

EPIC AGRO PRODUCTS PVT. LTD.

AMTA-BAGWAN ROAD

Vill.-Deora, Dist. : Howrah, Pin : 711 401, Ph. : 03214 265466 / 03214 265513

Date: 17/06/2022

TO WHOM IT MAY CONCERN

This is to certify that Miss. BIPASA JANA did her Industrial training from EPIC Agro Products Pvt Ltd from 15/05/2022 to 14/06/2022 in the department Quality Control under the guidance of Mr. Sujit Pakhira (Lab-Incharge).

The job that she performed was to study and collect the data of the running products in the plant with respect to products dimension, weight and stack length.

Her work was to collect the data as per the instruction and shown to respective person to understand the present scenario of the running products and help to maintain all the parameters within the specified limit.

We wish her success in life.

For EPIC AGRO PRODUCTS PVT LTD

EPIC AGRO PRODUCTS PVT. LTD.

Aruna Mukherjee
Authorised Signatory

EPIC AGRO PRODUCT PVT. LTD.

Marketed By – BRITANNIA INDUSTRY ...



TRAINING REPORT OF 2022

Training date- 15th may to 14th June 2022

Industry Address – Epic Agro Food Product Pvt. Ltd

AmtaBagnanRoad ,Vill- Deora , Ps- Amta , Dist – Howrah, Pin- 711401,
West Bengal,

Submitted By – Bipasa Jana¹, Tiyasa Roy² Souvik Bera³...

1, 2 – Students of M.VOC (Food Technology Nutrition & Management)

3 – Student of B.VOC (Food Processing)

ACKNOWLEDGEMENT

With Deep Sense Gratitude We Express Our Thanks To **Mr. Anjan Chakraborty** (Shift Incharge), **Mr. Sujit Takhira**, (Quality Executive) , **Mr. Manosh Ganguly** (Production Manager) And **Mr. Ananya Mukherjee**

Hr Of Epic Agro Food Product Pvt. Ltd. Who Permitted Us To Take Up Training In The Organization We Humbly Pay Our Thanks To Administration And **Mr. Ananya Mukherjee** , Factory Manager And Thanks To **Sujit Takhira** And Laboratory Staff And Other Workmen Staff For There Valuable Guidance .

We Also Pay Our Hearties Thanks To **Mr. Anjan Chakraborty** (Shift Incharge) And His For Making The Necessary Arrangement For Our Training . And Also He Has Been Our Main Inspiration Throughout Our Training Period And Had Taken Great Pain To See Us Through Our Problem . We Are Thankful To **Mr. Anjan Chakraborty** Encouragement During The Whole Period Of Our Training .

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CONTENTS;

- PREFACE
- HISTORY OF THE INDUSTRY.
- PRODUCT AND QUALITY.
- BRITANNIA PRODUCT.
- PROCESS OF BISCUIT MANUFACTURING .
- QC INSPECTION.
- QUALITY CONTROL UNIT.
- INSTRUMENT THAT USED IN LAB.
- ASSURING TO FOOD SAFETY .
- CONCLUSION.

PREFACE

The industrial training is the effect to produce link between the student and the industry in order to develop the awareness of industrial approaches to solving the problems based on the understanding of tool ,plant and machinery process ,mode of operation.

Having united our experience gained from the industrial training at epic agro food product pvt.ltd. we have been written this report that attempts to combine theory and laboratory application .

The 30 days training is a part of the undergraduate curriculum . The training adapting ourselves to the industrial environment and understanding the limitation and the freedom under which the engineers work. The training involves the industrial work and knowledge about the food industry. We get to know about the raw materials used in biscuit production, testing of raw material , all kinds of primary tests , testing of finished goods and the packaging materials.

