

Step 5: Sanitizing Rinse. (Treated cold water).

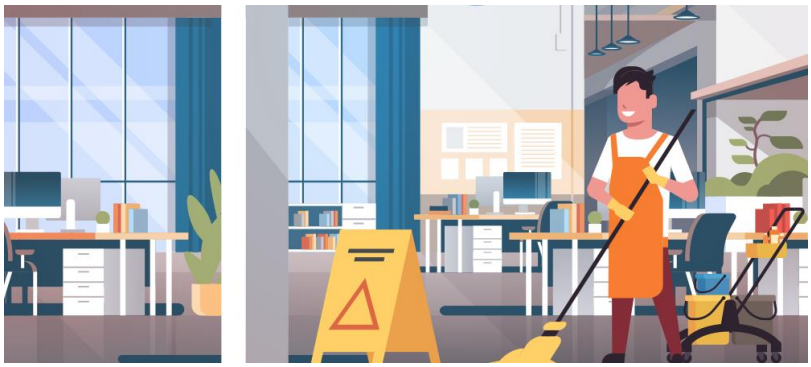
COP: COP referred as ‘Cleaning out of place’. About 2% of chlorine & detergent with water wash in agro floor.

CHAPTER 8

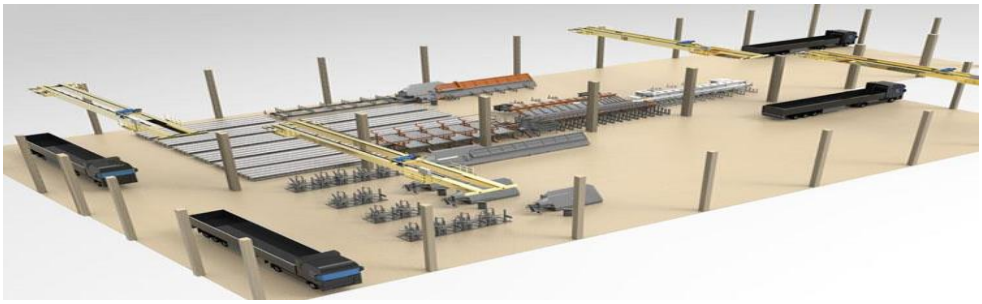
8. Hazard Analysis Critical Control Point (Haccp) Plan For Industry

8.1 HACCP Plan for Industry

1. **Good housekeeping:** Hazards in the workplace can be minimized or eliminated through good hygiene. Not only cleanliness is part of hygiene. This includes maintaining clean and organized work areas, protecting hallways and floors from tripping hazards, and removing waste (such as paper and cardboard) and hazards. Other hazards such as fire in the workplace.



2. **Design & plant layout:** The plant has to have excellent ventilation and lighting. Air enters the building through large wire-mesh windows. In order to additionally offer good natural illumination. It is necessary to have hand washing stations with soap or other sanitizing products in the proper places. in order for employees to clean their hands before working to prevent contamination. The restroom must be located apart from the factory building or elsewhere away from the workspace. Considering how contaminated the toilet is. Separating the restroom from the plant building is necessary. Just have a quality control lab in the factory. So in the laboratory, experiments can be done as tests to test other raw materials. Tests include powder geliness and powder moisture content, oil moisture content and peroxide index, and more.



3. **Personal hygiene:** Personal hygiene must be correct, as if the personal hygiene instructions are not followed correctly, it can be a way to contaminate the product. And

even if employees must wear a uniform, use gloves and cover their hair. Therefore, for these components it is possible to prevent product contamination. Good personal hygiene means that employees should not put their fingers in their mouth, nose, or ears and refrain from eating, chewing, spitting and smoking during food handling. Employees must wash their hands before starting work and upon returning to work.

4. **Water supply:** Good quality potable water at the desired temperature is supplied for use in processing operations and cleaning.
5. **Equipment**: To ensure a smooth-running system, all equipment must be checked on a regular basis. So that the equipment can function properly, it must be checked for cracks, rust, and dents in the machineries.
6. **Storage and transportation:** The storage room must maintain an appropriate temperature and humidity for the safe storage of raw materials and the finished product. In addition, proper equipment transportation is required.
7. **Sanitation program:** The sanitation program's goal is to maintain a sanitary environment required for the safe and legal storage and distribution of products. A cleaning program must include several components in order to be successful. The plant's cleaning program must be properly implemented, including spot cleaning the equipment and tools required to do so, so that the equipment does not become a source of contamination.
8. **Pest control program:** Rodent, insect, and bird control are all part of pest control programs. Pest removal requires more than traditional spraying techniques in pest control programs. Modern pest control programs are intended to both prevent and control pests. This should be done once a month in the plant.

9. **Team Formation:** A HACCP team can be formed, with one member serving as the team leader. A senior quality control specialist or QA manager, a food technologist or line supervisor, a microbiologist, a purchasing agent, a stores supervisor, and a maintenance manager can make up the team.

CHAPTER 9

Conclusion

Our internship was conducted from 21st June to 28th July at Golden Harvest ltd located at Hotapra, Gazipur, Dhaka. This factory mainly bases on two sections. One is agro sector & another one is ice-cream sector. In the agro floor, they prepare various types of snacks items, meat-based items, paratha that usually help us to save our valuable time, because they are ready to cook foods. Another one is ready to eat foods, which are Tehari, Morog polaw, Chicken shami kabab, Mutton Biriany and so on. Just heat the food and ready for serve. For these items, they used fresh vegetables, good quality of meats (chicken, mutton, and beef), flour and so on. Second sector is ice-cream floor. There are different types of ice creams. For this, they used skim milk powder, milk whey powder, fruits pulp, sugar, oil, flavor, glucose syrup, stabilizer/ emulsifier, water etc. At first, they check the quality of all raw products & final goods and assure the quality of all products or items. They follow some process for making or produce this product they have their own plant-designed flow diagram. They analysis the goods by chemical, physical & microbial tests for quality control. Major objective of this report is to identify the actual health hazard and quality control of Golden Harvest Ice-Cream (Bloop Ice-Cream), Golden Harvest Agro industries and also develop the production and quality control. We're very grateful to the director of Golden Harvest ltd. For giving us permission to carry out this internship in his organization. We're grateful to **Md Aminul Islam Sir** as the organizational supervisor to conduct. We're also grateful to **Ashik Das** Officer-Quality Control & Microbiology and (**Md Asad Sir)** HR Admin Manager. It would have been very difficult to prepare this report up to this mark without their guidance. We would like to express our warmest thanks to Nutrition and Food Engineering Faculty members for their countless inspiration and encouragement during the student life. Finally, we wish to express immense gratitude & humbly convey our heart-felt respect to Managing Director.

Thank You