PRODUCTION AND QUALITY CONTROL SYSTEM OF "PRAN-RFL GROUP (AGRICULTURAL MARKETING COMPANY LTD.)"

AN INTERNSHIP REPORT

BY

MOST. FATEMA AKHTER

ID: 191-34-187

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

Supervised by

Dr. Nizam Uddin

Associate Professor and Head

Department of Nutrition and Food Engineering

Co-Supervised By

Mr. Abu Saeid

Lecturer (Senior Scale)

Department of Nutrition and Food Engineering

FACULTY OF HEALTH AND LIFE SCIENCES (FHLS)

DAFFODIL INTERNATIONAL UNIVERSITY

FEBRUARY 2024

APPROVAL

This Project titled **"Internship Report on Production and Quality Control of "PRAN-RFL Group (Agricultural Marketing Company Ltd.),"** submitted by **Most. Fatema Akhter** 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.

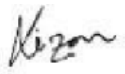
EXAMINING COMMITTEE

Chairman of the Board _____ _____

External Member _____ _____

Internal Member-1 _____ _____

Internal Member-2 _____ _____



Dr. Nizam Uddin

Head

Nutrition and Food Engineering

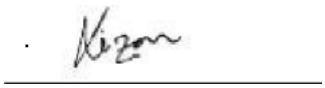
Faculty of Allied Health Sciences

Daffodil International University

DECLARATION

We hereby declare that this project has been done by us under the supervision of **Dr. Nizam Uddin, Associate Professor & Head,** Department of Nutrition and Food Engineering, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:



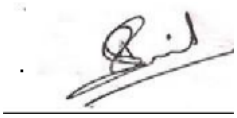
Dr. Nizam Uddin

Associate Professor & Head

Department of Nutrition and Food Engineering

Daffodil International University

Co-Supervised by:



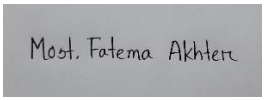
Mr. Abu Saeid

Lecturer (Senior Scale)

Department of Nutrition and Food Engineering

Daffodil International University

Submitted by:



Most. Fatema Akhter

ID: 191-34-187

Department of Nutrition and Food Engineering

Daffodil International University

ACKNOWLEDGEMENT

First, I express my heartiest thanks and gratefulness to almighty for His divine blessing makes it possible to complete the final year project/internship successfully.

I am really grateful and wish my profound indebtedness to **Dr. Nizam Uddin, Associate Professor and head, co-supervisor Mr. Abu Saeid, Lecturer (Senior Scale),** Department of Nutrition and Food Engineering, Daffodil International University. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stages have made it possible to complete this project.

I would like to express my heartiest gratitude to the honorable Dean, Faculty of Allied Health Science, Prof. Dr. Md Bellal Hossain for his kind cooperation and for accepting the Degree and Dr. Nizam Uddin, Assistant Professor and Head, Department of Nutrition and Food Engineering, for his kind help to finish our project and also to other faculty members and the staffs of the Department.

I would like to thank my entire course mate in Daffodil International University, who took part in this discussion while completing the course work. Finally, I must acknowledge with due respect the constant support and patients of my parents.

I am also thankful to Mamun-Ar Rashid, HR, PRAN-RFL Group (AMCL); Mustafizur Rahman, Q. C. manager, PRAN-RFL Group (AMCL); Zahidul Islam Q.C, PRANRFL Group (AMCL); Shathy Chowdhury, microbiology Q. C. PRAN-RFL Group (AMCL); Towhidul Islam, Q. C., PRAN-RFL Group (AMCL); Jubaer, Q. C., PRAN-RFL Group (AMCL); Shudipta Davnath, HRM, PRAN-RFL Group; Abdur Rahman Showrav, production Q. C., PRAN-RFL Group (AMCL).

Finally, I express my profound thanks and humble regard to Engr. Poresh Kanti Das, GM of HR of PRAN-RFL Group (AMCL), for allowing me to do this internship with his company.

EXECUTIVE SUMMARY

PRAN-RFL Group is a global Bangladeshi consumer goods manufacturer based in Dhaka. It is Bangladesh's biggest producer of plastic products and agricultural goods. The business is currently active in more than 145 nations. It has more food items like Biscuit & Bakery, Beverage, Confectionery, Dairy, Frozen food, Snacks, Culinary.

Amjad Khan Chowdhury, a former major general, founded PRAN (Programme for Rural Advancement Nationally) in 1981, and it has since grown to be one of Bangladesh's most extensive food and beverage businesses.

PRAN established agribusiness in Bangladesh by offering farmers prices that were guaranteed. A division of the PRANRFL Group called PRAN Foods manufactures a variety of agricultural goods under the PRAN brand. In 2003, PRAN founded a subsidiary business in the UAE.

In March 2021, PRAN began shipping goods from Bangladesh to India via the river route.

