



Daffodil
International
University

AN INTERNSHIP REPORT ON

MANUFACTURING PROCESS AND QUALITY CONTROL OF FORTIFIED RICE KERNEL AT MASAFI AGRO FOOD INDUSTRY LIMITED

Supervised By

Effat Ara Jahan

Lecturer (senior scale)

Department of Nutrition and Food Engineering

Faculty of Allied Health Science

Daffodil International University

Submitted By

Farzana Haque

Student id: 163-34-582

Department of Nutrition and Food Engineering

Faculty of Allied Health science

Daffodil International University

Date of submission

Table of Content

Contents	Page No.
Letter of transmittal	i
Certification of Approval	ii
Acknowledgement	iv
Executive Summary	v
Objective of the Report	vi
Chapter 01: Introduction	1
1. Masafi Agro food industries Limited	2
1.2. Fortified Kernel	3
1.3. Different Rice Fortification Methods	4
1.4. Hot extrusion in fortification	5
Chapter 02: Process of Rice Kernel	6
2.1. Flow Diagram of Rice Kernel	7
2.2. Summarization of process flow chart:	8
Chapter 03: Quality Control	10
3.1. Quality control of Rice kernel	11
3.2. Broken content:	11
Chapter 04: Inspection and Auditing process	13
4.1. Condition of factory premises:	14
4.2. Entering and introduction:	14
Chapter 05: Quality plan of Masafi Agro Food Industries Ltd	16
5.1. Quality Plan	17
Chapter 06: Conclusion	25
6.1. Conclusion	26
6.2 Reference	27

Letter of Transmittal

Date:

Dr. Sheikh Mahatabuddin

Associated professor and Head

Department Of Nutrition and Food Engineering

Faculty of Allied Health Science

Daffodil International University,

Subject: Submission of internship report

Respected Sir,

With due respect state that I am student of Nutrition and Food Engineering from Fall-2016. I would like to elicit my heartiest gratefulness for your guidelines and clinch during my whole undergraduate periods. Now I have done my internship program and hereby submitting my internship report. I have prepared this report depending on my pragmatic knowledge and adeptness which I have gathered in my Internship time. It was a extensive scope for me to work with them with an innovative product by the great assistance and inspiration from you. I have worked there under the kind support of "Mr. zinah saheb Director of "MASAFI AGRO FOOD INDUSTRY LTD". Most attractive things that was, we have also learned about Auditing process under the supervision of "ALCUMUS BANGLADESH LIMITED ". And I think that was the best experience in my life and I have accomplished myself with the skill both in production processing and factory visiting.

I'm requesting you to condone me if you find any mistake in this report. If you have any questionnaires regarding this report I will try to face it.

Sincerely,

Farzana Haque

ID: 163-34-582

Certification of Approval

With great joy and satisfaction, I am declaring that Farzana Haque bearing id 163-34-582 student of Department of Nutrition and Food Engineering has prepared this Internship report. This Internship Report is based on "Manufacturing Process and Quality Control of Rice Kernel Arranged by Masafi Agro food industries Limited". I'm supporting this report for next presentation, Defense or viva voice.

I am really satisfied to declare that the Data and the information of this report are genuine work of Farzana Haque. She has prepared this report based on her own experiences. I firmly suggest her report for future institutional defense and viva voice. Farzana Haque has strong moral characteristics. I always found her as an enthusiastic and hardworking girl. I wish her all success in her future life.

X

Dr. Sheikh Mahatabuddin

Effat

Dr. Sheikh Mahatabuddin
Associate Professor and Head
Department of Nutrition and Food
Engineering
Faculty of Allied Health Science
Daffodil International University

Effat Ara Jahan(supervisor)
Lecturer (Senior scale)
Department of Nutrition and Food Engineering
Faculty of Allied Health Science
Daffodil International University



Acknowledgement

First of all I am grateful to my creator. I would like to express my heartiest love to my Supervisor for her vast constructive Suggestion, clinch inspiration, mental support, during this internship period so,I'm really indebted to my supervisor .During pendemic situation I was in anxiety about my internship program .That time she always supported me and assured me that she will manage. And ultimately she managed my internship project at Masafi Agro Food Industries Ltd. I would like to express my warm greetings to all members of these Industries specially the Director of Masafi group.Mr. Zinah Sheb, QC in charge-Mr. Akidul Islam. QC officer Mr. Ashraf Ali,Alok kumar roy,Mr. Robel Miah Md.Liton Ali, Md.Mizanur Rahman,Md.Sofiqul Islam.

