INTERNSHIP REPORT

On

Mymensingh Agro Limited (PRAN)

Supervised by

Dr. Sheikh Mahatabuddin
Former Associate Professor and Head
Department of Nutrition and Food Engineer
Faculty of Allied Health Sciences
Daffodil International University

Submitted By

Milon Islam
ID: 191-34-189
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Letter of Transmittal

Date:

Dr. Nizam Uddin
Head (In charge)
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Subject: Submission of Internship Report

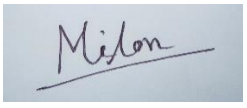
Dear Sir,

Without your guidance, I would not be able to finish this report. I am also grateful to the facilities of the Department of Nutrition and Food Engineering, Daffodil International University that includes but not limited to my teachers, and many other individuals for their guidance, support, and assistance throughout my internship to accomplish this report. I am thankful to the authority and the officials of the Mymensigh Agro limited (Pran Group) for allowing me to acquire knowledge which will help me to establish my career in the field of Food Development.

I have I would like to express my gratitude for your guidance and support during my Internship work. Put out my best effort to meet the report's objectives, and I trust that my efforts will be fruitful. The practical knowledge and experience gained while preparing the report would be highly beneficial in my future professional life. Please accept my apologies for any errors in the report despite my best efforts

I, therefore, would like to submit this report for your consideration and suggestions. Your helpful comments will motivate me to improve my planning skills in the future.

Sincerely Yours,

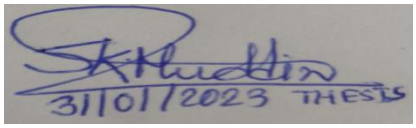


Milon Islam
ID-191-34-189
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Letter of Approval

The report about PRAN RFL-Park (Mymensingh Agro Limited) was based on PRAN RFL-Park, and I'm happy to guarantee it.It has been authorized for presentation and Defense/viva-voice by Milon Islam Bearing (ID No. 191-34-189) of the department of Nutrition and Food Engineering.

I'm happy to say that he put a lot of effort into writing this report and was able to give a thorough overview of the task in question. I have been in charge of the report's preparation. Additionally, I'm happy to attest that the data in the study appears to be accurate.



Dr. Nizam Uddin
Head (In charge)
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Dr. Sheikh Mahatabuddin
Former Associate Professor and Head
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences (FAHS)
Daffodil International University (DIU)

Acknowledgments

First of all, I would like to express my gratefulness to Almighty Allah for giving me strength, courage, and ability to accomplish the internship program as well as the internship report in a scheduled time in spite of various complications.

My very deep gratitude goes to the Honorable Dean (In Charge) of the Faculty of Allied Health Sciences, Professor Dr. Md. Bellal Hossain, Also Head (In charge) Dr. Nizam Uddin for their countless inspiration and encouragement during my student life.

I would like to express my gratitude to my thesis supervisor, **Dr. Sheikh Mahatabuddin**, former Associate Professor and Head, Department of Nutrition and Food Engineering, Faculty of Allied Health Science, Daffodil International University, for his guidance and feedback, which made everything clear to me to complete this report. At first, I was so confused about whether I would be able to make a fruitful report, but with his assistance, I found a way to do everything immaculately and on time. He kept me on track to complete this report and his suggestions and feedback were very dynamic in making this report as impeccable as possible.

My gratitude goes to the entire NFE Department of Daffodil International University to arrange this research opportunity and facilitate the work throughout. Here we should work on Beverages, Hotfill, Drinks, Candy, Wafer and many other products. And they help me on my internship from 8am to 5pm in my 30 days period.

I am also grateful to all the other NFE faculty members for their great help during university life.

I would also like to thank my seniors, juniors, and classmates for their help, advice, suggestions, inspiration, and support.

Executive Summery

Background PRAN-RFL is the first contract farming company in Bangladesh. It purchases raw materials directly from farmers and processes them using cutting-edge equipment in their various factories to produce hygienically packaged food and beverage products. The brand PRAN has established itself in every category of food and beverage industry and can boost a product range from Juices, Carbonated Drinks, Confectionery, Snacks, and Spices to even Dairy products. Consumers in the PRAN-RFL market now value PRAN not only for its genuine refreshing juice drink products but also for its scrumptious confectionery goods with high visual appeal and intriguing textures. The pertinent data from my internship work experiences is included in this report. In order to prepare this study, I consulted a variety of sources. An outline of the PRAN-RFL was given first. Group, including its background, available goods and services, and long-term goals, among other things. The next part described my duties during my internship. Regarding the nature of my position and the duties I had been given, I had received clear information. Additionally, I received practical instruction.