TABLE OF CONTENTS

CONTENTS	PAGE
Approval	i
Declaration	ii
Acknowledgments	iii
Executive Summary	iv
CHAPTER 1: INTRODUCTION	**1-7**
1.1 Introduction	1
1.2 Objectives	1
CHAPTER 2: PRODUCT'S MANUFACTURING PROCESS	**8-28**
2.1 Agricultural Manufacturing Company Limited	8
2.2 Pran Food Limited	16
2.3 Pran Chocolate Limited	22
CHAPTER 3: QUALITY CONTROL TEST	**29-30**
3.1 Chlorine Test	29
3.2 Acidity Test	29
3.3 Oil Test	29
3.4 Total Hardness	30
3.5 Jar Test	30
CHAPTER 4: SAFETY AND HYGIENE	**31-33**
4.1 Safety Equipment	31

4.2 Hygiene	32
CHAPTER 5: CONCLUSION	**34**
REFERENCES	**35**

LIST OF FIGURES

FIGURES	**PAGE NO**
Figure 1: Flow diagram of coffee processing	08
Figure 2: Process flow diagram of bulldozer	09
Figure 3: Process flow diagram of double dozer	10
Figure 4: Process flow diagram of litchi drinks	11
Figure 5: Process flow diagram of mango drinks (Frutix)	12
Figure 6: Process flow diagram of tetra pack	13
Figure 7: Process flow diagram of cheer up	14
Figure 8: Process flow diagram of max cola	15
Figure 9: Process flow Diagram of chanachur	16
Figure 10: Process flow diagram of dal vaja	17
Figure 11: Process flow diagram of badam vaja	18
Figure 12: Palate process	19
Figure 13: Process of potato chips	20
Figure 14: Process flow diagram of jhal muri	21
Figure 15: Process flow diagram of lollipop	22
Figure 16: Process flow diagram of chocolate	23
Figure 17: Process flow diagram of choco-choco	24
Figure 18: Process flow diagram of frooto candy	25
Figure 19: Figure of water treatment plant	27
Figure 20: Figure of effluent treatment plant	28

CHAPTER 1

INTRODUCTION

1.1 All about PRAN-RFL Group

PRAN-RFL Group is a global Bangladeshi consumer goods manufacturer based in Dhaka. It is Bangladesh's biggest producer of plastic products and agricultural goods. The business is currently active in more than 145 nations. It has more food items like Biscuit & Bakery, Beverage, Confectionery, Dairy, Frozen food, Snacks, Culinary.

Amjad Khan Chowdhury, a former major general, founded PRAN (Programme for Rural Advancement Nationally) in 1981, and it has since grown to be one of

Bangladesh's biggest food and beverage businesses. PRAN established agribusiness in

Bangladesh by offering farmers prices that were guaranteed. A division of the PRANRFL Group called PRAN Foods manufactures a variety of agricultural goods under the PRAN brand. In 2003, PRAN founded a subsidiary business in the UAE.

After the Indian government abolished the ban on direct investment from Bangladesh in 2007, the company declared plans to construct a production unit there in 2008. By 2016, the PRAN group's exports had reached 10 billion takas, with India, Saudi Arabia, the United Arab Emirates, Malaysia, and Oman constituting the company's largest markets. PRAN generated more than $500 million in revenue in the same year. In March 2016, PRAN began shipping potatoes overseas.

Cassava exports by PRAN began in April 2016, with the first shipment going to New Zealand for $3 million. PRAN employs 2,00,000 indirect workers in addition to 80,000 direct workers. PRAN exports to more than 118 nations.

In March 2021, PRAN began shipping goods from Bangladesh to India via the river route.

Objective of the Report

In my opinion, the report objective can be viewed in two forms:

➢ General Objective

➢ Specific Objective

General Objective

This internship report aims to fulfill the Bachelor of Nutrition and Food Engineering (NFE) degree requirements at Daffodil International University's Faculty of Allied Health Science. And I'm writing this report to communicate my project report.

Specific Objective

I gained both intellectual and practical skills from this education. First and foremost, I've learned about one of the biggest consumer goods producers in the nation's business culture. Additionally, it has allowed me to network within the corporate setting.

The internship program and the study have the following purposes:

- To have an idea of the activities of the PRAN-RFL Group (AMCL)
- To observe the processing of many products in the plant
- To know the industry's rules and regulation
- To know the industry's worker union.

Mission

Poverty & hunger are cursed. We aim to generate employment and earn dignity & self-respect for our compatriots through profitable enterprises.

Vision

Improving Livelihood

Group Management

Owner	Ahsan Khan Chowdhury
Chairman	Ahsan Khan Chowdhury
CEO	Ahsan Khan Chowdhury
Exicutive Director	Akm Moin
General Manager, Marketing	Arunangshu Ghosh
HR Manager	Salah Uddin

1.2 PRAN-RFL Group

PRAN-RFL Group is Bangladesh's biggest producer of plastic products and agricultural goods. The business is currently active in more than 145 nations. It has more food items like Biscuit & Bakery, Beverage, Confectionery, Dairy, Frozen food, Snacks, Culinary.