I want to convey my gratefulness to the Head of the Department. I'm really grateful to him for his kind support. I would like to confess my gratefulness to all the faculty member of this department for their incredible support and inspiration during my Academic period.

I 'm also acknowledged to Sayeda Kneez Fetema Managing Director of "ALCUMUS BANLGADESH" for her vast support and valuable training on Factory visiting. I also indebted to all my family members for their uncountable support and I would confess my love to my friends.

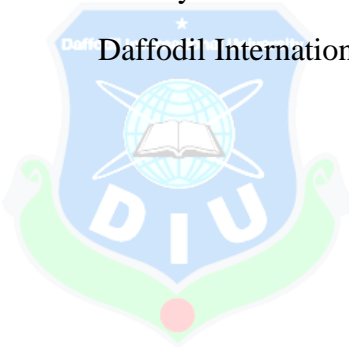
Farzana Haque

ID-163-34-582

Department of Nutrition and Food Engineering

Faculty of Allied Health Science

Daffodil International University



Daffodil
International
University

Executive Summary

Masafi agro food industries limited has started its journey since 1968 as a trading business. By producing proper nutritional food Masafi Agro Food Industry limited has become pioneer industry. The vision of this industry is- Making a World Free from Malnutrition, Social Disparity and Discrimination. The industry is working With a Mission-Communities empowerment and create a social change through a balanced nutrition inclusivity making a positive social footprint.

This industry not only works with the government of Bangladesh but also United Nations World Food Program (WFP). It is producing Fortified Vita Rice kernel which has added a new chapter in their portfolio to work against malnutrition. Milled rice is source of high energy but low source of valuable nutriun keeping this lacking in mind this industry tried to make rice nutritious by different types of vitamins and mineral. Basically Vitamin A,B, zinc, iron is used. This valuable scope provided me to have a practical experience on rice kernel processing, quality, control, factory visiting by Alcumus Bangladesh. This report is prepared basically based on my whole journey about masafi Agro food industries limited



Daffodil
International
University

Objective of the Report

There are mainly two objectives of these study

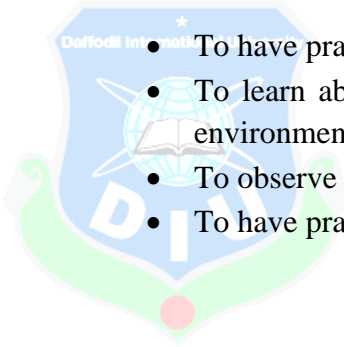
1. General objective
2. Specific objective.

General Objectives:

To learn about the Manufacturing process and quality control of Masafi Agro food industries limited

General Objectives:

- To have practical experience on manufacturing process, storage, packaging system
- To learn about the maintenance of quality control, working conditions and the factory environment
- To observe the monitoring process of Quality control lab
- To have practical experience on inspection and Auditing process of factory visiting



Daffodil
International
University



Daffodil
International
University

Chapter 01: Introduction



Daffodil
International
University

1.1. Masafi Agro food industries Limited

This industry is a flourishing and progressive industry in Bangladesh situated in Hatu Bhangaroad ,Gorai Mirzapur Tangail,established in 1968.At the first stage it had started its journey as a trending business. Now it is starting to produce fortified rice kernel from 2015.Fortified rice is the latest accession of this industry . They generates high energy vita rice added with all essential micronutrient necessary for balanced diet .They believe attaching this chief food to their portfolio will assist them to fight against malnutrition. This rice is fortified with vitamin A,B1,B2,B9,B6,B12,Zinc,iron.They are doing this program as a partner of the government of Bangladesh with the assistance of WFP(World food Program) and started to distribute fortified rice to the indigent people under the vulnerable group development Program (VGD). Under **VGD** program fortified rice kernel was first piloted in three (3)upazilas of Sirajgong. If this fortified rice would be available in the market at an affordable price all consumer could purchase easily. They have the capability to supply fortified rice all over the country if Government supports them.[1]



