



Daffodil
International
University

An internship report on

PRODUCTION AND QUALITY CONTROL OF BAKED PRODUCTS

Submitted to:

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Submitted by:

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LETTER OF TRANSMITTAL

Date:

Professor Dr. Md. Bellal Hossain
Head
Department of nutrition and food engineering

Subject: Submission of an internship report on Production and Quality Control of Baked Products.

Dear Sir,

It is a great pleasure and honor for me to have the opportunity to submit Internship report on **Production and Quality Control of Baked Products** as a part of the Nutrition & Food Engineering (NFE) program curriculum.

I have prepared this report based on the acquired knowledge during my internship period at **Well Accessories Limited (Food Division)**. It is great achievement to work under your active supervision. This report is based the **Production of Quality control of Baked Products**. I have got the opportunity to work at period **Well Accessories Limited (Food Division)** for thirty seven days, under the supervision of Md. Kamal Pasha, General Manager of Food Division.

This is the first times this project gave me both academic and practical knowledge. First of all I have gained knowledge about the organizational culture of a prominent consumer product producing organization of the country. Secondly, the project gave me the opportunity to develop a network with the corporate environment.

I therefore, would like to place this report to your judgment and suggestion. Your kind advice will encourage me to perform better planning in future.

Sincerely Yours

Md. Masum Billah
ID: 151-34-362
Department of Nutrition and Food Engineering
Daffodil International University

CERTIFICATE OF APPROVAL

I am pleased to certify that the internship report on **Production and Quality Control of Baked Products** conducted by Md. Masum Billah bearing ID 151-34-362 of the department of Nutrition and Food Engineering has been approved for presentation and defense/viva-voice.

I am pleased to hereby certify that the data and finding presented in the report are the authentic work of Md. Masum Billah, I strongly recommended the report presented by Md. Masum Billah for further academic recommendations and defense/viva voce. Md. Masum Billah bears a strong moral character and a very pleasant personality. It has indeed a great pleasure working with him. I wish him all success in life.

Professor Dr. Md. Bellal Hossain
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DECLARATION

This Dissertation entitled “**Production and Quality Control of Baked Products**” is being submitted to the Department of Nutrition and Food Engineering, Faculty of Allied Health Sciences, Daffodil International University Dhaka-1207, Bangladesh as a part of partial fulfillment of the requirements for the degree of Bachelor of Science in Nutrition of Food Engineering. No part of this work referred to in the Thesis has been submitted in support of an application for another degree or qualification of this or any other University or other Institute of learning.

Submitted by

Md. Masum Billah

ID: 151-34-362

Department of Nutrition & food Engineering

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ACKNOWLEDGEMENT

In the preparation of this report, I would like to acknowledge the encouragement and assistance given to me by a number of people. At first, I would like to express my gratitude to my creator the almighty Allah for enabling me the strength and opportunity to complete the report in time successfully. I am grateful to each and every person who is involved with me in every phase of my life.

I am grateful to my parents without whom I cannot be here. Without the support of my father, I could not be able to achieve my objectives and goals.

My deep gratitude and sincere thanks to the honorable Dean, Faculty of Allied Health Science, **Professor Dr. Ahmed Ismail Mustafa** for his kind cooperation and to accept this Degree.

I am deeply indebted to **Prof. Dr. Md Bellal Hossain**, Head of Department of Nutrition & Food Engineering, Daffodil International University for giving such an opportunity to gain practical knowledge.

I would also like to express my great respect & warmest thanks to my project supervisor **Effat Ara Jahan**, Lecturer of the Department of Nutrition & Food Engineering for her whole-hearted help and supervision during my project work and organizational attachment period.

My gratitude goes to the entire NFE Department of Daffodil International University for arranging the Internship Program that facilitates integration of theoretical knowledge with real life situations.

Moreover, I would also like to express my gratitude to Well Accessories Ltd. (Food Division) fellows, seniors and colleagues who gave me good advice, suggestions, inspiration and support. I must mention the wonderful working environment and group commitment of this organization that has enabled me to deal with a lot of things.

I am also thankful to **Md. Kamal Pasha**, general manager, Well Accessories Ltd. (Food Division) and **Md. Jasim Uddin**, Senior Officer, Quality Control, Well Accessories Ltd. (Food Division) for their cooperation during my internship program at Well Accessories Ltd. (Food Division).

Finally, I wish to express immense gratitude & humbly convey my heart-felt respect to Managing Director) for his permission to carry out this internship in his organization.

EXECUTIVE SUMMARY

Well Food is an elite name for its baked products manufacturing abilities. Established under the group named “Well Group”, the organization, popularly known as Well Food, makes necessary efforts to fulfill the demand for unique baked products with better quality by importing its raw materials from abroad. First Well Food factory established in Chittagong. But now it spreading at big cities in our country. Except Chittagong the factory of Well Food is at Gazipur and Sylhet. They are importing their raw materials from Singapore, Malaysia to ensure and maintain the quality and taste of their goods. They are also using local raw materials but all of these from well established brand.

Well Food Division make sure about their products quality. Quality control officers test the raw materials as well as the finished goods. They also using metal detector and UV ray to ensure the better quality of the finished goods.