COMPANY PROFILE

Head Office:

PRAN-RFL Center, 105 Pragati Sarani, Middle Badda, Dhaka-1212, Bangladesh.

Habiganj Plant:

Habiganj Industrial Park, Sayestaganj, Habiganj, Sylhet.

Narshingdi Plant:

PRAN-RFL Group (AMCL), Palash, Narshingdi.

Gazipur Plant:

RFL Industrial Park, Mulgaon, Kaliganj, Gazipur.

Dhaka Plant:

Rupganj RFL Factory, Rupganj, Dhaka.

Rangpur Plant:

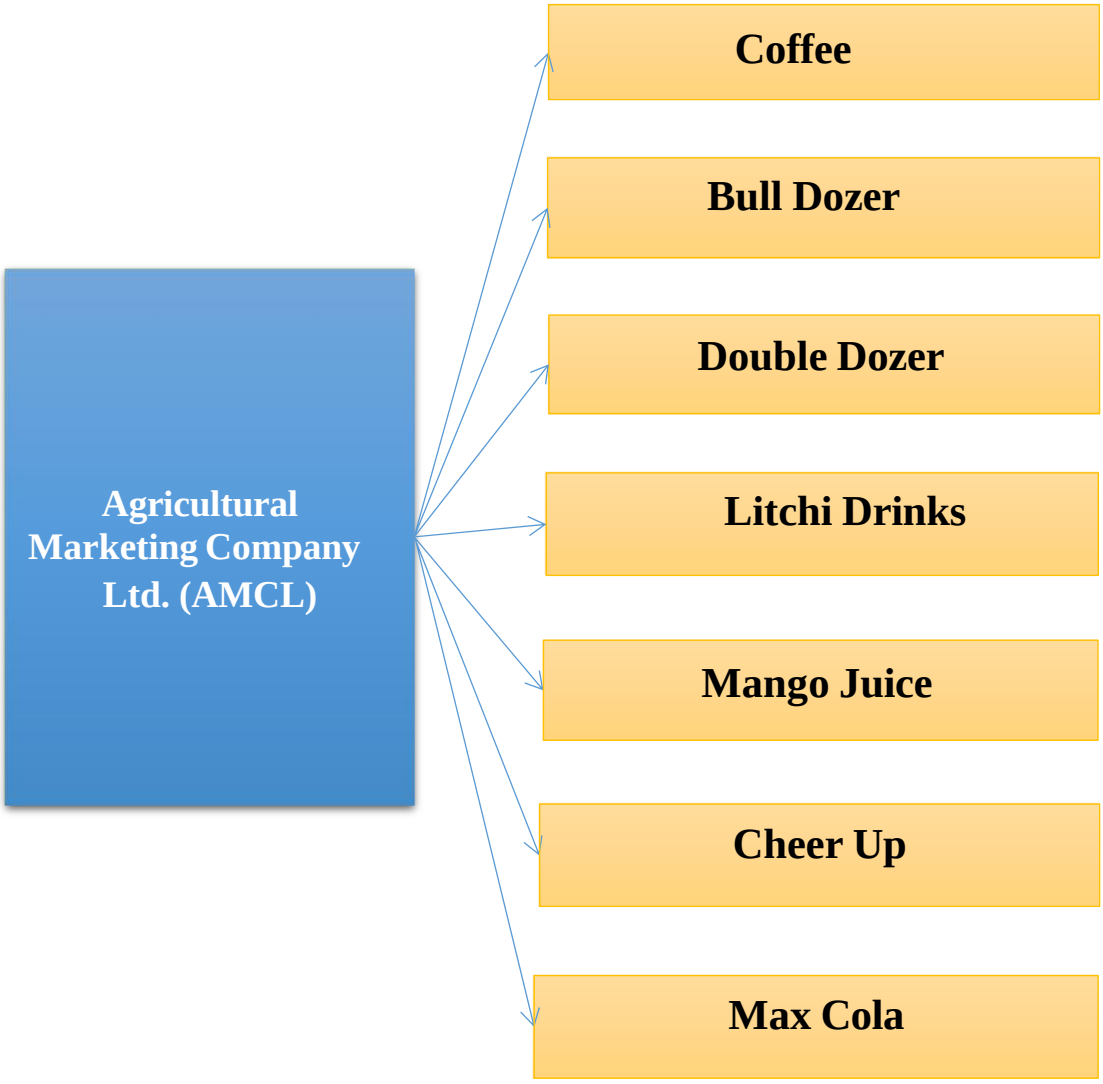
Rangpur Foundry Ltd., BSCIC, Kallabong, Rangpur.