Image - Front view of Masafi Agro food Industry

1.2. FORTIFIED RICE KERNEL:

Rice fortification is practicing as a familiar method to improve people's health more than 50 years .In previous fortification of rice was mandatory for 6 counties Costa Rica,Nicaragua,Panama,Papua New Guinea ,Solomon island and Philippines as well as compulsory for some areas of USA .In our country Rice is main food, So it's an effective idea to meet up vitamin and mineral deficiency by rice. Though rice fortification can't fulfill the all nutritional demand but it can reduce the nutritional deficiency slightly. Milled rice is a good source of high energy but low source of vitamin and micronutrient .As milled rice is processed with the removal of hull bran, layer, and germ. To counteract these shortages Masafi Agro food industries limited fortified rice with various micronutrients and minerals. They fortified their rice with zinc, Iron, A, B6, B9, B12.Iron plays a vital role in our body like transporting oxygen to all organs of our body. Zinc assists to bruise healing, decrease the risk of age related chronic disease .So fortified rice is can be nutritious diet for people especially for poor and developing country. But generally in the local market it is not available and the price is 2-3 times higher than milled rice. So necessary steps should be taken by the government to make it available for poor people.[2]



Image – Rice

1.3. Benefits of fortified rice kernel-

The overall reason for fortified rice is to meet healthful objectives for the consumer. But all together for nutritional projects to reach their full advantage, fortification program need meet certain prerequisites to be successful.

1. Easy to use: this is probably the greatest advantage.as a broadly utilized staple food it is easy to supplant standard rice with fortified rice to support the healthful profile of a basic eating routine. With specific techniques for fortification consumer use a key in viability. However progress in fortifications methods like application of hot extrusion also assure the additional high quality micronutrient.

2.Cost: The particular expenses of fortified rice rely upon a few variables for example operations scale, and the mixing proportion of fortified to non-fortified kernels most generally 0.5-2%.however rice fortification cost are little contrasted with the wide reaching benefits. The cost effect is around 0.5%-3%. Yet such system can help tackle hunger at both population and individual level.

3. Consistency for purchasers: Its looking, taste, cooking is equivalent to non-fortified rice. This is best choice for people in low-income country where there is lacking awareness and knowledge on both health and nutrition,and use of fortified is absent.

4. Market separation for brand: For specific needs fortified rice can be customized.it exhibits a solution for nutritious conscious people who are looking for a new way to arrive specific health benefits.

5. Reduce Nutritional deficiency: For Lessening micronutrient inadequacies by government for a nation rice fortification can be best option. However, this depends vigorously on fruitful and wide- reaching execution and is extremely difficult when the rice processing land is profoundly divided. There is also the chance to incorporate fortified rice into school feeding projects and government social security nets, offering similar advantages on limited size, but focusing on vulnerable people at high danger of insufficiencies.

1.4 Different Rice Fortification Methods

There are generally three basic technologies used to fortify rice with vitamins and minerals world-wide.

1. Coating
2. Dusting
3. Extrusion.

Coating:-The nutrient such as vitamin and mineral mixing are combined with ingredient such as waxes and gum In case of coating process then on the surface of the grain it is sprayed in different layer. Finally it is homogenized with the polished rice at the ratio about 1:100.

Dusting: Micronutrient in shape of good particles are homogenized with bulk rice in the process of dusting method. In this process electrostatic force is used between rice's surface and Micronutrient.

Extrusion: In the extrusion process the milled rice are pounded and blended with a premix containing vitamin and minerals. Fortified rice kernel are prepared with this mixture l by the help of an extruder machine. FRK(Fortified rice kernel) then mixed or added to traditional rice in the ratio about 1:50 or 1:200 resulting in fortified rice nearly identical to conventional rice in taste aroma. It is then supplied for conventional or regular consumption. Depending on the temperature extrusion May varies.one is hot extrusion another is cold extrusion. Hot extrusion is the best method to fortified rice as it use advanced technologies. At first stage rice shaped grain is produced by taking rice flour. Vitamin minerals are passing through an extrusion chain. This product is called fortified kernel.

In stage two, Fortified kernel will be blended with traditional milled rice in the ratio 1:50 to 1:200, based on the coating, Physical properties of the FK.



Image -Equipment used at Masafi Agro Food Industry.