Chapter 1
Introduction

INTRODUCTION

Background PRAN-RFL is the first contract farming company in Bangladesh. It buys raw materials directly from farmers and processes them using cutting-edge equipment in their various factories to produce hygienically packaged food and beverage goods. The company PRAN has made a name for itself in every sector of the food and beverage business, and it can support a wide variety of products, including juices, carbonated drinks, confections, snacks, and spices, as well as dairy items. PRAN-RFL is currently one of the most admired food & beverages brand among the millions of people of Bangladesh and other 94 countries of the world where PRAN-RFL products are regularly being exported. All the PRAN-RFL products are produced as per international standards maintaining highest level of quality at every stage of its production process. PRAN, the largest exporter of processed food from Bangladesh, with the idea of spurring massive demand for those agricultural goods made by local farmers around the world. The secret was to prepare the agricultural products to lengthen their shelf lives. PRAN began a fruitful journey into the export market in 1996 and now exports to over 134 nations.

1.2 Goals and purpose of Internship

My introduction to the beverage, drinking water, candy, hot fill drinks, confectionery, and chocolate businesses came through this internship. I became aware of how they chocolate, candy, lacchi, power, sugar syrup, and beverages are produced, as well as the quality assurance procedures they employ and the methods they utilize to promote and improve their offerings.

Chapter 2

Organization Overview

History of PRAN

In 1980, the PRAN-PRAN Group was founded. Over the years, they have expanded their activities in a number of fields while keeping in mind the corporate objective of the Group. The most valuable resource at PRAN is their capable, devoted, diligent, skilled, and hands-on team of management and staff.

The major producer and processor of fruits and vegetables in Bangladesh is PRAN. The finest fruits and vegetables are grown by their contract growers and processed to the greatest quality and international standards in their state-of-the-art, sanitary plants..

RFL - In 1980, RFL began producing Cast Iron (CI) products. The initial principal goal was to guarantee clean drinking water and inexpensive irrigation equipment for better rural life. Today, the company offers a variety of CI products, including pumps, tube wells, bearings, gas stoves, etc. It also holds the distinction of being Bangladesh's largest cast iron foundry and light engineering workshop. With the intention of providing the common people of Bangladesh with high-quality necessities, RFL expanded its business into the PVC category in 1996 and the plastics industry in 2003. It currently dominates the market in the nation's Cast Iron, PVC, and Plastic industries. Significant amounts are also shipped to several nations. PRAN has spent 32 years developing its products, which are of excellent quality and of the highest standard. PRAN now has roughly 422 goods on the market. The products of PRAN are approved by ISO: 9001:2012, HACCP (Hazard Analysis Critical Control Point), and Halal. All of their products are halal.

PRAN is gaining the best position in Bangladesh and, in certain cases, the international market because they place the utmost importance on upholding international standards and quality in their products. The history of this business began in 1981, when a visionary Major General founded it. Chowdhury Amjad Khan. He discovered a perfect agricultural setting in Bangladesh. Fantastic chance for financial gain. This inspired he to create a revolutionary business that would transform the country's food production sector, benefiting society and it’s that is how PRAN was created, people. Later, PRAN increased its revenue by engaging in contract farming in agriculture in 1986, and PRAN consolidated with the construction of its food processing facility in Ghorashal in 1992.its standing within the sector.

Chapter 3
Methodology

Water Treatment Process (WTP)

3.1 Ingredients:

Raw Water

Deep Tub well

Sodium hydrochloride (NaOH)

Chlorine (Cl_2)

Salt (other than NaCl)

Multi-grade Filter

Carbon filter

UGT Tank

MFG

RO Water

Sodium Chloride NaCl

Magnesium sulfate $MgSO_4$

Sodium Bicarbonate $NaHCO_3$

3.1.2 Test:

PH Test

TDS Test

Hardness Test

Chlorine Test

Iron Test

Ozone Test

3.1.3 Flow-Chart: Water treatment Plant (WTP)

Under Ground Tank
Raw Water Tank
Multi Grade Filtration
Active Carbon Filter
Softener Filter
Cartridge filter
Reverse Osmosis
Reserve Tank 1
Reserve Tank 2
UV light to kill Micro-organism
Chemical dosing
3 Micro CF
Reserve Tank
2 Micron CF
O_3 Gas dosing
Filling
Capping
Labelling
Date Coding
Wrapping