HISTORY OF THE INDUSTRY

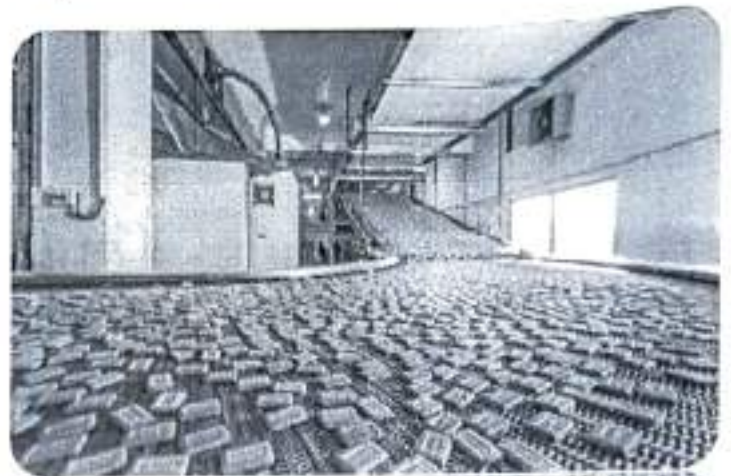
- Epic agro product pvt.ltd. is a private incorporated on 5th march 2006. Its amta unit , Howrah , it is situated approx 40km from Kolkata & 2km from amta railway station. The plant is located at Deora, amta, bagnan road, Howrah surrounded by the green paddy field. The company is producing product for his customer Britannia industry limited. Which a trusted brand in serving the countries packaged food item segment for the pass 100 year .
- The manufacturing facility is capable of producing heard dough variant (Britannia Marie gold, Britannia nutrchoice thin arrowroot) and fermented dough variant(Britannia nutrchoice free cream cracker) in biscuit unit science march 2008. The company has revamped its structure to make it a more efficient & customer focus organization.
- The company has also responsible for producing safe & stander food product confirming to all statutory regularity,& mutually agree food safety & standard requirement of the customer Britannia industry .
- The same involving , improving, & updating the competentof the human resources, through effective communication draining updating other resources as an when required.
- This is an ISO 22000:2018 certified company.

PRODUCTS AND QUALITY

At every time Britannia has a goal to recruit professional and experienced person for its production and this is a major reason of Britannia phenomenon growth, it has achieved during the span of 20 years. Its has automatic plants, complete mechanical production wheel, which is of international standard and state of the complete packaging machine. Production team of the company contributes effectively with all its efforts to

produce 3 varieties of biscuit including big hits like – Nutri-Choice thin arrowroot, Mariegold and cream cracker and rusk.

The quality of biscuits and its hygiene are basis for Britannia and adherence is given in full for this in production process and by this quality and hygiene is maintained by Britannia over the time and endeavor is to keep the same in future. Britannia has established and earned itself enviable on viable distinction of being one of the most effective qualities to give the best value of money for its product to suit the consumers taste buds, health as well as their pocket. Britannia boasts of the highest quality and maintain strict quality stander in all its products.



BRITANNIA PRODUCT

Nutrigoice Thin arrowroot

Presenting Britannia nutrigoice thin arrowroot it is the balanced biscuit- lite, crispy with the goodness of arrowroot and zero trans fats, your perfect tea time and healthy snack.

INGREDIENTS: Refined wheat flour, sugar, refined palm oil, edible starches, (maize, arrowroot) milk solid, raising agent [503(0)&500] invert sugar syrup, sugar solution, iodized salt, emulsifiers (3227472E0) dough conditioner, add flavors, food colors permitted emulsifiers.

Variety of weight-400g,300g,250g,8.5g

Nutritional facts : Per 100g product (approx.)		
Carbohydrates	In g.	78.21g.
Protein	In g.	8g.
fat	In g.	12g.
Energy	In kcal	452g.
Saturated fatty acid	In g.	5.5g.
sodium	In g.	256mg.



MARIE GOLD

Britannia marie Gold biscuit are crisp and light biscuit packed with the goodness of vitamin and minerals. Being low fat and zero cholesterol snacks, marie gold biscuit act as a perfect companion for a long has been a part of every home. Its very healthy product.

INGREDIENTS: Refined wheat flour, sugar, refined palm oil, invert sugar syrup, milk solid, Rising agent, [503&500], iodized salt, emulsifier[472,calcium salt], ammonia, add the flavors and coloring agent permitted level,(150D).

Variety of weight-400g,300g,250g

Nutritional facts : per 100gm (approx.)		
Carbohydrates	In.g.	78.9g.
Protein	In.g.	8.4g.
Fat	In.g.	10.7g.
energy	In.kcl	445



Marie Gold

**1
kg**

Nutrichoice sugar-free cracker

A cracker is totally sugar-free. Sugar-free cracker is your perfectly healthy biscuit. Its made fermented dough and with absolutely zero sugar. These sugar-free biscuit are now thinner, lighter. Its made with zero sugar, zero transfat, zero added color, these are cracker biscuits are healthy that's make a for great accompaniment to your daily cup tea.