Daffodil
International
University

Chapter 02: Process of Producing Fortified Rice Kernel



Daffodil
International
University

2.1. Flow Diagram of Rice Kernel

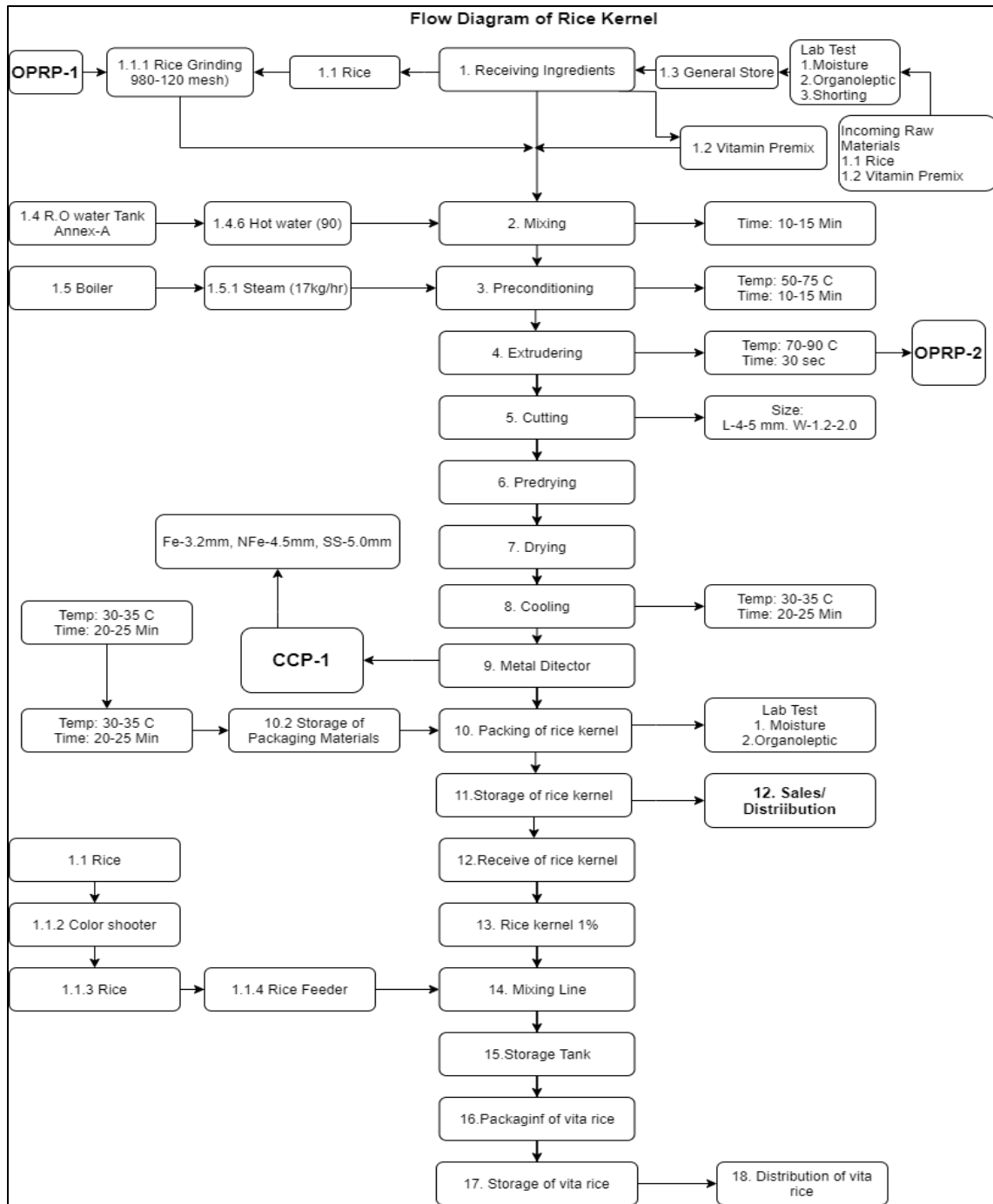


Figure 1: Flow chart - Processing of Rice Kernel

2.2. Summarization of process flow chart:

1. At first raw materials are tested, such as Rice and vitamin premix in the lab. Moisture of rice, size and shape, color are checked properly then they are allowed to the general store. Raw materials and ingredients are received from the general store for further processing.

2. For processing fortified rice at first ingredients are received from the general store. Rice, Rice grinding, vitamin premix are received.

3. Then all ingredients (Rice, Rice grinding, vitamin, premix) are mixed with exact proportion to each other. Premixing of raw material is usually done, and for premixing double shaft paddle mixer is used. The mixing chamber is filled with batches with a combined technology where the prime component are automatically mixed, and the other are added manually. The time of mixing is generally 10-15 minute.

4. After mixing pre-conditioning is done. Pre-conditioning step is very much helpful where the raw materials condition is not very fine. For pre-conditioning steam used, from boiler. Generally 17 kg steam is used per hour. The temperature of the steam is kept between 50 to 75°C and the time needed for pre-condition is 10-15 minute.