3.3 Carbonated Soft Drink

3.3.1 Ingredients:

RO Water

Sugar Syrup

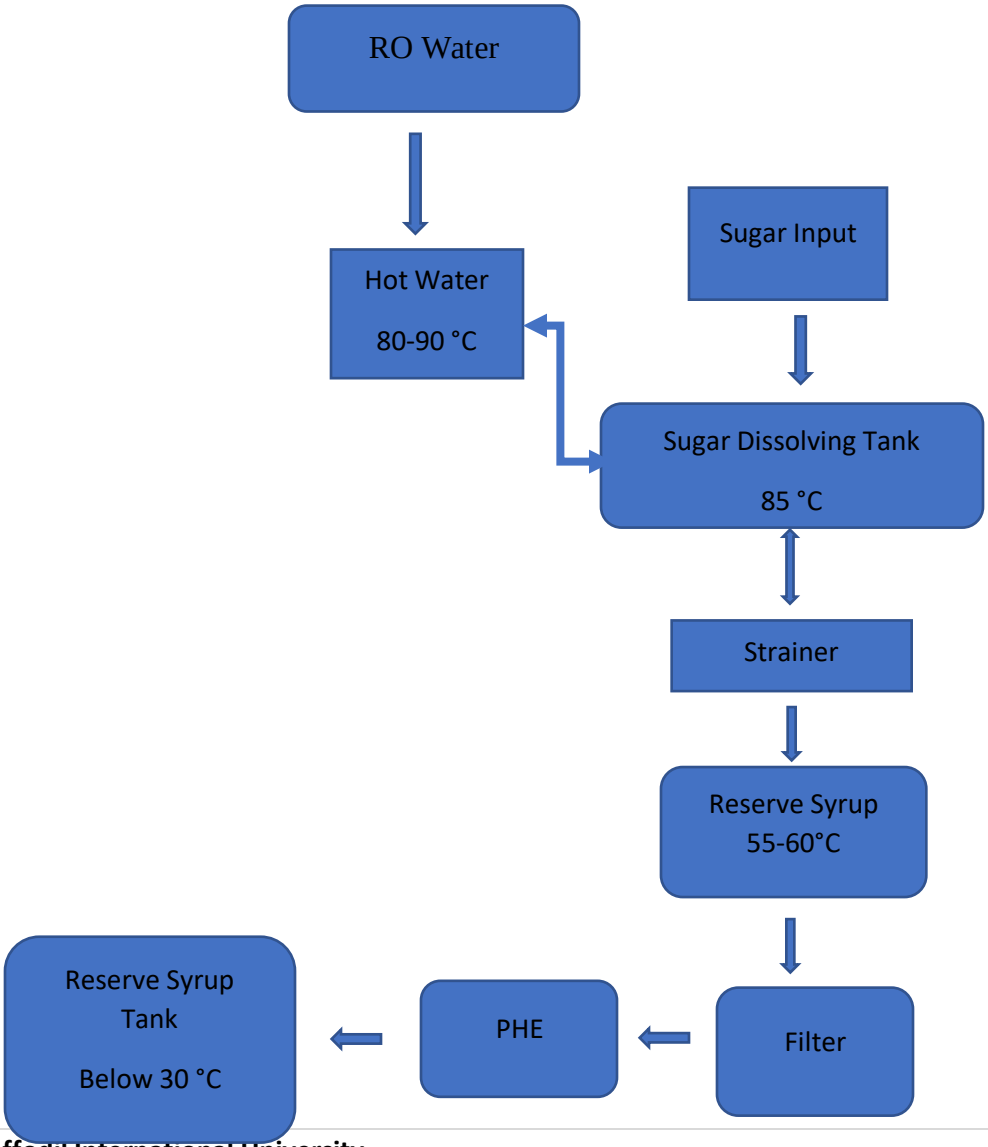
CO_2 gas

3.3.2 Test:

Brix

Torque Test

3.3.3 Sugar Syrup Processing Flow-Chart:



3.4 Power Drink Process

3.4.1 Ingredients:

➢ Raw Syrup

➢Softener Water

➢ Color

➢ Energy flavor

➢Sodium citrate

➢Sodium benzoate

➢Citric acid

➢ Caffeine

3.4.2Test: QC Parameter Test

Pet Bottle Analytical Test

Top load test

Gas volume test