INGREDIENTS: Using the refined wheat flour, refined palm oil, raising agents, iodized salt, milk solid, yeast, emulsifier, acidity regulator, dough conditioner.

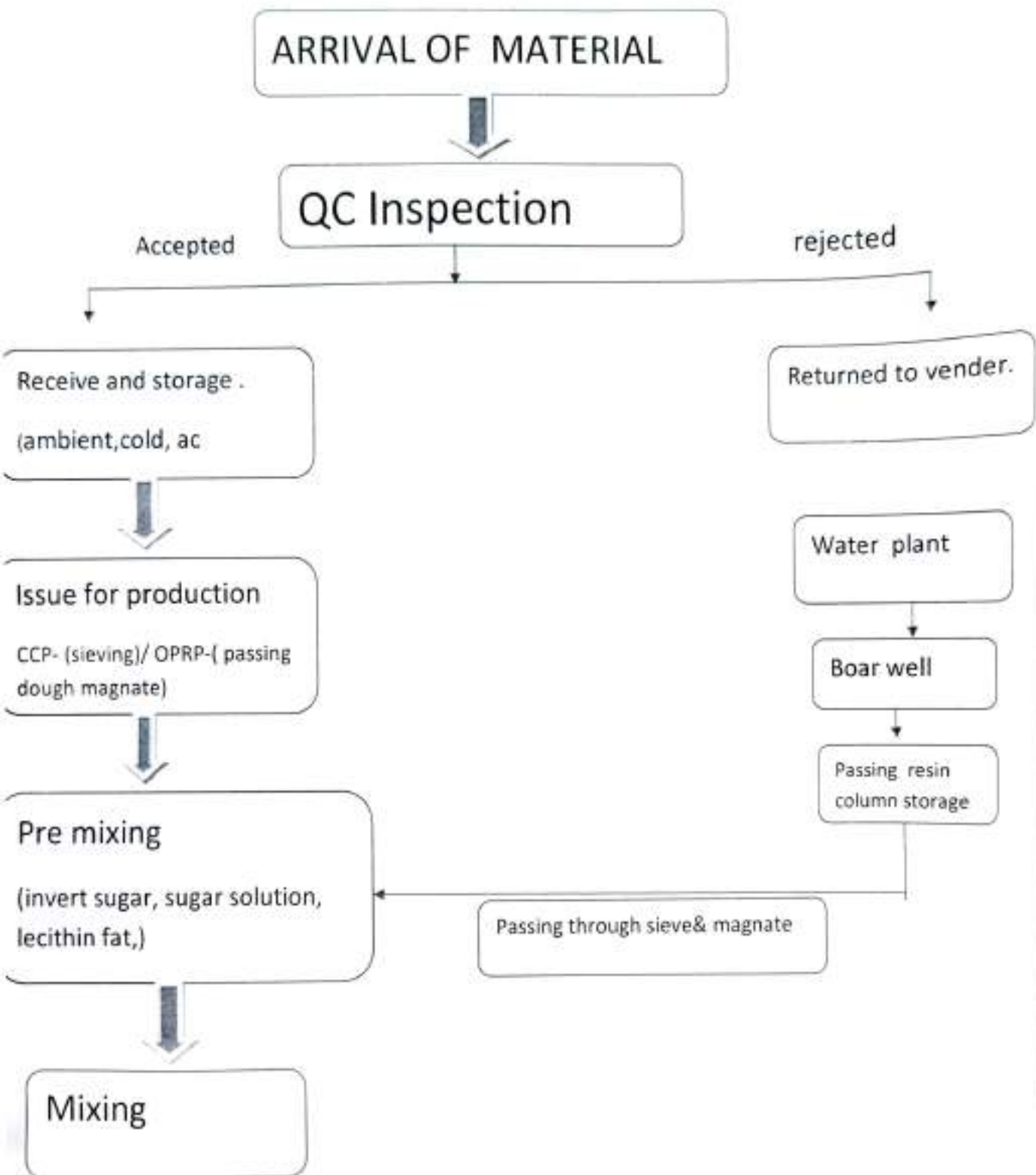
Weight of biscuit-300 g

Nutritional facts; per 100gm(approx)		
Carbohydrate	In.g.	72g
Protein	In.g.	10g
Fat	In.g.	15g.
energy	In.kcl	463
Saturated fatty acid	In.g.	7g.