5. After precondition there is extruding. In extrusion raw materials are mixed, compressed into dough, and there finally shaped. The technology is depends on a screw system that actually compress the dough within a tube or barrel and also heated it. After that pushed it through a small opening that is called die holes. The die holes that are rice-shaped are firstly shaping the fortified kernels dough into shape resembling milled rice grain. Strands of dough are cut into individual kernels by routing knives, when they are leaving the die holes. The temperature of extrusion is keep about 20-90°C, and the time is 30 second.

6. Then next step is cutting. Fortified rice kernels are cut with a specific size which length is kept between four to 6 mm and wide is kept between 1.2 to 2.0 mm.

7. The fortified rice kernel that are produced in this way showed be sifted to the downstream process in order to drying for hot extrusion drying technologies it is better to use to stage drying one is pre-drying another is drying, phase one which is rapid initial water loss suggests that fortified rice kernel method is initially determined by air exchange. This is followed by slow water loss because the drying method is limited by water's diffusion from inner layer of the kernel.

8. Cooling: After drying it is very important to cooling the fortified rice near ambient temperature. It is done so that during packaging no condensation is occurred condensation lead to moulding during the storage of rice kernel if there any metal or not. If there does not found any metal then

fortified kernel are ready for packing .Cooling temperature kept between 30 to 35°C and time needed for cooling 20-25 minute.

9. Before packing the steps are done .One is lab test another is collect packing from storage .During lab test moisture level is checked, and organoleptic evaluation has to do. Then collect packet from storage .Before packing packet should be check if the size is ok or not, Packet should contain nutritional information about product proper date batch lot etc. Packets should be kept away from direct sunlight also in well ventilated areas. Now the rice kernels are stored for production of fortified rice.

10. Rice kernels obtained from the production process are mixed with regular rice using a method that will give the highest homogeneity by using the blender or mixer a doser is employed in order to meter fortified rice kernel in the right ratio. The doser need to be calibrated to assure homogeneity of fortified kernel in the final fortified rice as per the desired ratio of the fortified kernel to non-fortified rice.

11.Blender is employed downstream of the doser .The blender and doser combination that allows homogeneous blending of fortified kernel and normal and normal rice in the desired ratio (1:100) in fortified rice for blending purpose continuous blender is generally used.

12. After blending fortified rice is generally kept in bulk and subsequently packaged in bags as per the sop that means standard operating procedure of rice mill. No special modification need to be made to the storage and packing sop's employed for regular rice. Some normal steps that should be followed for packing may include ensuring the right type of packaging materials ,the right bag size ,batch coding process and recording of quantities for each batch ,printed as per the demand ,check the weight of the bag at random , to check if the weight is correct. They again check the sealing of internal packing materials and stitching of external bags are done correctly .For post-packing CCP (Critical Control Point) are in place should be ensured and standard operating procedures are maintained for final storage of bags. Now the fortified rice is ready to distribute.



Daffodil
International
University

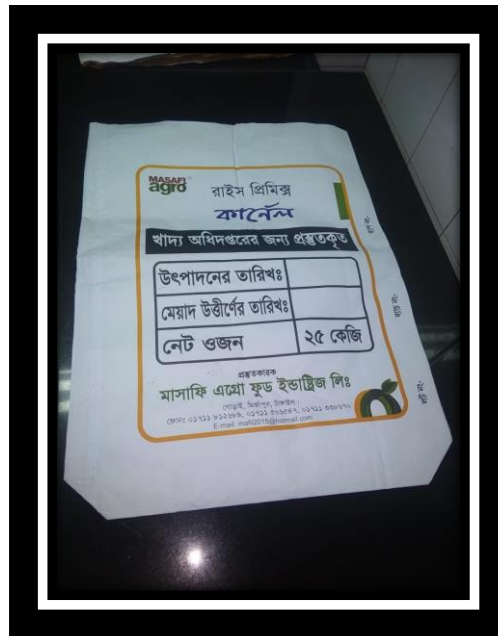
Chapter 03: Storage and packaging of Fortified Rice kernel.



Daffodil
International
University

3.1. Packaging Condition:

After mixing fortified rice is regularly put away in mass and subsequently packed in bags following the SOP (standard operating procedure) at Masafi Agro Food Industry . No uncommon process or formula wasn't followed in case of storage and packing In this Industry . Generally sops are applied for regular rice At Masafi Agro Food Industry Limited . Some of the general advances that are taken by this industry for packaging can be include assuring right type of packaging substance, proper size of bag as per the demand of customers. Proper check about sealing of internal packing substance and stitching of external bag was done appropriately by masafi industry. And assurance has to be done by masafi about CCP (critical control point) for post packaging (e.g. metal detector) and finally sops (standard operating procedure) are maintained for ultimate storage of bags.



