



Industrial Training Report

By

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Diploma in Chemical Engineering

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22 March 2021 – 15 July 2021

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July 2021

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1.0 INTRODUCTION

1.1 Introduction to Industrial Training CHE353

Subject CHE 353 is the final course subject for Industrial Training in Diploma of Chemical Engineering UiTM. As for this course, students required to attend a 17-week course at the chosen organisation to fulfil the requirements by the Board of Engineers Malaysia (BEM) for the Engineering Technology Accreditation Council (ETAC) for undergraduate students. This industrial training is compulsory for every semester 6 student to complete the diploma studies. As students, they needed to seek and apply for an internship at their chosen organization that is related to the chemical engineering field before entering into the real working environment. Proper documentations such as a resume is required upon their application.

The main objective of this Industrial Training CHE353 is to give students an opportunity and exposure for them to expertise in real-life working experience. There are many benefits that they can get from this subjects such as can gain valuable experience, technical expertise & extensive experience.

1.2 Job Scope of Industrial Training

As I started my industrial training programme, I was assigned to the Production Team in the Production Department at OEM Brand Manufacturing Sdn. Bhd. The given job scope during my internship were quality control trainer, product designing and as a lab assistant. I had completed my 17-weeks industrial training successfully thanks to my supervisor Puan Nor Shahreera Binti Md Khairi despite the COVID-19 pandemic. I felt blessed and grateful for the amazing experience and opportunity to work with great mentors alongside supportive colleagues. I have learned many new things and glad that I can finally apply some of the related subject that I have learned during diploma and apply it during my working life.