Sugar Free Cracker	300 g
Cracker	300

PROCESS OF BISCUIT MANUFACTURING



Forming

- lamination
- sheeting
- Gauging
- Milk spray
- Cutting

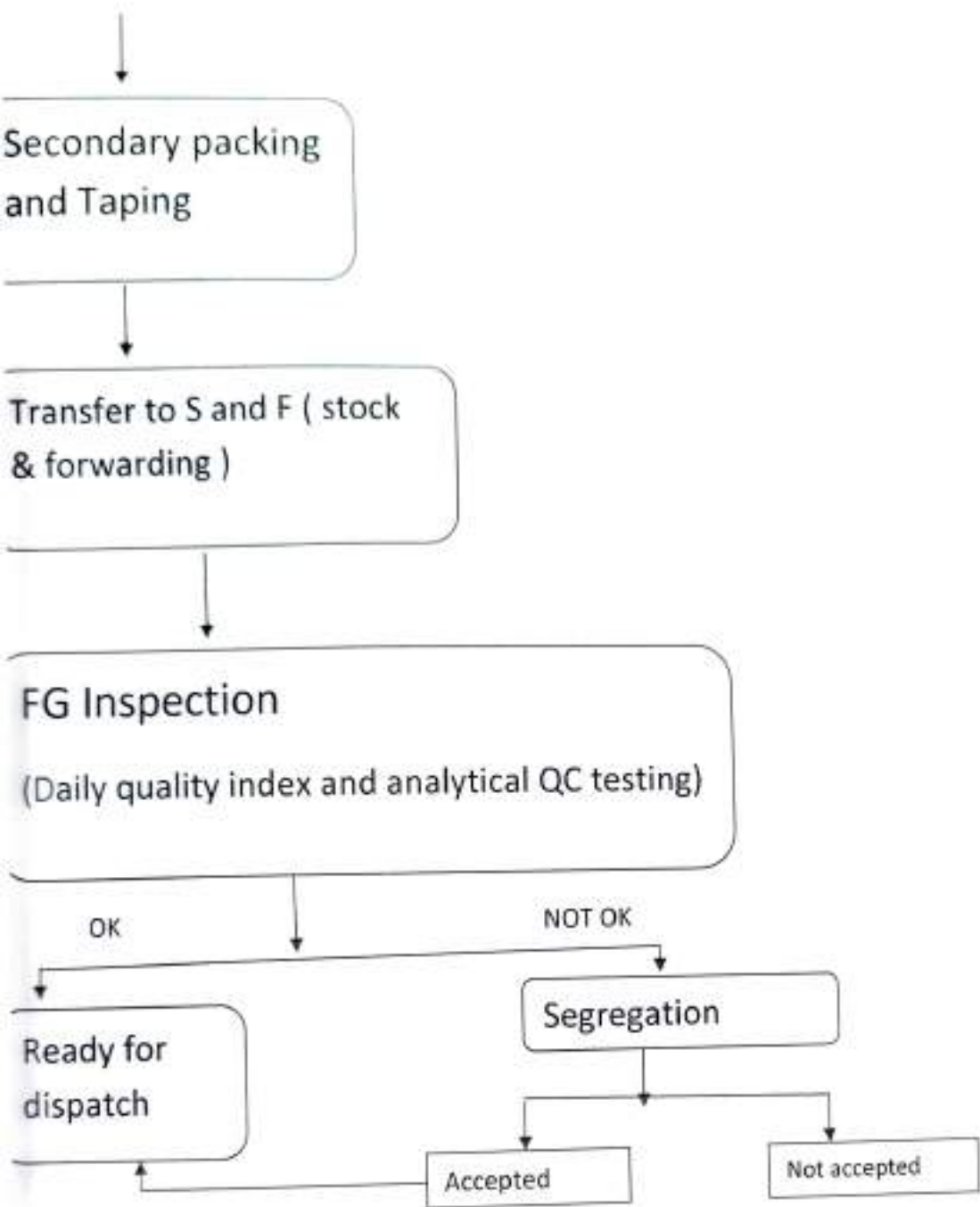
Baking
(puffing, baking, coloring)

shorting

Cooling
CCP/ [passing into the metal detector]