3.2 Storage condition:

While last moisture substances is the main issue for shel-life of fortified rice kernel and micronutrient is also valuable factor that's why fortified rice kernel was put away or stored under the most ideal condition At Masafi Agro Food Industry Limited . It was specific at room temperature (around 23 degree Celsius). It was kept away from direct daylight, and in a well ventilated region. Time in tank is limited, that's why fortified kernel are poured into 5-25 kg sacks. The perfect storage situation for bagged fortified kernel are generated by excluding oxygen, moisture straight light exposure. All above these were followed by masafi agro food industries limited.



Daffodil
International
University

**Chapter 04: Quality plan of Masafi Agro
Food Industries Ltd**



Daffodil
International
University

4.1. Quality Plan For fortified rice kernel.

The produced or fortified rice kernel must be monitored by a quality controller at least periodically in the QC lab there are many tests to do depending on the industry's availability. Quality evaluation may include following tests.

1. The size and shape of grains: Depending on the industry's availability size and shape of the kernel varies. But a uniform size and shape should be maintained.

2. The strength of grains:

3. moisture content of kernel :Moisture content is the most important factor for growing microorganism in rice kernel.so a standard moisture level must be maintained, if a standard moisture level is maintained then kernel will be storage at ambient temperature.

4. KETT value: KETT means whiteness of grains, It's also varies Depending on industries customer's demand. Transparent, Glossy Fresh flavor, Absent of any old or rancid flavor was noticed in kernel of masafi agro food industries limited.

5. Microbial taste: Microbial taste is the most important issue for any industry. Different types of taste are taken by different industries based on its availability. The taste parameter and its result is normally

E.coli -Absent

TVC-10, 00 cfu per /ml

Coliforms-10 cfu per /ml

TVC-10, 00 cfu per /ml at masafi agro food industries limited.



4.2 Different types of test to control quality of fortified rice kernel at Masafi Agro Food Industry.

SL NO.	Particulars	Test parameter	Specification	Specification Required by	Frequency	Responsibility	Place of test
1	Blending Rice	Moisture Content	14 max	BDS 1897:20 15	Per lot	Jamal uddin	Own Lab
		Head Rice	90 min	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Big Broken	8 mix	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Broken and small Broken	20 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Damaged and small Broken	1 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Admixture of different variety of rice	8 max	BDS 1897:20 15	Per lot	Robel miah	Own lab

		Chalky / Immature	2 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Paddy (grain per 1 kg)	2 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Foreign matters	0.3 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Degree of milling	Well milled rice	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Fortified kernel with 1: 100 kg normal rice	1.0 kg \pm 15 %	BDS 1897:20 15	Per lot	Robel miah	Own lab
2	Rice Kernel	Color	Transparent, Glossy	BDS	Per Batch	Robel miah	Own lab
		Flavor	Fresh flavor, Absent of any old or rancid flavor	BDS	Per Batch	Robel miah	Own lab

		Taste	Present taste with uniform, Absent of bitter taste	BDS	Per Batch	Robel miah	Own Lab
		Body & Texture	Uniform cutting	BDS	Per Batch	Robel miah	Own lab
		Moisture %	12-13 %	BDS	Per Batch	Robel miah	Own lab
		Vitamin A Palmitate	14610 – 19481 IU/g	BDS	Per lot	3 rd party	Fore ign lab
		Thiamine	14.04 – 19.2 mg/g	BDS	Per lot	3 rd party	Fore ign lab
		Iron	104 – 127 mg/g	BDS	Per lot	3 rd party	Fore ign lab
		Vitamin B - 12	26.0 – 42.3 µg/g	BDS	Per lot	3 rd party	Fore ign lab
		Folic Acid	3825 – 5525 µg/g	BDS	Per lot	3 rd party	Fore ign lab

		Zinc	69.2 – 84.6 µg/g	BDS	Per lot	3 rd party	Foreign lab
3	Fortified Rice	Vitamin A(Plamitate)	185-215 mcg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
		Vitamin B1 (As Thiamin mononitrate)	0.45 - 0.60 mg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
		Vitamin B12 (Cyanocobalamin)	1.15 - 1.45 mcg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
		Folic Acid (Vitamin B9)	150-190 mcg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
		Iron (Ferric pyrophosphate)	5-7 mg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
		Zinc (As Zinc oxide)	3.5 - 4.5 mg	BDS 1897:20 15	Per lot	3 rd party	Foreign lab
4	Broken Rice	Moisture Content	14.00% max	BDS 1897:20 15	Per lot	Jamal uddin	Own Lab