Brix test

Torque test (12-18) Standard

Secure Seal test

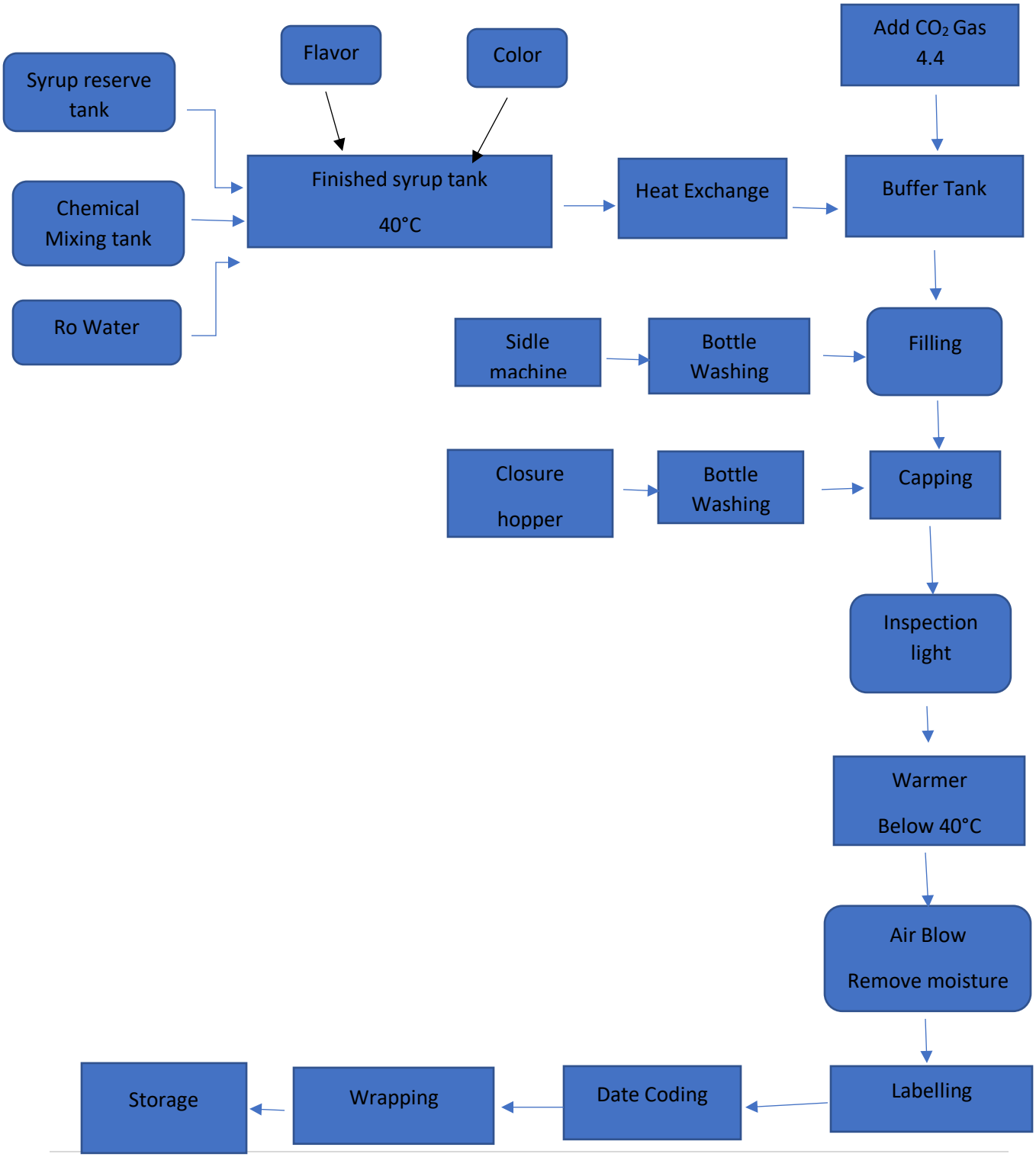
Bottle Burst Test

Drop Test

Stress cracking test

Date coding, labelling check

3.4.3 Flow-Chart: CSD LINE (POWER)



3.5 Hot fill Line

3.5.1 Ingredients:

Sugar Syrup

Flavor

Sodium benzoate

Potassium meta

Potassium sorbet

Citric acid

Mango pulp

Water

Color

Beta carotene

Lactic Acid

3.4.2Test: QC Parameter Test in Hot fill line

Brix (10-15)