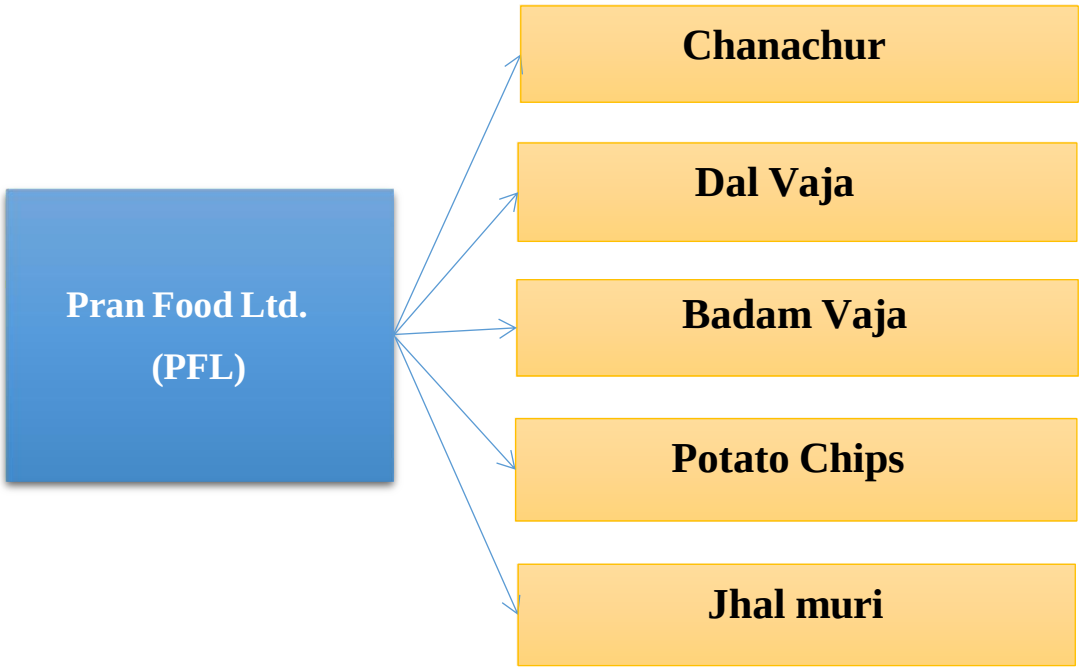
Natore Plant:

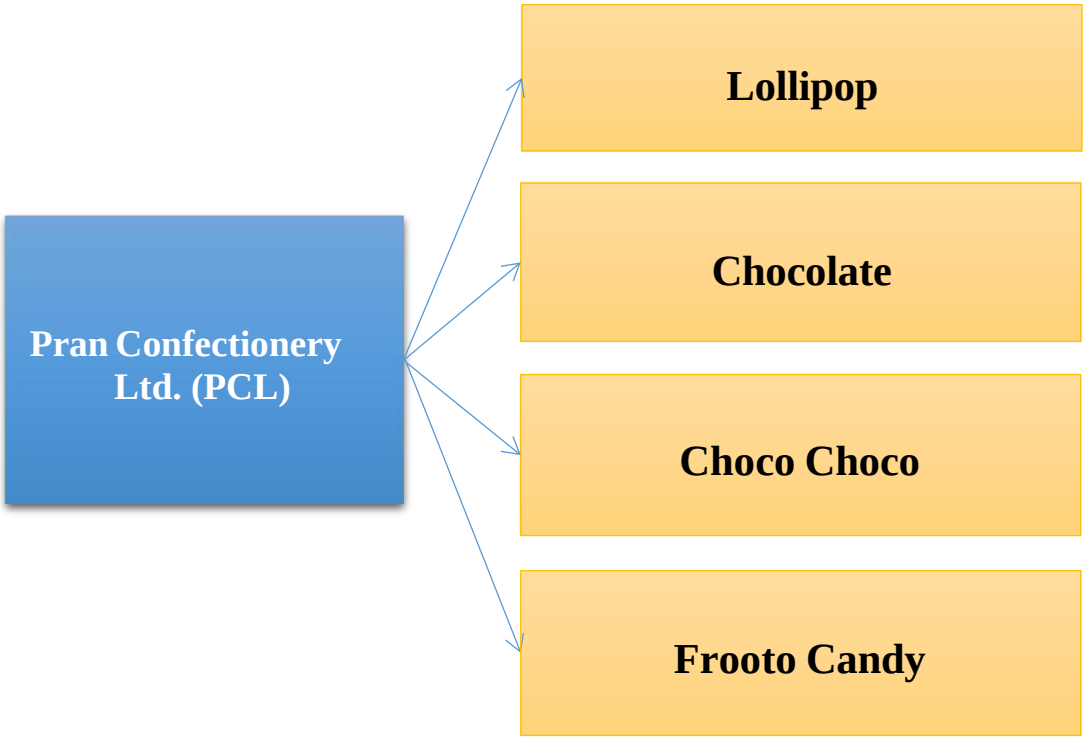
Pran Agro Ltd, Natore.