		Head Rice	10 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Big Broken	80 min	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Small Broken	5 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Damaged	1 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Admixture of different variety of rice	2 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Chalky / Immature	2 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Foreign matters	0.3 max	BDS 1897:20 15	Per lot	Robel miah	Own lab
		Length	890 mm	Own	Per lot	Debashis mondal	Own lab
		Width	560 mm	Own	Per lot	Debashis mondal	Own lab

5	LDPE	One part Thickness	110 micron	Own	Per lot	Debashis mondal	Own lab
		Double part thickness	220-224 micron	Own	Per lot	Debashis mondal	Own lab
		Weight	104.32 gm	Own	Per lot	Debashis mondal	Own lab
6	Paper Bag	Length	715 – 720 mm	Own	Per lot	Debashis mondal	Own lab
		Width	528 – 532 mm	Own	Per lot	Debashis mondal	Own lab
		Weight	213 - 215 gm	Own	Per lot	Debashis mondal	Own lab
7	R.O water	Total Hardness	Max.300 mg/litre	BDS	Monthl y two times	Minarul/ Jamal	Own lab/ BCS IR
		TDS	Max.500 mg/litre	BDS	Monthl y two times	Minarul/ Jamal	Own lab/ BCS IR
		Iron (as Fe)	Max. 0.3 mg/litre	BDS	Monthl y two times	Minarul/ Jamal	Own lab

		Arsenic (asAs)	Max. 0.01 mg/litre	BDS	Monthly two times	Minarul/Jamal	Own lab
		Total Colliform Bacteria	Absent in 100 ml	BDS	Monthly two times	Minarul/Jamal	Own lab
		Plate Count (TVC)	Max. 1000 cfu in 1 ml	BDS	Monthly two times	Minarul/Jamal	Own lab
		PH	6.4-7.4	BDS	Monthly two times	Minarul/Jamal	Own lab
		E.Coli	Absent	BDS	Monthly two times	Minarul/Jamal	Own lab
8	Swab of Worker Hand	<i>TVC</i>	10,00 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/Jamal	Own lab
		<i>Coliforms</i>	10 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/Jamal	Own lab
	Swab of LDPE	<i>TVC</i>	10,00 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/Jamal	Own lab

		<i>Coliforms</i>	10 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/ Jamal	Own lab
	Swab of Cooling table	<i>TVC</i>	10,00 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/ Jamal	Own lab
		<i>Coliforms</i>	10 cfu per /ml	BAM online USFDA	Monthly two times	Minarul/ Jamal	Own lab

Table 1 : Different types of test to control Quality at masafi agro food industry.