Acidity

pH

Temperature

Torque test

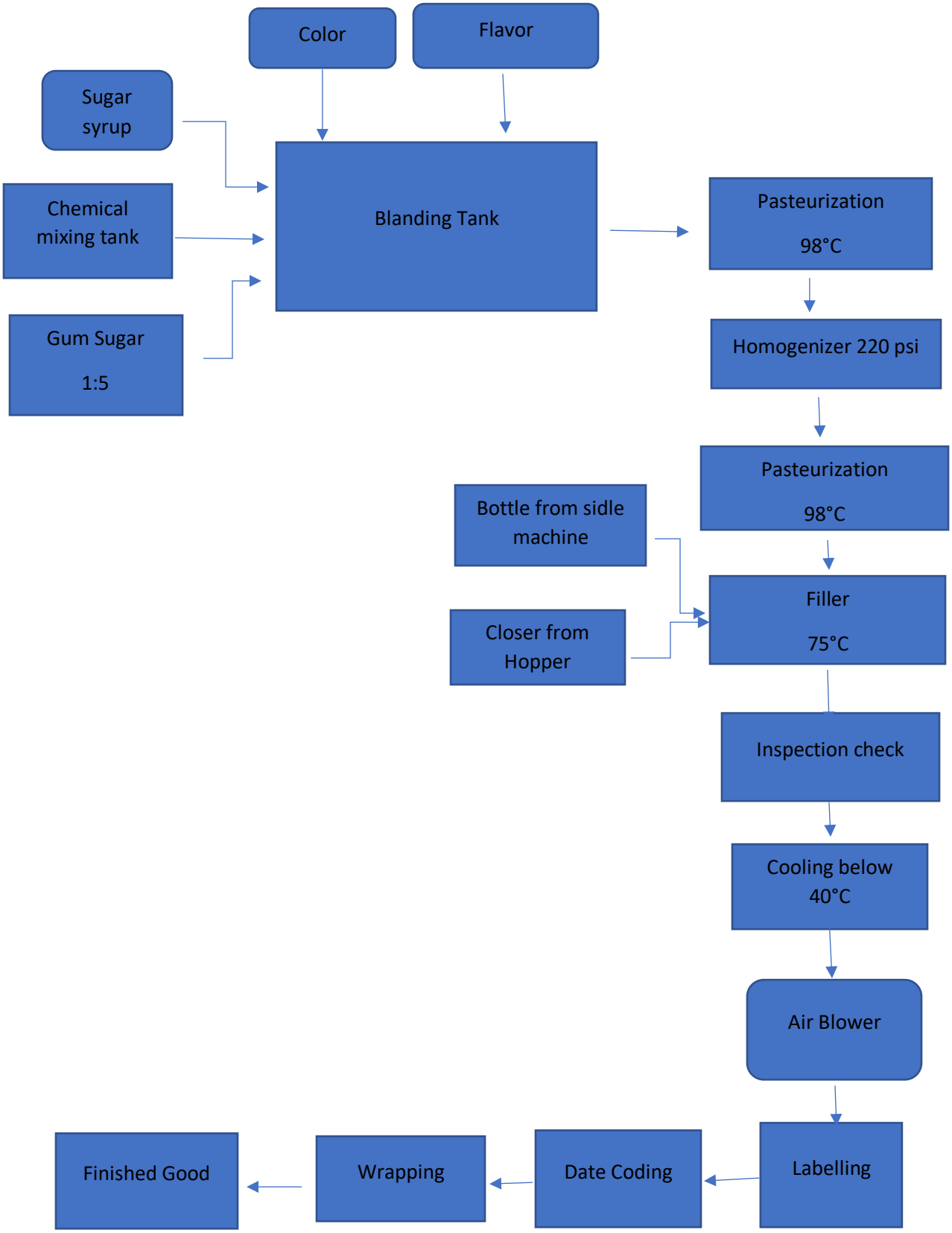
Mixing time & Temperature

Pasteurization temperature

Filling temperature

Date coding

3.5.3 Flow-Chart:Hotfill



3.6 Drinks Area

3.6.1Ingredients:Lacchi 100ml

Milk Powder

Sugar + Pectin

Gum

Aspartame

Ak. Sugar

Potassium Sorbet

Mono-Sodium Citrate

Ethyl Maltol

Citric acid

Lactic acid

Yogurt flavor

Milk Flavor

Water

3.6.2 Test: QC parameter Test in Drinks line

Brix

Acidity

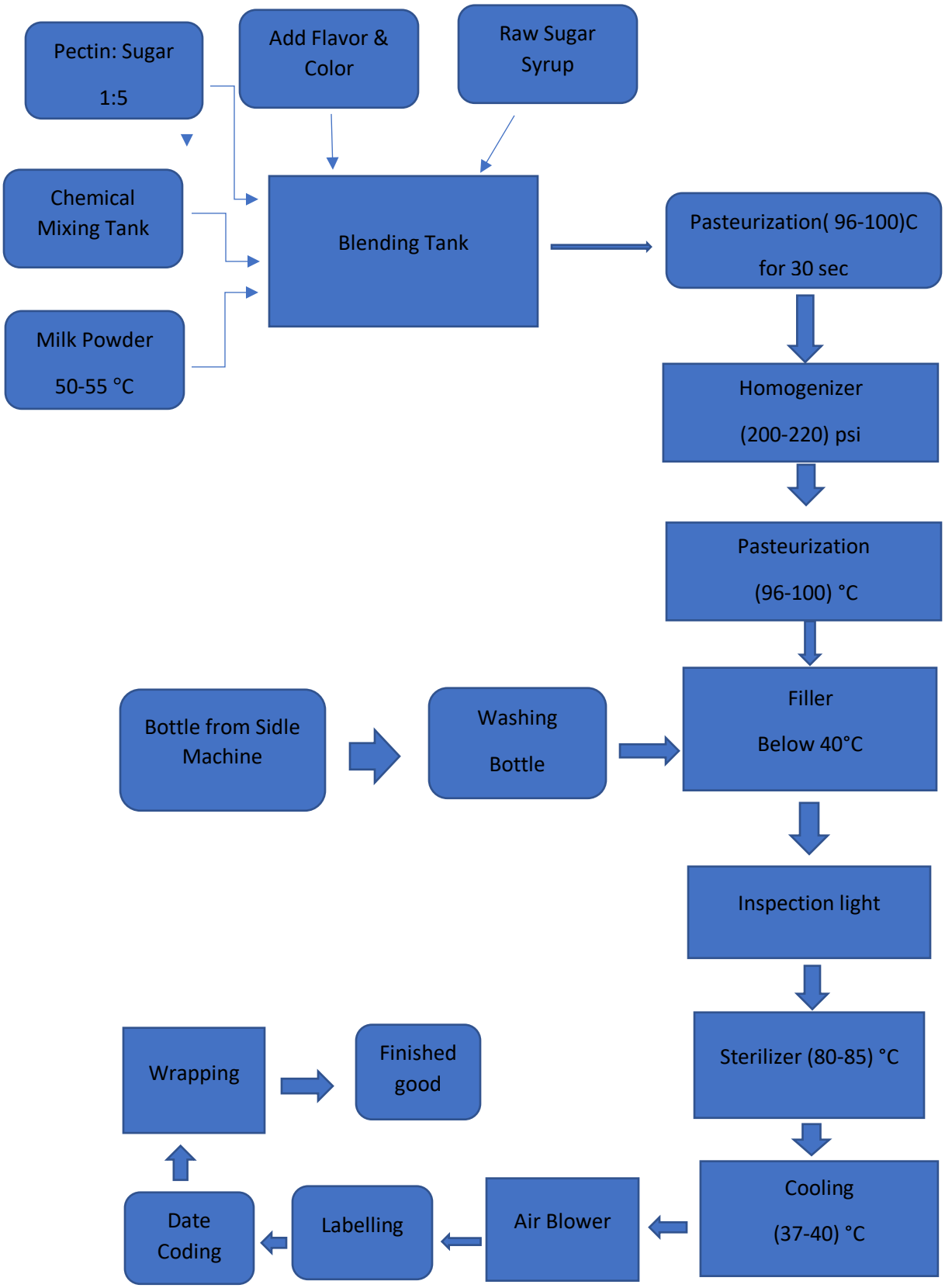
HDPE Bottle weight check

Pasteurization Temperature check

Filling temperature

Sterilizer temperature

3.6.3 Flow-Chart:Lacchi 100ml



3.7 PSC Line

Pulse Candy

3.7.1 Ingredients:

Hot Water

Raw Sugar

Glucose

Add Flavor

Color+ violet

Telkom Powder

3.7.2 Test

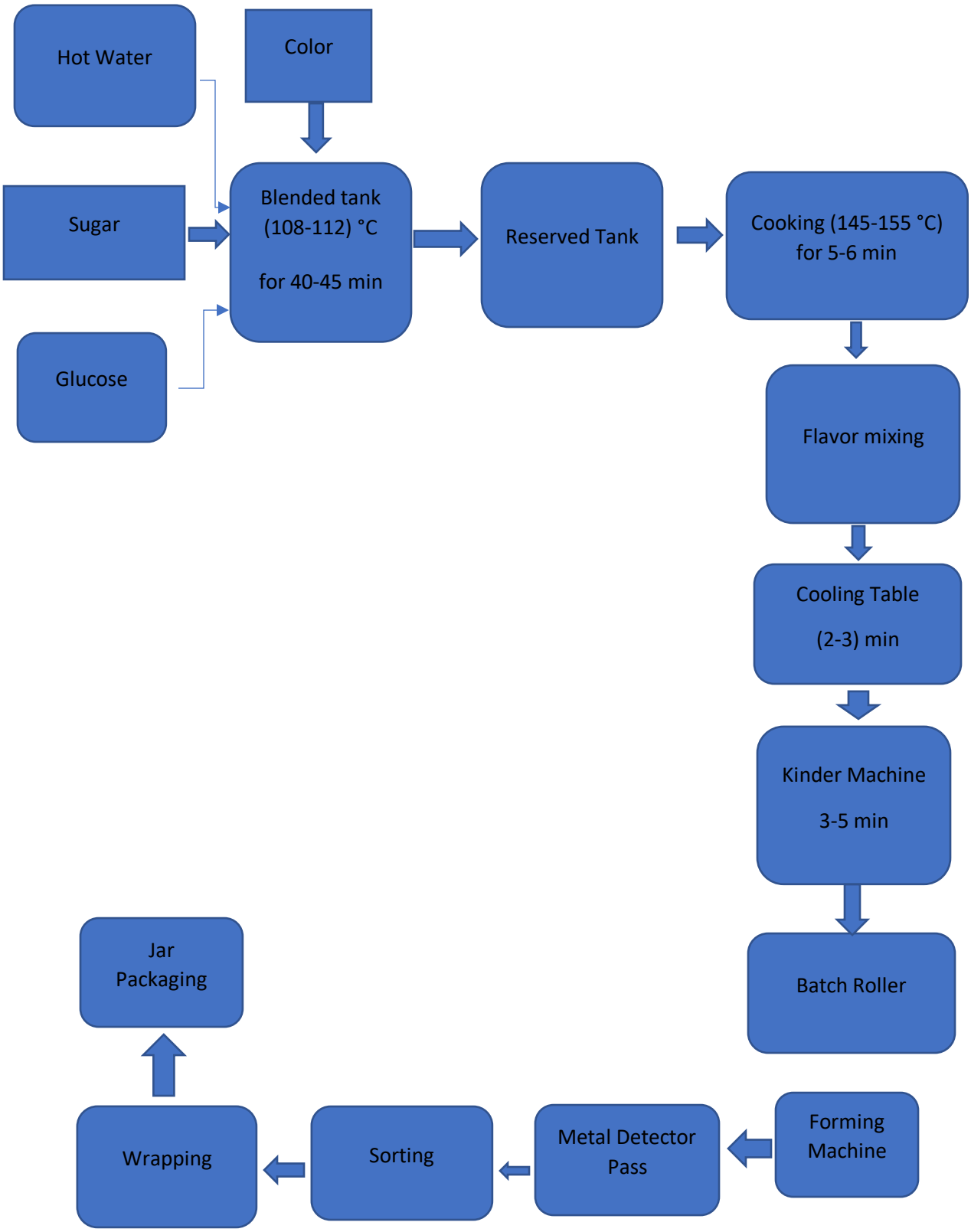
Brix

Cooking temperature

Weight check

Leakage check