Stacking

Primary packing



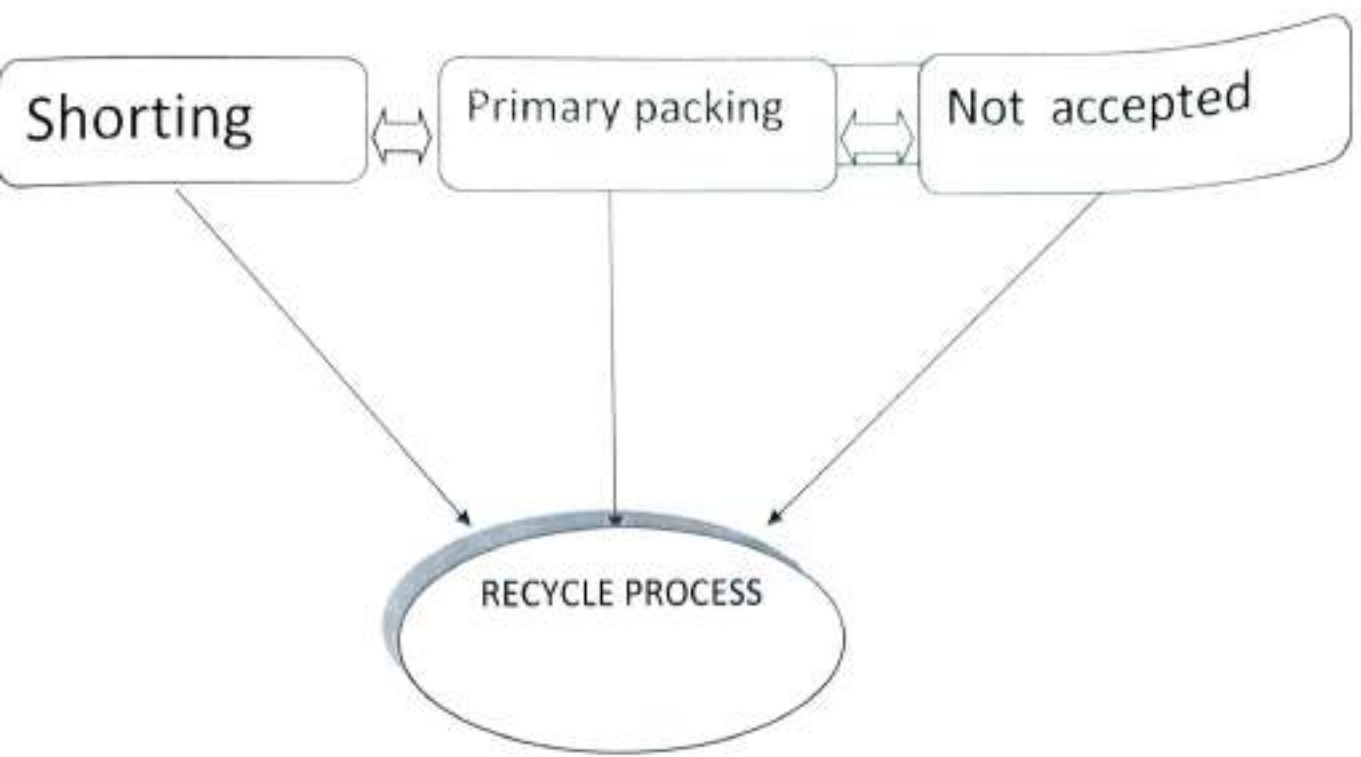


Fig-Process of biscuit manufacturing

QUALITY CONTROL UNIT

Quality plays an important role in any industry in food industry regarding to set standards .It is a very broad term as it refers to Chemical ,physical ,technological and aseptically bacteriological and aseptically characteristics.

Quality control or quality assurance is an activity of Product,method or program that will ensure maintenance and continuity of specification and standards of the products during preparation, packaging ,storage and distribution.This section has got a special weight age as no product can be dispatched market without the green signal from the quality control department.

Quality control covers the activities that the finished products within the predetermined specification there are three section of this department-

- Inspection of incoming Raw and packaging material
- Inspection of online quality parameter.
- Inspection of finished goods.

INSPECTION OF INCOMING RAW MATERIAL

1) Refined wheat flour

- Grittiness checking
- Partial moisture content.
- Sedimentation value.
- Total ash.

- Dry gluten content.
- Alcoholic acidity.
- Germ oil index.
- Particle size determination.

2) Sugar:

- % of moisture content .
- Sulfated ash.
- Water insoluble matter ..

3) palm oil:

- % of moisture.
- Acid value.
- PV value .
- Sleep point.
- TBHQ Test

4) Condensed milk :

- % of moisture content
- Titratable acidity.