Certificate archived by PRAN-RFL Group

Products of PRAN-RFL Group (AMCL):







CHAPTER 2

2. Product's Manufacturing Process

2.1- AMCL (Agricultural Manufacturing Company Limited)

Coffee

Ingredients: Sugar, coffee powder, non-dairy creamer, GMS (chemical), anti-caking agent-SiO2, casinate chemical.

Instant coffee: Skim milk, powder, sugar, raw coffee-14gm

Natural coffee: Roasted coffee-1gm

Process: Crushing sugar

↓

Refiner (coffee+sugar)

↓

Mixing

↓

Filling

↓

Wrapping

↓

Packaging.

Bulldozer

Ingredients: Water, sugar, dextrose, acidity regulators, carbonating agent, preservative, food colour, artificial flavour.

Bull Dozer: Temperature: 40^0 F, Gass volume: 16psi, Final brix: 10, Carbonate gas: 3.1

Process: Water + syrup making

↓

Syrup tank

↓

Mixing tank

↓

Reserve tank

↓

Filling

↓

Cap closing

↓

Metal detector

X-ray machine

↓

Sealing

↓

Heat for can protecting.

↓

Coding and Packaging.

Double Dozer

Ingredients: Water, sugar, dextrose, acidity regulators, carbonating agent, inositol, vitamin B1, B2, B3,B5, B6, caffeine, preservative, food colour, artificial flavour.

Double Dozer: Gass volume: 4.2-4.4, Product temperature: 3.5, Brix: 9.5-10, Pressure: 36psi.

Process: Batch making (Glysole water+

Sugar syrup+ R.O(Reverse osmosis).

↓

Mixing raw materials (carbomixers)

↓

Reserve tank

↓

Hopper (CO_2 line+ low-pressure line)

↓

Filling bottle (4.2^0 C)

↓

Manually detecting

↓

Warmer (48^0 C-50^0 C temp)

↓

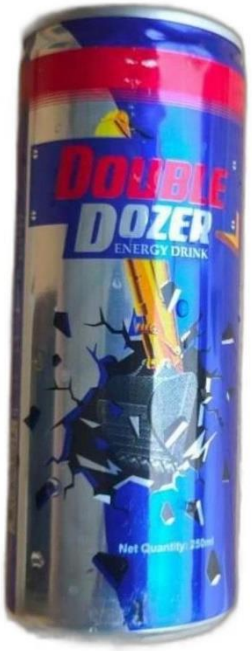
Washing (cooling)

↓

Air dryer+ Labelling

↓

Cooling + Wrapping + Packaging.



Litchi Drinks

Ingredients: Sugar, citric acid, CMC- Carboxyl methylcellulose, potassium sorbate, ascorbic acid, sodium benzoate, litchi pulp, litchi flavour, acesulfame K, water, xanthangum, aspartame.

CCP-01 (Critical control point for pasteurization): Pasteurization temperature: $\geq 86^0$ C,

Holding time: 20 seconds, Frequency: every 30 minutes.

Process: Batch making (mixing all ingredients)

↓

Reserve tank

↓

Pasteurization

↓

Homogenizer (170-180 bar)

↓

Pasteurization

↓

Filling the bottle in the filling machine-40^0C

↓

Sterilization or Warmer machine

↓

Manually shorting then Labeling.

↓

Air dryer, then Coating then Wrapping, then Packaging.

Mango Drinks(Frutix)

Ingredients: Water, mango pulp, sugar, stabilizer, xanthan gum, citric acid, ascorbic acid, sodium chloride, and preservatives.

CCP-01: (Pasteurization) - Pasteurization temperature: ≥ 96.2^0 C, Holding time: 20 seconds, Frequency: every 30 minutes.

CCP-02: (Filler) – Bottle filling temperature: ≥ 76^0 C, Frequency: every 30 minutes.

Process: Hot Filling

↓

Mango pulp (raw materials)

↓

Blending tank

↓

Pasteurization

↓

Hot filling

↓

Treadling conveyor

↓

Cooling tunnel

↓

Labeling then Coding

↓

Wrapping, then Packaging.

Tetra Pack

Ingredients: Water, mango pulp, sugar, stabilizer, xanthan gum, citric acid, ascorbic acid, sodium chloride, and preservatives.

CCP-03: (Air knife temperature) – Sterile air temperature: ≥125^0 C,

Peroxide concentration: ≥ 34-36%, Frequency: 8 hour.

Process: Mango pulp

↓

Crushing + Water mixing

↓

Blending tank

↓

Xanthan gum mixing tank, then Remixing tank

↓

Sugar syrup tank, then Blending tank

↓

Homogenizer then pasteurization then Chiller

↓

Tetra brix aseptic then Filling + Sealing

↓

Coding, then Straw adding.

↓

Wrapping, then Packaging.

Cheer Up

Ingredients: Sugar, citric acid, tri-sodium citrate, aspartame, sodium benzoate, lemon-lime, flavour, syrup volume, mixing syrup brix, taste, colour, flavour.