Daffodil
International
University

Chapter 05: Inspection and Auditing process



Daffodil
International
University

5.1. Flow Diagram of inspection and Auditing proces:

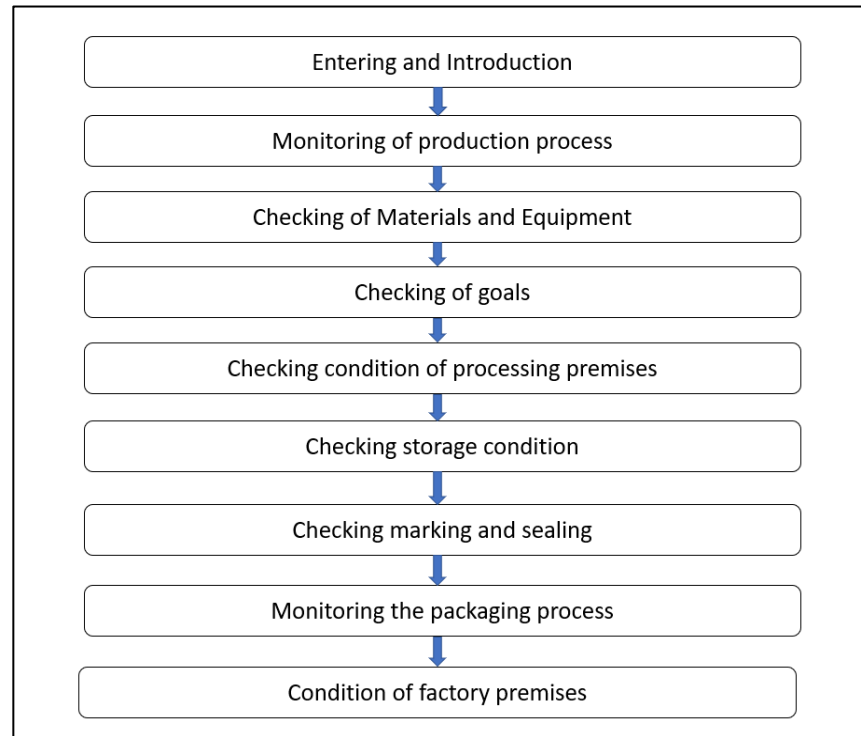


Figure 2: Flow diagram - Inspection and Auditing process

5.2.1 Entering and introduction:

After Reaching the factory at first introduced myself with the factory representative .Then take permission from Mr. Zinah Saheb(director of masfai agro limited) about inspection and assured themselves that the inspection is only for study (intern) purpose. After collecting Apron, hand gloves, Shoe cover, hair cover cap, started the inspection.

5.2.2. Monitoring the production process:

We have monitored the whole production process area of Masafi Agro food industry as SOP (Standard Operating Procedure) under the guidance of Alcumus Bangladesh.

5.2.3. Checking of material and equipment:

Also monitored and checked all equipment ,such as water source, checked if the water was changed properly or not ,mixing equipment ,packaging materials , etc., according of SOP(Standard Operating Procedure),GMP(Good Manufacturing Practice)

5.2 4. Checking of goods:

First we inspected the whole slack from outside and checked visually if the slack was in good condition or not. Check if there were any hole in the slack or not. Then checked physical (glass,wood,sticks,plastic,jeweler,stones) chemical (food , chemical, pesticides, antibiotics) Biological (bacterial, virtual, fungal) hazard through proper inspection. The defective packet was replaced immediately by Alcumus Bangladesh.

5.2 5.Checking condition of processing premises:

We Monitored and checked about the position of fly catcher. Was it placed in appropriate height or not! Which method use for pest control, if the water section area was in good condition or not, according to GHP (good hygiene practice) GMP (good manufacturing practice)

5.2.6. Checking storage condition:

At first we checked the storage condition of raw materials and then finished product .Storage area was dry, well ventilated, hygienic, properly controlled pest. Finished product was stored according to production date, expiry date, batch and lot number .And raw material was fresh, and sound, free from foreign materials, Substance insect. Minimum distance from raw material storage area to finished products storage area was maintained properly.

5.2.7 Monitor Marking and sealing:

We checked the sealed area in the kernel's packet, marking on the side of the packet and also checked the packet quality. Checked if the marking and sealing contained appropriate information or not.

5.2.8 Monitor the packaging process:

We monitored the whole packing process as per standard operating procedure. Monitored if the finished kernel was poured into a sack with palettes or not etc.

5.2.9. Condition of factory premises:

We Monitored the factory premises, checked if there were any rat holes, source of pests,chance of growing flies , cockroach or not. Checked also proper Drainage system, hygiene, sanitary operation, waste disposal system.



Daffodil
International
University

Chapter 06: Conclusion



Daffodil
International
University

6.1. Conclusion

It was a great experience for me to work with Masafi Agro Food Industries limited. This internship program covered both production and quality control on Fortified Rice kernel. Its new first growing food industry in Bangladesh and most important things that is it is working with WFP (World food Program) which has brought reputation for our country. It was a great opportunity for me to work with this industry. This internship helped me to learn about methods for ensuring product quality. During this internship program I have learned about quality control, packaging, storage, followed for the production of Fortified Rice Kernel. Through this internship program I have got a chance to broad my academic learnings. This internship project also provides me the opportunity to develop a network with the corporate environment. I also gained Knowledge about Industry auditing process.

Finally, I am thankful to the authority of Masafi Agro Food Industry Limited for their vast support.

6.2 Reference:

1. Fortified Rice Enhances Nutrition Benefits Of Social Safety Nets For The Poorest In Bangladesh, <https://www.wfp.org/news/fortified-rice-enhances-nutrition-benefits-social-safety-nets-poorest-bangladesh>, 31 July 2013
2. Everything you need to know about fortified rice, <https://www.dsm.com/human-nutrition/en/talking-nutrition/everything-you-need-to-know-about-fortified-rice.html>, 28 October 2019