5) ABS:

- Purity test .

6) Salt:

- Purity Test
- Water Insoluble matter
- % of moisture

7) YEAST :

- Dough raising capacity
- Moisture test

2. INSPECTION OF ONLINE QUALITY PARAMETER:

2.1 Invert sugar

- ❖ Brix
- ❖ PH

2.2 Sugar solution brix

2.3 Online grittiness checking of wheat flour

2.4 Dough temperature .(30-38°C)

2.5 Baking time .

2.6 Product moisture.

2.7 Seal& leak test of packet.

3 .INSPECTION OF FINISED GOOD :

3.1 % of Moisture.

3.2 Acid insoluble ash

3.3 AEF.

TEST:

1. Determination of water absorption power and gluten content Of Flour:

- Equipment:Hot air oven
- Procedure:

25 gram of sample is taken into a steel container. Minimum water is added through burette drop by drop and to make the dough. Then it is held on into water for least 1hour. Washed frequently with fresh water using hand so that all starch portions was wash away. Thus we obtain a sticky elastic lump of gluten having a smooth surface. Wt. of

the wet gluten is taken. It is then put into also a hot air oven for 4 hours at 105°C. Then it is cooled and weighted as dried mass. The same drying process is repeated till the constant weight is obtained. Final weight of dried mass is taken.

• Calculation:

$$\text{WAP} = (\text{ml of water is used} \times 100) / \text{wt of sample (Dry basis)}$$

2. DETERMINATION OF ALCOHOL ACIDITY

REAGENTS:

1. Neutral ethyl alcohol
2. 0.05 (n) NaOH solution
3. Phenolphthalein indicator

PROCEDURE:

Five drop of 1% phenolphthalein is added into 200ml of alcohol and then 0.05(N) NaOH is added drop wise until a faint but permanent pink color appears. Thus neutral alcohol is made.

Weighted 5 gram of sample in a conical flask and then added 50ml of neutral alcohol and stopper the conical flask. It is then shaken well in a magnetic stirrer for one hour. Finally it is filtered in a measuring flask by Whatman filter paper (1). 30ml of filter is taken in a conical flask and titrated against 0.5(N) NaOH.

CALCULATION:

$$\% \text{ Alcohol acidity} = 4.904 \times V \times N \times 50 / (W \times 30)$$

Where,

V = volume of NaOH consumed

N = normality of NaOH

W = weight of the material taken

PURPOSE:

Flour when taken for long time, undergoes various types of deterioration which is termed as high value of alcohol acidity. Hence alcohol acidity is taken as an index of deterioration of flour during storage. This is accelerated in the presence of high moisture, temperature and other factors.

3. DETERMINATION OF TOTAL ASH AND ACID INSOLUBLE ASH;

3.1) TOTAL ASH

EQUIPMENTS: 1. Muffle furnace 2. Silica crucible.

PROCEDURE:

15g. Maida sample in a weighed silica crucible is taken and then placed in muffle furnace at a temperature between $600 \pm 10^{\circ}\text{C}$ until gray ash results. (5 to 6) hours after this silica crucible is cooled in vacuum desiccators and weighed and the same procedure is repeated till constant weight is achieved.

CALCULATION ; % Total ash = $\frac{\text{weight of ash obtained} \times 100}{\text{weight of dried Maida sample taken}}$.

3.2 ACID INSOLUBLE ASH ;

PROCEDURE: After obtaining the total ash, 25ml of (5) HCL to the ash in the crucible is added. It is taken put on water bath for 10 minutes, the contents are mixed with the top of glass rod and filtered through Whatman filter paper no-42. The filter paper is washed with fresh water until it becomes free from acidity (checked with litmus paper). It is transferred into a previously weighed silica crucible and placed in a muffle furnace under $600 \pm 10^{\circ}\text{C}$ for 20 minutes.

Finally looked this crucible and weighted repeated this process until constant weight of sample is obtained.

CALCULATION: $AIA = \text{wt of AIA ash} \times 100 / (100 - \text{moisture}) \times \text{wt of sample}$

PURPOSE : It gives the idea about the added mineral matter e.g. sand, dirt excreta etc. acid insoluble ash indicates the silica contain.

- **DETERMINATION OF MOISTURE WHEAT FLOUR:**

- **METHOD:** 1. A small sample of flour or ground wheat (2-3gm) is weighted and placed in a moisture dish .

2. the sample is heated at 130°C in an hot air oven for one hours .