CCP-01: Brix: 9, Temperature: 44^0 F, Gass volume: 4.4, Pressure: 36 (bottle).

Process: Batch Making

(Sugar syrup + Raw materials)

↓

Reserve tank, then Hopper

↓

Filling

↓

Defect detecting

↓

Warmer (48^0 C – 50^0 C)

↓

Washing to reduce temperature

↓

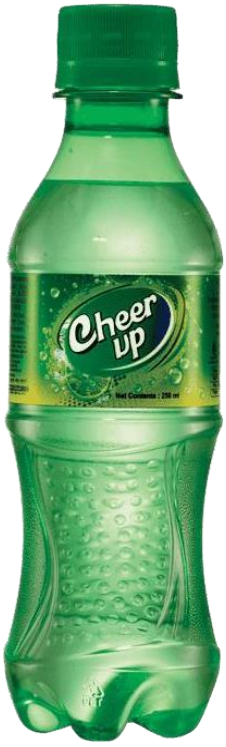
Air dryer

↓

Labeling then Coding

↓

Wrapping, then Packaging.



Max Cola

Ingredients: Sugar syrup, water, CO2, color, flavour, sodium benzoate.

CCP-1: Temperature: 40^0 F, Bottle pressure: 49, Gass volume: 4.6, Brix: 10.5

Process: Batch making

↓

Bottle washing + Bottle filling

↓

Cap closing

↓

Warming bottle

↓

Air dryer for cooling bottle

↓

Labeling then Coding

↓

Defect detecting (manually)

↓

Wrapping in wrapping machine

↓

Packaging

↓

The final product for delivery.

2.2- PFL (Pran Food Limited)

Chanachur

Ingredients: Chickpeas, flour, split chickpeas, lentils, peanut, flattened rice, edible vegetable oil, sodium chloride, citric acid, spice powder.

CCP-1: Temperature: ≥ 160^0 C, Time: ≥ 1 minute.

Process: Raw materials

↓

Mixer

↓

Cooker

↓

Auto fryer

↓

Seasoning

↓

Wrapping Hopper

↓

Metal detector

↓

Sealing then Labelling

↓

Coding then Packaging.

Dal Vaja

Ingredients: Pulse (mung dal), edible vegetable oil, monosodium, glutamate, monosodium, sulphate, spices powder, red chili, turmeric, and cinnamon.

CCP-1: Frying temperature: ≥ 180^0 C, Holding time: ≥ 1 min or 2 min, Frequency: after 1-hour interval.

Process: Shorting

↓

Hopper

↓

Reserve tank

↓

Soaking for 4-4.5 hour

↓

Resting for 1.5 hour

↓

Hopper then Auto fryer

↓

Cooling then Seasoning

↓

Metal detecting

↓

Coding + Packaging

↓

Final product.

Badam Vaja

Ingredients: Gramdal beson, maida, sugar, salt, citric acid, water, Seasoning.

For Spicy: Turmeric, cumin seed, maida, beson, gramdal.

Peanut fry has two types: Sweet and spicy.

Export peanut: Alphatoxin-free peanut.

CCP-1: Temperature: ≥ 180^0 C, Time: ≥ 3 minutes.

Process: Color sorting

↓

Reserve

↓

Hopper

↓

Mixing beson

↓

Auto frying

↓

Cooling

↓

Seasoning

↓

Packaging.

Potato Chips

Ingredients: Wheat flour, salt, water, tropical starch (from tropical fruit), potato flask.

CCP-(Frying Temperature): Frying temperature: ≥ 170^0 C, Frying time: ≥ 17 second, Frequency: 30 minutes, Batch pressure: 2-3 kg/cm^2.

About palate: Palate moisture;7-8%, Stick thickness: 1.4-1.5mm, Crackers thickness: 1.1, Standard: 1.04, Meter name: Analog thickness meter.

Palate process: Raw material weight

Mixing

Dough making

Hopper

Sheet Making

Conveyor

Aging (Time: 8-12 hour)

Cutting

Drying.

Potato chips process:

Raw material receive

↓

Mixing then Cooker

↓

Roller + Cooling conveyor

↓

Rolling then Aging

↓

Cutting then Shorting

↓

Dryer (60^0 C for 8-9 hours)

↓

Moisture test (weight)

↓

Shorting then Auto-fryer

↓

Centrifuge (oil removal)

↓

Seasoning then Mixing

↓

Conveyor then Packaging.

Jhal Muri

Ingredients: Puffed rice, chickpeas flour, nut, mustard oil, wasabi, Seasoning (Red chili powder, NaCl, turmeric powder, cinnamon powder, monosodium, glutamate monosodium sulphate).

CCP-(Frying temperature): Temperature: ≥ 160^0 C, Time: ≥ 1 minute, Frequency: 1 hour.