2.0 CONTENTS

2.1 Organization chart

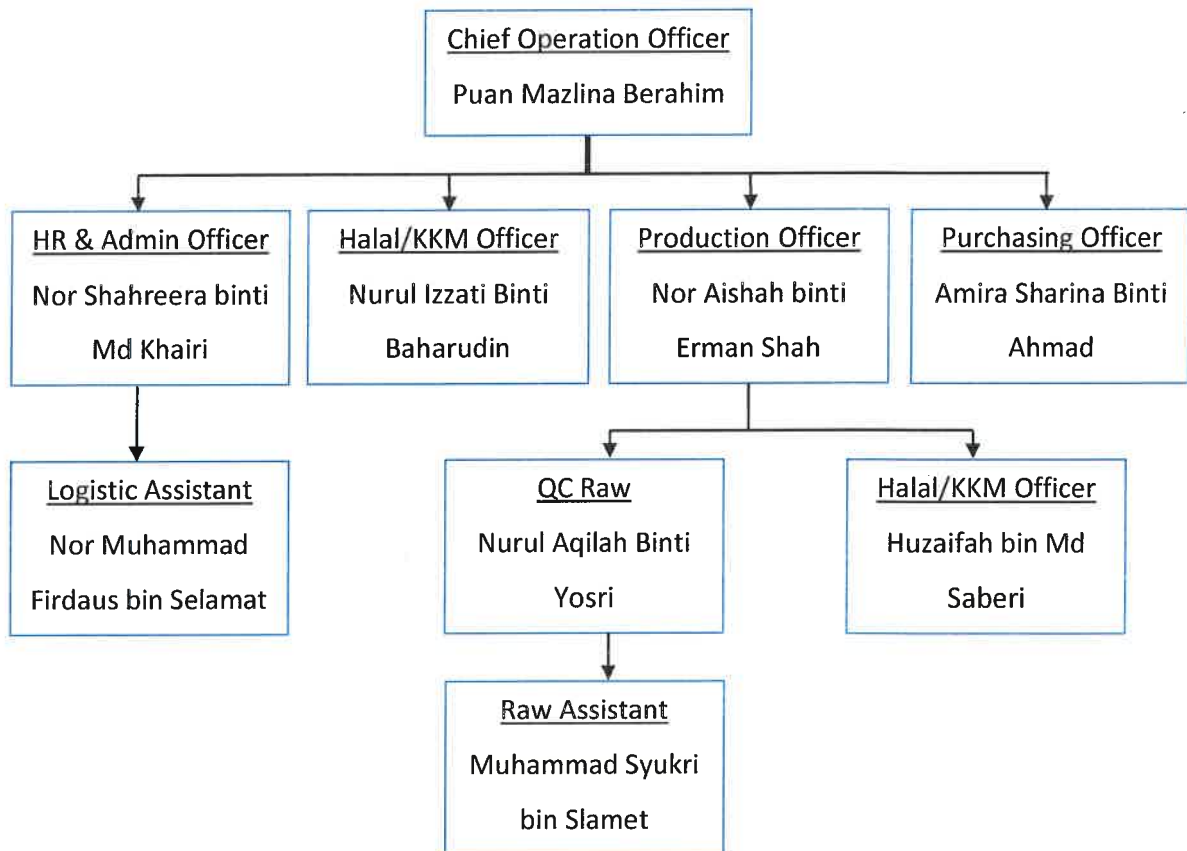


Figure 1: This is an organisation chart of OEM Band Manufacturing Sdn Bhd.

2.1.1 History of Company

OEM Brand Manufacturing is a factory that produces healthy and beauty HALAL product food. This factory is located at SME Bank Kompleks Sri Gading, Batu Pahat. The vision of the company is to become as one of the most successful factory that produces HALAL food-based such as from herbs or fruits and making the working environment have the determination for progressive teamwork. As the mission of this company is to produce optimum food product that are high quality, clean and can fulfil the specification based on the source of pure raw materials. It is also to promote health and well-being food product serving.

At first, this company started their operations in 2005 which was registered under the name Signature Herbascience Enterprise. They only marketed herbal-based slimming and health products through only a few numbers of manufacturing contracts. Then, in 2008, the company receive a lot of good feedback and response from customers and has finally made strides into the field of manufacturing. The company now can process all health products to be marketed to customers. MARDI played an important role in this company as they helped to improve the technique to monitor, assist and advise the process to produce the products. By 2009, the company was fully operational at the SME Bank Batu Pahat, Johor. They also changed its name to reflect the image of manufacturing and to show a high level of commitment in the manufacturing sector.

In addition, in 2012, the company operated entirely under the name Sherb Manufacturing. They began to actively offer processing & manufacturing services for various types of juices and herbal-based health food. Starting only with 1 brand, then the factory has started to gain full trust from customers to process various brands from various backgrounds. Most of the customers now are trading companies that market health-based products.

Finally, by 1 December 2014, the company has taken steps to upgrade the company from enterprise to Sdn. Bhd. under the name OEM Brand Manufacturing Sdn. Bhd. This factory also has qualifications and certifications in MeSTI and Halal. Until now, the company receive many orders and trusted from many famous brands, and some of them have been commercial on television.

2.2 Process Flow

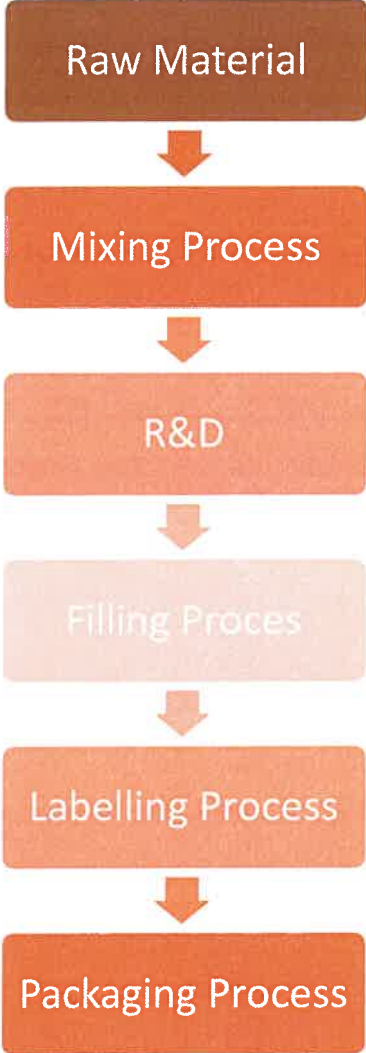


Figure 2: Process Flowchart at OEM Brand Manufacturing

2.2.1 Raw Material

The raw material is a process where we need to ensure that the raw material received from the supplier is in a good condition and state. This is due to prevent any unwanted contamination occur such as hair, nails or any mistakes from the supplier. The raw materials will be checked by the raw material QC such as the expired date of raw materials and stocks available. It will be weighed accordingly to its product specification to ensure the quality taste of the food product.