3. the sample is cooled to room temperature and the residue is weighted.

- **CALCULATION:** $\% \text{ moisture of flour} = (C - A / \text{Sample weight}) \times 100$

Where, C= total weight of bowl with sample after drying

A= empty bowl.

CONCLUTION:

If flour with high moisture contain over(14.5%) attract mould, bacteria, insects, all of which course deterioration during storage.

- **OIL TEST:**

- **DETERMINATION OF PV VALUE:**

• THEORY:

The peroxide value is defined as the amount of peroxide oxygen per 1 kilogram of fat or oil. Traditionally this was expressed in unit of mill equivalents, although if we are using SI unit then the appropriate option would be in mill moles per kilogram.

Detection of peroxide gives the initial evidence of rancidity in unsaturated fats and oil. Other methods are available, but peroxide value is the most widely used.

The double bonds found in fat oil play a role in autoxidation. Oil with a high degree of unsaturation are most susceptible to autoxidation. The best test for oxidative rancidity is determination of PV value.

APPARATUS

1. Balance capable of weighing to the nearest 0.1 mg.
2. 250 ml. glass stopper Erlenmeyer flasks.
3. 10 ml Class B Burette, graduated in 0.05 divisions, with a tolerance of ± 0.04 ml.
4. Mohr pipette capable of containing 1 ml with a tolerance of ± 0.04 ml.
5. 2-graduated cylinders capable of containing 50 ml.
6. Dispensing device, capable of dispensing 1 ml.

REAGENTS AND SOLUTIONS

1. Acetic Acid - chloroform solution (480ml Acetic Acid and 320ml Chloroform).
2. Saturated Potassium Iodide solution. Store in the dark.
3. Sodium thiosulfate solution, 0.1N. Commercially available.
4. 1% Starch solution. Commercially available.
5. Distilled water.

PROCEDURE

Conduct a blank determination of the reagents daily.

1. Weigh 5.00 (± 0.05)g of sample into a 250 ml glass stopper Erlenmeyer flask. Record weight to the nearest 0.01g.
2. By graduated cylinder, add 30 ml of the acetic acid - chloroform solution.
3. Swirl the flask until the sample is completely dissolved (careful warming on a hot plate may be necessary).
4. Using 1 ml Mohr pipette, add 0.5 ml of saturated potassium iodide solution.
5. Stopper the flask and swirl the contents of the flask for exactly one minute.
6. Immediately add by graduated cylinder, 30 ml of either distilled or deionized water, stopper and shake vigorously to liberate the iodine from the chloroform layer.
7. Fill the burette with 0.1N sodium thiosulfate.
8. If the starting color of the solution is deep red orange, titrate slowly with mixing until the color lightens. If the solution is initially a light amber color, go to step 9.
9. Using a dispensing device, add 1 ml of starch solution as indicator.
10. Titrate until the blue gray color disappears in the aqueous (upper layer). Note: for Doe-120, titrate until the lower layer has a "milky" appearance.
11. Accurately record the mls of titrant used to two decimal places.

CALCULATIONS

S = titration of sample

B = titration of blank

Peroxide value = $[(S - B) \times N \text{ thiosulfate} \times 1000] / \text{weight of sample}$

1.PACKING METERIAL TEST ;

1.1Primary packing material:

- 1.1.1 Laminator for printing matter
- 1.1.2 Color test
- 1.1.3 Solvent or jar test residual solvent
- 1.1.4 Dimension
- 1.1.5 GSM

1.2secondary packing material:

- 1.1.2.1 Detention(add joint checking)
- 1.1.2.2 Painting matters & color
- 1.1.2.3 Individual layers & total box
- 1.1.2.4 GSM TEST.
- 1.1.2.5 CSM TEST.

❖INSTRUMENTS THAT USED IN LAB:

- | | | |
|----------------------------|-------|------------------------------|
| 1. Electromagnetic shaker. | sieve | 10.Muffle furnace.+2 |
| 2. Compressiontester. | | 11.Hot air oven. +3 |
| 3. Electronic balance. | | 12.Suction pump. |
| 4. Desiccators . | | 13.Sedimentation shaker. |
| 5. Mantle heater. | | 14.Universal tensile taster. |
| 6. Rivotex | | 15.Instant moister analyzer. |
| 7. Water bath. | | 16.Polymer tester. |
| 8. Gluten washer. | | |
| 9. Hot air oven. | | |