3.7.3 Flow-Chart: Pulse Candy 2.5gm



3.8 Lolipop

3.8.1 Ingredients:

Hot Water

Raw Sugar

Flavor Add

Color Orange + violet

Telkom Powder

3.8.2 Test

Brix

Maintain Temperature

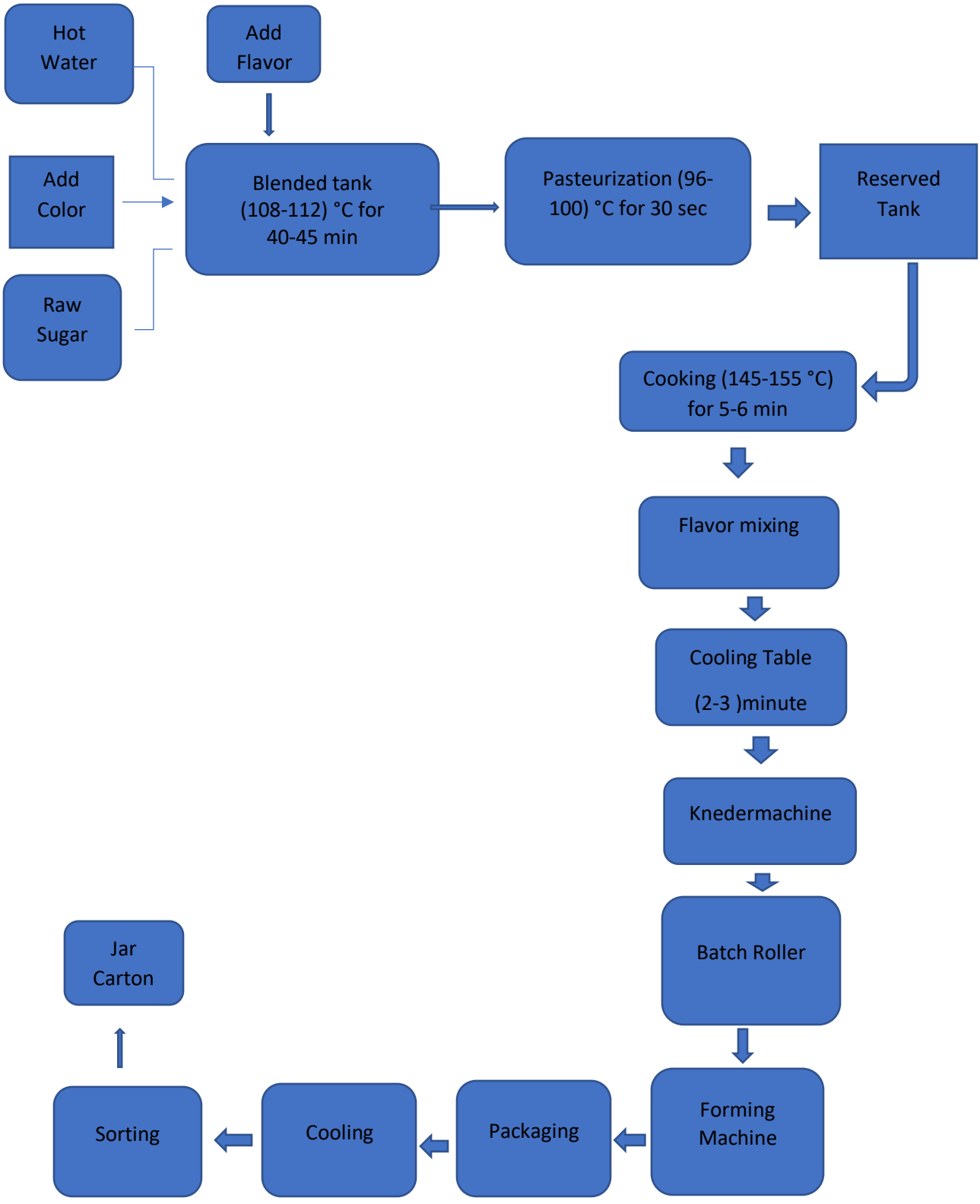
Hygiene

Leakage

Weight

Humidity

3.8.3 Flow-Chart:Chao Chao Lollipop



Chapter 4

Quality Experiments

4.1 pH Analysis

Hand gloves should be worn.

Bring discard and distilled water bottle for washing the probe

Turn on the power of pH meter

Unscrew the shipping tube to loosen then remove it.

Clean the electrode with distilled water and dry it using tissue paper.

Wait until the instrument adjust pH at 7.00

Then again wash and dry

Insert the sample homogenized sample

Wait some moments to get the unchanged steady reading

Record the ph. value.

Wash your hand

4.1.1Result: 7.46

4.2 TDS Test

This test is done by TDS meter

Result obtain TDS is 160 ppm

4.3 Hardness test