2.2.2 Mixing Process

The mixing process is a process where we will mix the raw materials combining with 2 or more ingredients to become one. In this part of process, a mixer tank will be used to ensure that the raw material powder is evenly spread and mixed well with another ingredient. It approximately takes half to one hour to make sure that the powder is mixed evenly.

2.2.3 R&D

For the R&D process, the company will produce and formulate new products and samples according to the client needs and budget. The client can suggest any types of herbs or fruit extract that they want to be mix in the product. Our company will help to assist and suggest the best types of formulation in order to produce a high quality food product. The lab also needs to test the pH of the product and Brix test to control the sugar level. Each of the product samples will be sent first to the client to fulfil their wants for the products such as colour, taste and viscosity.

2.2.4 Filling Process

This process will be done manually which the powder is filled into suitable packaging after being mixed for about 1 hour. After being tested for its pH and Brix, the powder will be fill after the lab assistant approves the taste in order to proceed for the filling process. Each of the packagings will be fill in the range of weight that has been specified. After done the filling process, the bottles or the zip lock bag must be clean using a clean cloth before

pass through the labelling process. A full PPE is required in this process to prevent cross-contamination occur.


2.2.5 Labelling Process

Labelling process is also one of the most important processes in producing food products. This is because, as we selling food products, the clients or customers need to know what is the ingredient used to produce the product. The QC should also inspect the expired date, no batch and the position of the label is at the right position. The HALAL logo must be seen on the label as the company produce only HALAL product and muslim customers will trust the product.


2.2.6 Packaging Process

The packaging process is where we design, evaluate and package the product items. For the packaging process, it is also the most crucial process as we want to ensure that the packaging used is high quality boxes and plastics. This is because we want the customer received their products in a good condition. As I have learned in product design subject, good packaging is a key to attract customers and we want to prevent any unwanted contamination through the food if the packaging is torn or damaged.

2.3 Brief Daily/Weekly Activity

Week / Date	Description of Practical Training Experience
Week 1 (22/3/21 – 26/3/21)	<ul style="list-style-type: none"> • Start the day with solat Dhuha & mathurat berjemaah with colleagues • Meeting Puan Nor Shahreera, my supervisor for the first time • Briefed about the company such as the rules & regulations and work policy • Having a plant visit around the factory and was introduced to production site such as raw material room, filling room and packaging room • Experience in packaging process where I learn how to package the product into boxes • Able to relate with product design subject such as what type of packaging used is convenient and safe for customers • Wiping & cleaning the final product bottle before the labelling process <div style="text-align: center;">  </div> <p style="text-align: center;">Figure 3. Production Site</p>
Week 2 (29/3/21 – 3/4/21)	<ul style="list-style-type: none"> • Learn on how to wrap food products by using high quality plastics & boxes • Able to learn about the whole process of producing the food products with the production leader • Experience in learning on how the mixing tank worked after raw materials is put. • Learn on how to check the quality of the sachet product such as cutting excessive foil & eyemark of the sachet must be in the right position • Wiping & cleaning the final product bottle before the labelling process

<p>Week 3 (5/4/21 – 10/4/21)</p>	<ul style="list-style-type: none"> • Able to experience the situation for filling process and packaging process • Experience in labelling process where I able to set the label machine accordance to the position needed for the food products • Got my first typhoid injection as I worked at a food industry company. This is compulsory for every workers to prevent typhoid fever that causes by Salmonella typhi bacteria. • Having a food control course (LPM) which certificate of this program is important that can help me to further my studies if I want to continue to work in food industry <div> </div> <p style="text-align: center;">Figure 4. The Situation for the filling process & packaging process</p>
<p>Week 4 (12/4/21 – 17/4/21)</p>	<ul style="list-style-type: none"> • Wiping & cleaning the final product bottle before labelling process • Learn on how to check the quality of the sachet product such as cutting excessive foil & eyemark of the sachet must be in the right position • Arrange sachet into boxes accordingly before passing through the packaging process • Able to experience in the filling process where full PPE is required in order to avoid cross-contamination <div> </div> <p style="text-align: center;">Figure 5. Filling Process with Coverall PPE</p>