Process: Raw materials

↓

Reserve tank

↓

Mixing (rice+ water+ salt)

↓

Roasting

↓

Frying

↓

Muri mixing

↓

Seasoning

↓

Hopper+ Metal detector

↓

Final product

↓

Packaging.

2.2- PCL (PRAN CHOCOLATE LIMITED)

Lollipop

Ingredients: Flavour, color, sugar, soya lecithin (for test enhancement), paraffin- sometimes used, titanium, di-oxide (to prevent growing microorganisms), citric acid, telcom powder (to avoid stickiness).

CCP- (Final Cooker): Final vacuum cooking temperature: ≥ 145^0 C, Vacuum pressure: 5-6kg /cm^2, Holding time: 20 minutes, Frequency: every 30 minutes.

Humidity standard: 45-55%.

Process: Raw materials

⬇

Glucose dosing tank

⬇

Dissolving tank, then Vacuum cooker.

⬇

Hand mixing, then Cooling table.

⬇

Kneading machine, then Batch roller

(add telcom powder)

⬇

Forming machine or Shapping then Shorting

⬇

Metal detector

⬇

GEA wrapping machine, then Packaging.

Chocolate

Ingredients: Water, condensed milk, sugar, liquid glucose, dalda (fat), lecithin (add adjustable), salt, GMS, sorbitol (manually measured).

CCP-(Final Cooker): Cooking temperature: ≥ 122^0 C, Standard time: 20 minutes, Frequency: every batch.

Process: Raw materials

↓

Mixing tank for 5 minutes

↓

Reserve tank for 20 minutes, blending.

↓

Heat exchange, then Final Cooker (10 minutes)

↓

Delivery pump, then Cooling wheel

↓

Batch roller, then Rolling.

↓

Cutting and shaping

↓

Conveyor or Cooler (3 tier relaxation belt conveyor)

↓

Wrapping machine, then Packaging

↓

Delivery of the product.

Choco-Choco

Ingredients: Non-dairy cream, sugar, colour, cocoa powder, palm oil.

CCP: Temperature: 55-65^0 C, Time:18-20 hours.

Process: Raw materials

↓

Mixing

↓

Refiner

↓

Wrapping

↓

Coding

↓

Metal detecting

↓

Packaging

↓

Storage.

Frooto Candy

Ingredients: Sugar, water, glucose, flavour, colour.

Packaging materials have two types: Outer foil and Inner foil.

CCP-1: Temperature: 112^0 C, Time: 14 minutes, Steam pressure: 4-5bar.

CCP-2: Temperature: 127^0 C, Time: 20 minutes, Vacuum pressure: 110bar.

Process: Raw materials

↓

Dissolving Cooker, then Reserve tank

↓

Final Cooker, then Mixing tank.

↓

Cooling table

↓

Cooling or Pulling

↓

Extruder machine shaping

↓

Cooling tunnel

↓

Packaging and Coding

(Induction sealing)

↓

The final product for delivery.

Bottle Making

Pre-form

↓

RJM-10 (machine)

↓

Hopper

↓

Heating

↓

Shaping

(per hour 13000 bottle)

↓

Cooling.

Water Treatment Plant

Dep Tubule (450 fit)

UGT - 1 (dossing sodium hypo-chloride)

MGF - 1 (iron removal)

MGF – 2

ACF (Cl2 removal)

R . O (membrane 0.001 micro.)

R . T - 1 (dosing sodium by carbonate)

Contact Taste

Blanching and Bottle Rinsing

Filling and Cap Closing

Labeling

Coding and Wrapping.

Effluent Treatment Plant

Separation Chamber (remove oil, gris)

Bar Screen Chamber (big wastes)

Ecolization Chamber (pH test, add caustic soda)

Aeration Tank (urea, dep dossing)

Clarification Tank (gravity force)

Fresh Water (due tank)

River.

CHAPTER 3

3. Quality Control test

3.1 Chlorine test:

- Take 10 ml of sample (water) into the seel.
- Add ACF (activated carbon filter).
- Take it into the spectrophotometer for 2 min and set the program for test 88.
- Then click the result button for the result.
- Standard chlorine = 0.01
- Wave length = 530 nm

3.2 Acidity Test:

- First take 10 ml of the sample.
- Then add distilled water.
- Add 2-3 drops phenopthaline.
- Then, titration with sodium hydroxide. [normality = 0.144]
- Take burette reading.

Acidity = [(burette reading x factor) / batch volume] x 100

- Standard acidity = 0.18
- Standard brix = 1.25o

3.3 Oil Test:

- Take 5.59 ml of sample.
- Take 30 ml of acid and chloroform.
- Take 0.5 ml potassium iodide.
- Shake properly.
- Then add 30 ml of distilled water.

- Add 1 ml of starch.
- Add Na2S2O3 (sodiumthiosulfate). (0.1 N)
- Do the titration.