- Firstly clean the beaker then take 5ml of water sample
- Add 2 to 3 drops of buffer solution on sample
- Add 2 to 3 drops of indicator add
- Carry the trituration in EDTA solution
- Calculation 300* pipette reading
- Result obtain 162

4.4 Chlorine test

➢Firstly turn on the machine then Take 10 ml of sample in the cuvette

➢ Add chlorine reagent in the sample

➢ Take the steady reading from spectrophotometer

4.5 Iron test

➢firstly take 10 mL of sample in the cuvette

➢ Add Iron reagent in the sample

➢ Take the Note reading from spectrophotometer

4.6 Moisture Analysis

Take the beaker and clean it

Collect the sample 5 gm on beaker

Crush the sample

Turn on the switch. Open the cover of moisture analyzer

Keep the sample into the moisture analyzer. Standard temperature (1200 ℃)

Shut down the cover Wait for result (9 min) Note the result.

(Chapter 5)

Conclusion

Conclusion

Firstly, I would like to thanks HRM department for providing training opportunity internship at PRAN-RFL (Mymensingh Agro Limited) as well as effective experience for me. Lot of learned each line also each sector. We know the name of new food product as well as chocolate, wafer, candy, power Drinko. We have learned seen from during batch preparation to finished good. Got a good idea about Mechanical Equipment. Lots of experience from quality control department. The machinery and product systems are all top-notch and fully functional. Its well-maintained hygiene program. I want to convey my appreciation to PRAN (Mymensingh Agro Limited) management for giving me the chance to work for such a reputable company. My internship gave me the practical experience I needed to get a job in the sector soon.

Reference

INFORMATION ABOUT FACTORY, PRAN-RFL GROUP OF COMPANI LTD.

https://www.pranfoods.net/