They produced various delicious foods under different brand name and sectors like Morning fresh, Arabian sweets, Multi, Novelty, Hot, Twingle, Sweets and Well. Their most popular products are Bela biscuit, Plain cake, Plain toast, Butter cookies, Bread, Noodles, Baby cake, Chili toast, Chanacur, Sweets, Yogurt, Bakharkhani, Semai.

This organization is also exporting their goods to different countries in all over the world including India, Bhutan, United Arab Emirates, United Kingdom and United states.

My report is based on the **Production and Quality Control of Baked Products**. The first part of the report contains information of the organization itself. The second part of the report contains the production process of goods. The third part of the report contains the information about their quality control test. The last part contains the concluding part.

GENERAL OBJECTIVES OF THE STUDY

This internship report is prepared primarily to fulfill the Bachelor of Nutrition and Food Engineering (NFE) degree requirement under the Faculty of daffodil International University.

Specific Objectives:

- To give an overview of Bangladeshi baked items.
- To know how to produce.

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CHAPTER NO. 02

ABOUT WELL GROUP

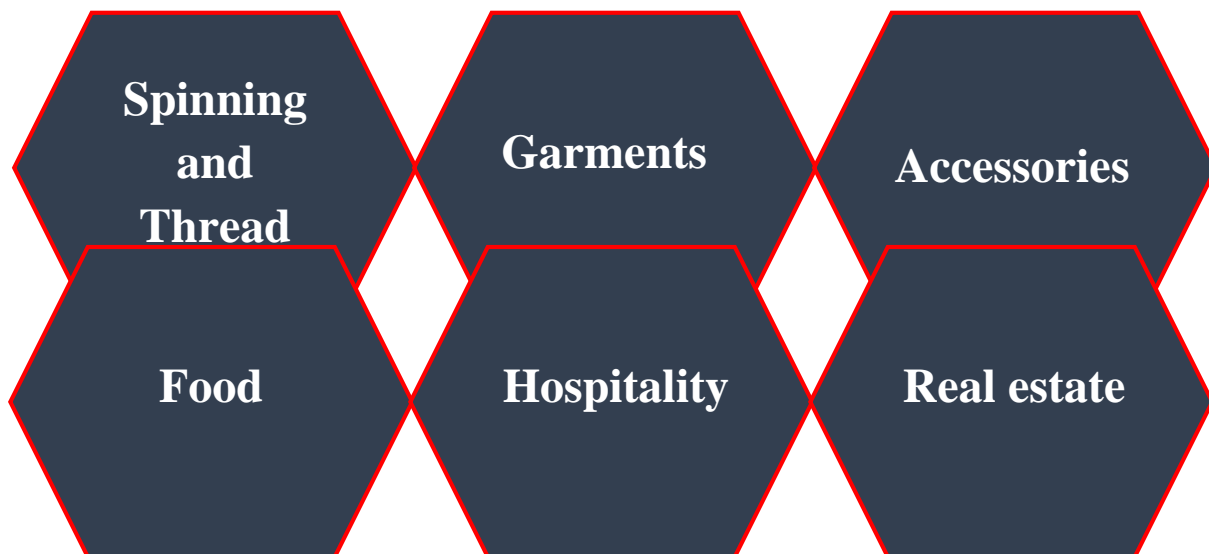
WELL GROUP

Introduction

Well group found at 1973. Mr. Abdus Salam and late Prof. Nurul Bari Chowdhury founded the Bangladesh Textile Industries as the first company of Well Group in a small workshop in Chittagong. From the birth, today's Well Group, now a leading industrial group in Bangladesh. Today Well cluster employs over 18000 individuals in its integrated production units, operating in an indoor facility spanning over 1000000 sqft.

Well Food isn't solely dedicated in its efforts within the textile sector however has conjointly unfold its wings into the Food, Hotel and Real Estate sectors in the recent past. Today, Well Food has fourteen production facilities that embody a food court and a 3-star building among others, with a combined annual turnover of US\$ a hundred million.

Wings of Well Group



Board of directors

The director board consists seven members.

Abdus Salam, Founder Chairman

Syed Nurul Inslam, Chairman and CEO

Syed Sirajul Islam, Managing Director

Syed Nazrul Islam,
Director

Syed Shahidul Islam,
Director

Syed Tariqul Islam,
Director

Md. Asif Hasan, Director



WELL FOOD

Well Food operate the biggest food chain the banner of Well Food. Our mission is to produce world quality food in a very hospitable setting. Entertaining our customers in a very friendly atmosphere with economical service is that the key to our success. Well Food represent Baskin-Robbins, one of the worldwide market leaders and the home of delicious and innovative ice cream treats. In addition to the standard assortment of frozen dessert, Baskin-Robbins features a delicious selection of frozen drinks.

Sugar bread has become one amongst the leading and most innovative fast Service Restaurants. Not limiting themselves to breasted chicken and hamburgers Sugar Bun has stepped forward to offer mouthwatering Asian Cuisine, Patisseries, Café Bar Beverages and Western Cuisine to a great variety of taste.

Company head quarter:

RAOWA Complex, VIP Road, Mohakhali, Dhaka 1206, Bangladesh

Company establishment:

At 2004 (Gazipur unit).

Company turnover:

80 crore taka annually.