3.4 Total Hardness:

- At first collected, 100ml Raw water in a beaker.
- Added 2-3 ml buffer solution of Ammonia.
- Then add 2-3 drops of EBT solution. [EBT= Eriochrome Black T]
- Then titration should be done with EDTA, and the color will be blue.
- When observing the blue color, I noticed the burette reading and multiplying by 10.

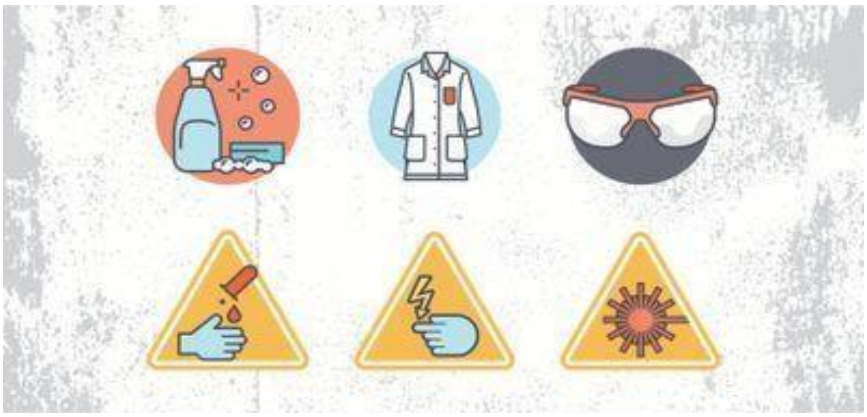
3.5 Jar Test:

- At first, I took a small amount of sugar in a jar and locked the pot.
- Shacked the jar.
- Opened the jar.
- Finally checked the sugar to see whether any sour flavor or odor was present.

CHAPTER 4

4. Safety and Hygiene

4.1) Safety Equipment



4.2) Hygiene

HACCP

- Conduct hazard analysis
- Identify critical control point
- Determination of critical limit
- Define monitoring procedure
- Implement corrective action
- Establish verification procedure
- Create a keeping procedure.

CIP (Clean in place)

- Warm water + cleaning agent (NaOH, HNO3-1%)
- Normal water - Rinsing - 5min
- Warm water – Flashing – 40° C – 10 minute
- 80 degree C NaOH – Solution – Circulation – 15-20 minutes

OPRP (Operational pre-requisite program)

- A control measure that is used to minimize the risk of food safety hazards.

Contamination

- The presence of harmful chemicals and microorganisms in food can cause consumers illness.

Cross-contamination

- The unintentional transfer of microorganisms, chemical contaminants (including allergens), or any foreign substance from food, person, or object to another food product.

Eight wastes:

1) Defects

2) Overproduction

3) waiting

4) Unutilized talent

5) Transportation

6) Inventory

7) Motion

8) Extra processing.

Learning Outcome:

- Have to learn about their management system.
- Have to learn their hygiene and safety.
- Have to learn about their source of all ingredients and materials.
- Have to learn about their production system.
- Have to learn about their quality control laboratory and every test of different products.
- I have to learn their security system.

CHAPTER 5

CONCLUSION

Pran Foods is the group's flagship company, and it is known for its popular juice and snack products. RFL Plastics is one of the largest plastic manufacturers in South Asia, producing a wide range of household goods and industrial plastic products. Apart from its core businesses, the group operates in real estate, media, and hospitality. Pran-RFL Group has joint ventures with international companies, such as PepsiCo, Danone, and Nestlé.

The group has recently focused on expanding its business in the Middle East and Africa Region. The company has also been involved in corporate social responsibility initiatives, including education, health, and environment. The Pran-RFL Group has won numerous awards and recognition for its contributions to the economy of Bangladesh. The company is one of the top employers in the country.

REFERENCES

- https://en.wikipedia.org/wiki/PRAN RFL_Group#:~:text=Pran%20Foods%20is%20the%20flagship,goods%20and%20industrial%20plastic%20products.
- https://www.pranfoods.net/about/mission-vision#:~:text=Our%20aim%20%3A%20To%20generate%20employment,our%20compatriots%20through%20profitable%20enterprises.
- https://www.studocu.com/row/document/bangladesh-university-of-professionals/corporate-finance/pran-rfl-group-finance-assignment-on-pran-rfl/16820644

PRODUCTION AND QUALITY CONTROL SYSTEM OF "PRAN-RFL GROUP (AGRICULTURAL MARKETING COMPANY LTD.)"

ORIGINALITY REPORT

33%	26%	3%	21%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	en.wikipedia.org Internet Source	5%
2	Submitted to Daffodil International University Student Paper	5%
3	dspace.daffodilvarsity.edu.bd:8080 Internet Source	4%
4	Submitted to Centria UAS Student Paper	4%
5	www.coursehero.com Internet Source	3%
6	Submitted to NCC Education Student Paper	2%
7	www.saffronbooks.com Internet Source	1%
8	www.slideshare.net Internet Source	1%