Brand names of WELL FOOD:

WELL FOOD

MORNING FRESH

MULTY (Noodles)

NOVELTY (Noodles)

TWINGLE (Ice Cream)

POPULAR PRODUCTS LIST

- Ovaltin Biscuit
- Horlicks Biscuit
- Nimki
- Coconut Biscuit
- Butter Cookies
- Butter Salt Cookies
- Chocolate Cookies
- Coconut Cookies
- Horlicks Cookies
- Sugar Free Cookies
- Ovaltin Cookies
- Well Dry Cake
- Chocolate Dry Cake
- Bela Biscuit
- Plaim Toast
- Butter Toast
- Garlic Toast
- Hot Chanachur
- Chocolate Cake
- Fruits Cake
- Moist Cake
- Beef Roll
- Chicken Patties
- Chickhen Samosa
- Chicken Sandwich
- Chicken Puff Roll
- Chicken Swarma
- Chicken Burger
- Black Forest Pastry
- Chocolate Truffle
- Lemon Tart
- Brown Bread
- Horly Plus Bread
- Marble Bread
- Well Bread
- Burger Bun
- Cream Bun
- Lemon Bun
- Black Forest
- Chocolate
- White Forest
- Lachcha Semai
- Baby Cake
- Baklava
- Pistachio Roll
- Chamcham
- Kaca Golla
- Moti Laddu
- Sponge Sweet
- Lal Mohan
- Kalo Jam
- Cup Doi
- Dodhi Sour
- Dodhi Sweet
- Noodles

All of these products are too much popular among people under all five brand name of Well Food.

Certificate archived by Well Food



CHAPTER NO. 03

MANUFACTURING PROCESS AND FLOW DIAGRAM

Manufacturing process of breads and buns:



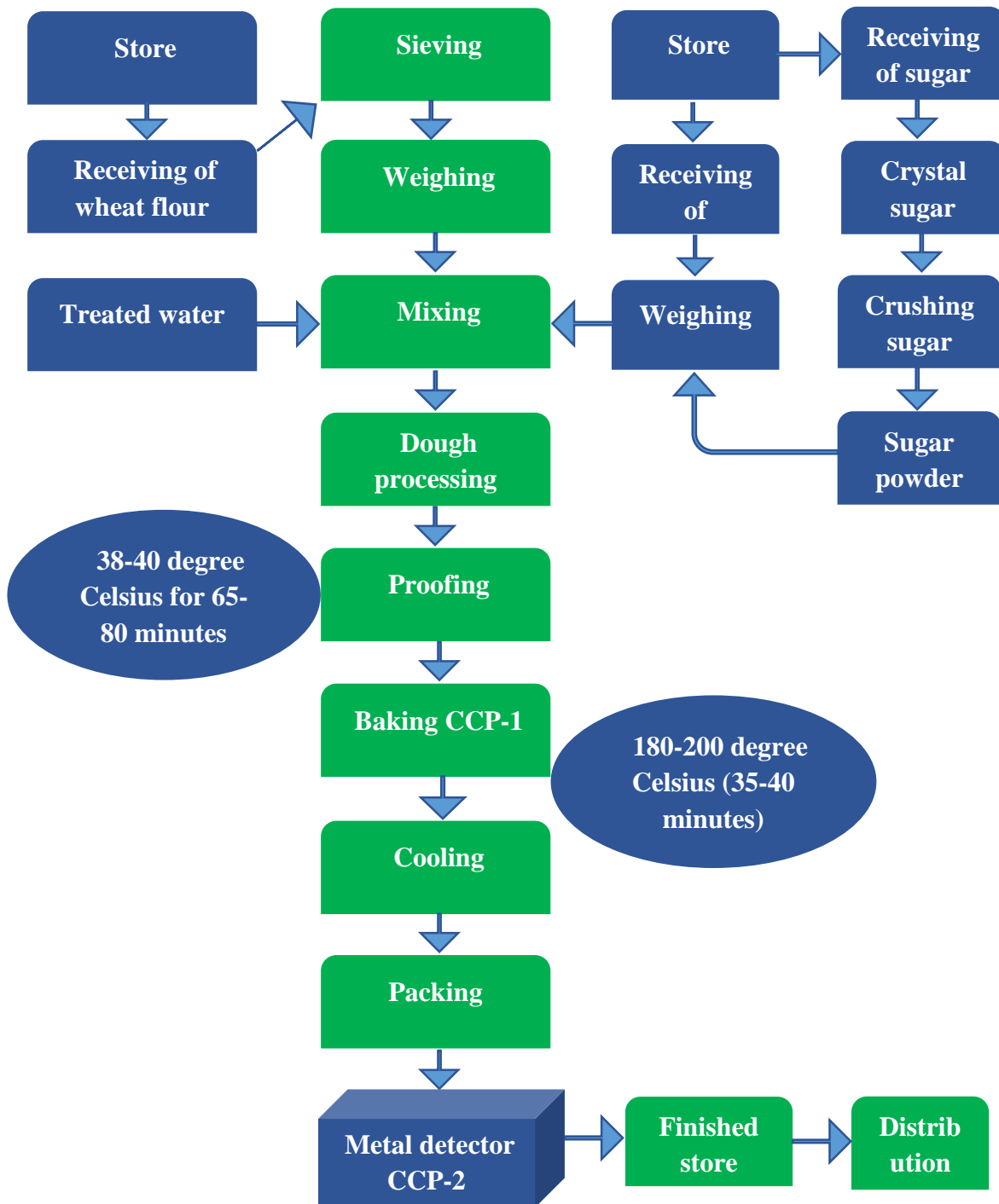
Ingredients:

- Sugar
- Salt
- Egg
- Ice/water
- CP
- Phenox powder
- Yeast
- Flour

Equipment's:

- Measuring balance
- Bowl
- Spiral mixer
- Knife
- Forming machine
- Dice
- Tray
- Trolley
- Proofer room
- Oven
- Sorting table
- Slicing machine
- Packaging machine

Flow diagram of Bread and Bun manufacturing process:



Toast manufacturing process:



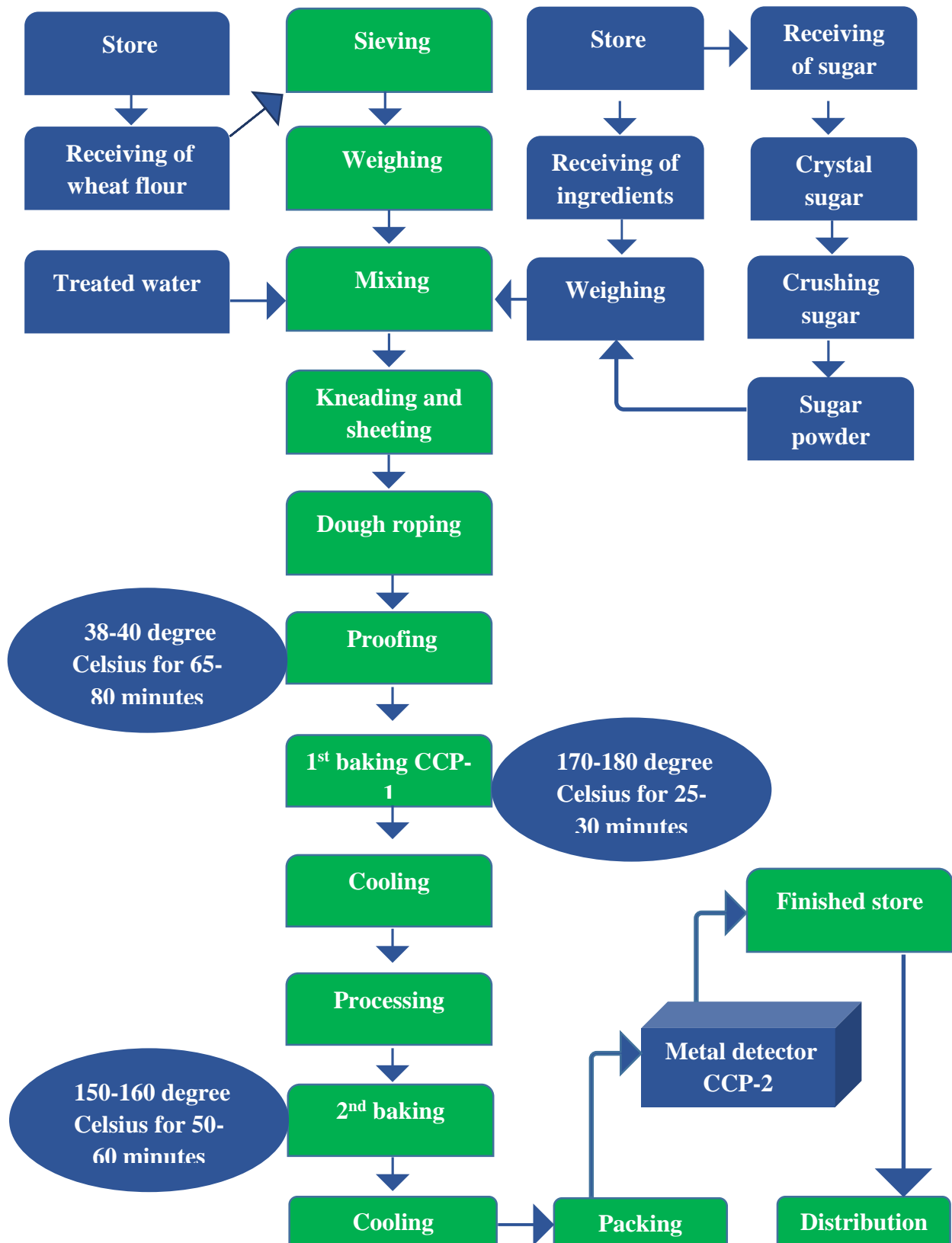
Ingredients:

- Egg
- Yeast
- Flour
- Palm olein
- Sugar
- Ice
- Malt syrup
- Soya lecithin
- Seasoning powder

Equipment's:

- Sugar crusher
- Weight measuring balance
- Spiral mixer
- Dough forming machine
- Tray trolley
- Oven seasoning mixer
- Sorting table
- Packaging machine
- Metal detector

Toast manufacturing process flow diagram:



Chanacur manufacturing process:



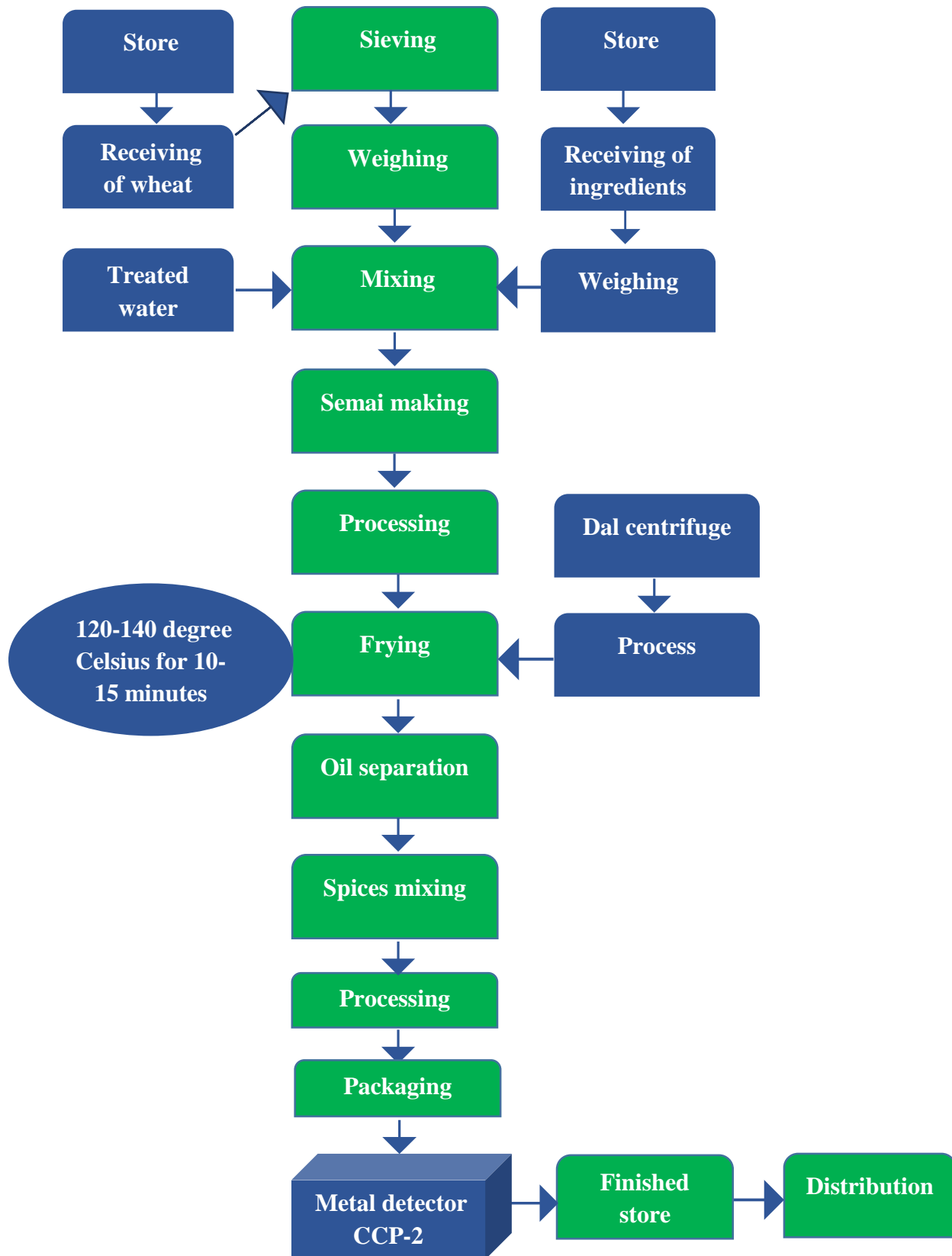
Ingredients:

- Black gram
- Pea
- Chick pea
- Peanut
- Rolled rice
- Black gram flour
- Dhal flour
- Seasoning powder

Equipment's:

- Measuring balance
- Sievier
- Bowl
- Dough forming machine
- Semai maker
- Frying pan
- Centrifuge machine
- Mixing machine
- Packaging machine

Chanachur manufacturing flow diagram:



Manufacturing process of Pound cake:



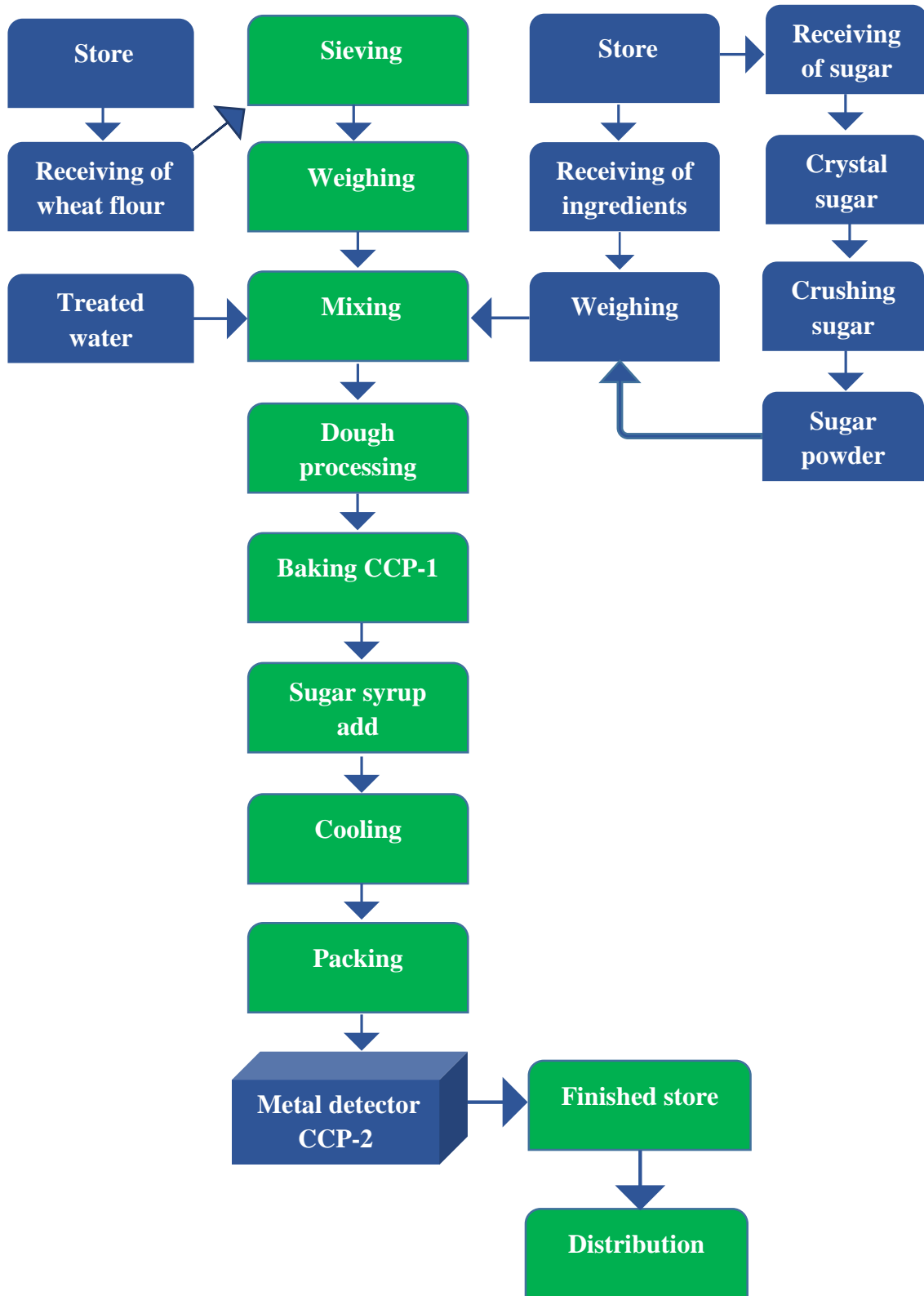
Ingredients:

- Egg
- Butter
- Ghee
- Margarine
- Palfy
- Condense milk
- Sugar
- Baking powder
- Premix
- Flour
- Salt

Equipment's:

- Weight measuring balance
- Bowl
- Mixer
- Large pan
- Dice
- Tray
- Trolley
- Oven
- Sorting table
- Slicing machine
- Packaging machine
- Metal detector

Pound cake manufacturing process flow diagram:



Biscuit manufacturing process:



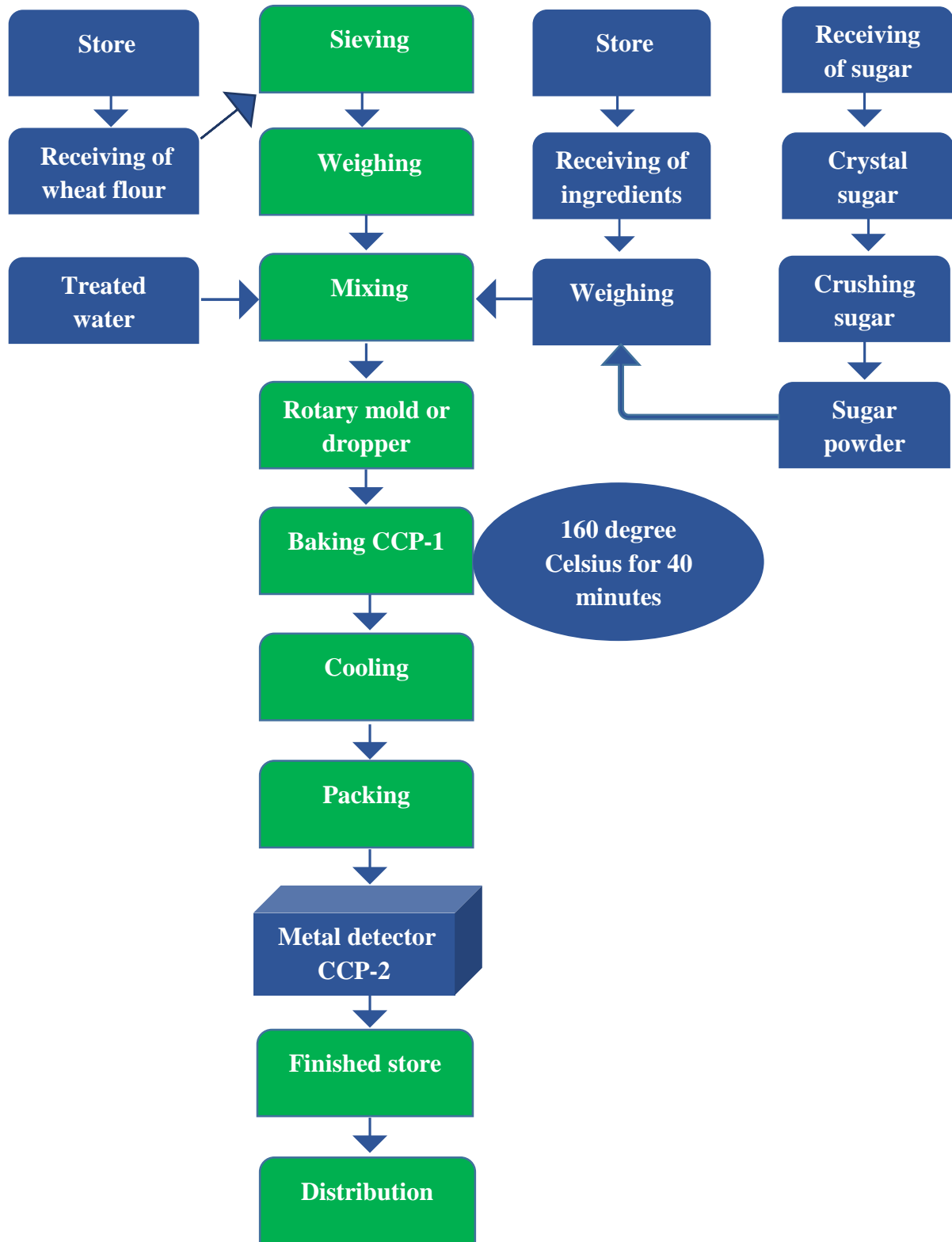
Ingredients:

- Flour
- Sugar
- Salt
- Baking powder
- Palm oil
- Chocolate pest
- Chocolate chips
- Cocoa powder
- Cocoa flavor
- Dalda
- Margarine
- Ice or water

Equipment's:

- Weight measuring balance
- Bowl
- Mixer
- Dropping machine
- Tray
- Trolley
- Oven
- Sorting table
- Packaging machine

Biscuit manufacturing process flow diagram:



Dry cake manufacturing process:



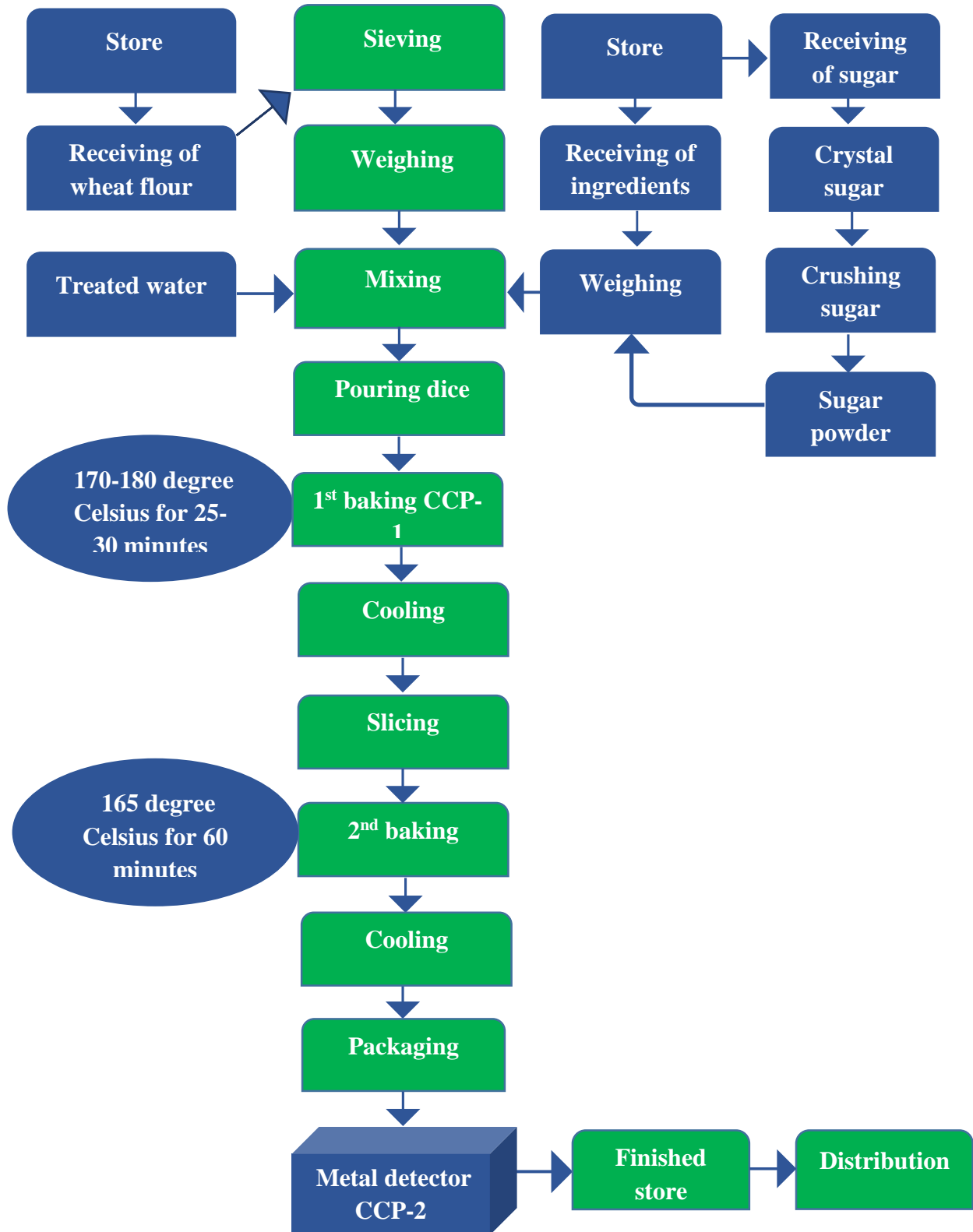
Ingredients:

- Icing sugar
- Salt
- Baking powder
- Maize starch
- Cake gel
- Dalda
- Margarine
- Egg
- Water/ice
- Palm oline
- Butter milk powder

Equipment's:

- Weight measuring balance
- Bowl
- Mixer
- Dice
- Tray
- Trolley
- Oven slicing machine
- Sorting table
- Packaging machine
- UV tunnel
- Metal detector

Dry cake manufacturing process flow diagram:



Few major equipment's used for production:



Rotary oven



Deck oven



Spiral mixer



Bread and cake slicer



Dough mixer



Dough mixing

Few major equipment's used for production:



UV ray tunnel



Dough forming machine for toast



Rotary dropping machine



Packaging machine with N2 gas



Sealing machine

CHAPTER NO. 04

QUALITY CONTROL LAB TEST

Tests for dried sample like biscuits, toasts, cakes:

i. Moister test:

Test sample:

- Biscuit

Objective:

- To determine the moisture percentage in biscuit.

Equipment's used:

- Moister meter
- Spoon
- Sample collection bag

Procedure:

- Took sample of biscuit.
- Crushed then in sample bag.
- Took some crushed through sample and kept it in moisture meter for 3 minutes.
- Kept eyes on the result.

Result:

The moisture of the biscuit sample is 2.8 which is acceptable.

ii. Gluten test:

Objective:

- To determine the gluten content.

Ingredients:

- Flour
- Water

Procedure:

- We took 25 gram of flour and made dough by adding water.
- After developing the dough we washed it squeezing with water with the full starch washed out from the dough.
- Then it measured.

$$\text{Equation of gluten calculation} = \frac{\text{Weight of gluten} * 100}{\text{Weight of flour}}$$

iii. Fat test of biscuits, cookies toasts:

Objective:

- To determine the fat content of dried sample.

Procedure:

- Fat test is conducted by Soxhlet Extraction Method.
- First we dried the sample to remove moisture then placed the sample in the thimble which is placed into Soxhlet apparatus.
- Then we took 90 ml petroleum ether in the round bottom flask.
- Heat the mixture for 5-6 hours.
- After finished we take off the thimble and dried it and weigh the thimble.
- Calculate the result.

Calculation:

$$\text{So, the percentage of fat} = \frac{W_2 - W_1}{P} * 100$$

Here,

W₁ = Empty thimble

W₂ = Thimble with sample

P = Weight of sample

Fat test of ghee:

Objective:

- To determine the fat percentages in ghee.

Equipment's:

- Pipette
- Measuring cylinder 10 ml
- 1 ml measuring cylinder
- Butyrometer
- Butyrometer cork
- Centrifuge machine

Chemicals:

- Sulfuric acid
- Amyl alcohol

Procedure:

- We took 5 ml ghee in butyrometer. Then added 10 ml sulfuric acid.
- Then added 1 ml amyl alcohol and shake it well.
- Then added hot water as per required.
- Then placed it in centrifuge machine and for 5 minutes.

Result: The reading was 41%

CHAPTER NO. 05

SAFETY, HYGIENE AND CONCLUSION

Safety equipment's



They have the fire extinguisher and fire hydrant for any unwanted situation.

Hygiene:

Employee hygiene:

- Hand washing zone
- Mask
- Mob cap
- Hand cover
- Apron
- Mask
- 75% ethanol
- Outside Washroom
- Removing shoe

Production floor hygiene:

- Cleaning the floor with cleaning agent
- Pest controller
- Dehumidifier
- Cleaning equipment's
- Ventilation system

Conclusion:

The internship program has covered both the production and quality area. From the supply of raw materials to finished goods i observed carefully. In this internship program I have learned about the production of various types of products like breads, buns, cookies, biscuits, cakes, toasts. The internship program helped to learn methods for ensuring of product quality. For ensuring quality product different types of tests are carried out in the laboratory of Well Food including moisture test, fat test. From this internship program I have gained lots of practical experiences on backed products. I also learned how to maintain their quality control. I have learned about production of baked goods. These experience gathered form Well Food will help me in my future career.

At the end line again I want to give thanks to the authority of the Well Food Ltd.

The End.