<p>Week 5 (19/4/21 – 24/4/21)</p>	<ul style="list-style-type: none"> • R&D the food samples at by testing the taste of food samples • Experience on how to make the best formulation for food product and taste test • Inserted food product into plastic and pass to the wrapping process • Quality checking the raw material ingredients before starts mixing the raw powder • Cleaning the production area according to the schedule that has been made such as mop & throws out the trash <div style="text-align: center;">  </div> <p style="text-align: center;">Figure 6. R&D the Formulation Food Product</p>
<p>Week 6 (26/4/21 – 1/5/21)</p>	<ul style="list-style-type: none"> • Learn on how to handle the product items and QC the final products • Experience in accounting where I arranged & divided the receipts according to their section such as expense and liabilities • Able to relate with product design subject by choosing which packaging is the best so that it can use to wrap the final product • Help in cleaning & wiping final bottle product before passing to labelling process • Experience on observing the loading process in order to distribute to customers



	 <p style="text-align: center;">Figure 7. Loading Process</p>
<p>Week 7 (3/5/21 – 8/5/21)</p>	<ul style="list-style-type: none"> • Experience in QC sachet products by dividing the products into their category • Able to learn on how to wrap product by using plastics & boxes • Started my GMP Project Assignment where I was given a task to brainstorm the idea about the Good Manufacturing Factory (GMP) that includes all the process that has been run in the factory • Able to understand the GMP system to ensure the products produced are constantly followed the quality standard • Do the audit checklist related to GMP
<p>Week 8 (10/5/21 – 15/5/21)</p>	<ul style="list-style-type: none"> • Experienced in QC raw material ingredient where I will tick and jotted down the condition, weight, expired date and no batch • Weighting the raw materials before pass through the mixing process • Do the audit checklist related to GMP such as the SOP's for the mixing process and filling process • Wiping & cleaning the final product bottle before the labelling process • Majlis Sumbangan Hari Raya were held • CUTI HARI RAYA AIDILFITRI  <p style="text-align: center;">Figure 8. Free food for berbuka puasa</p>



Figure 9. Donation from Chief Manager

Week 9
(17/5/21 –
22/5/21)

- Jotted down and list down the standard operating procedure (SOP) for every process that runs in the factory to ensure the process run smoothly
- Ensure equipment is regularly maintenance
- Jot down and list down the SOP for the filling process such as production worker should wear full PPE and maintain personal hygiene to prevent cross – contamination occur
- Experience in R&D lab where I was able to observe on how to create the best formulation for food product & taste test

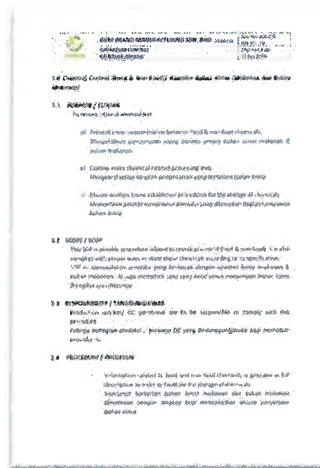


Figure 10. Example SOP for GMP

<p>Week 10 (24/5/21 – 29/5/21)</p>	<ul style="list-style-type: none"> • Experience in preparing questions related to HALAL, MeSTI & GMP • Help to prepare a PowerPoint related to HALAL, MeSTI & GMP for further references • Compile the SOP checklist into its template • Do the audit checklist related to Good Manufacturing Practise (GMP) which I can relate to my safety subject • QC the raw materials stock that newly arrived by checking its appearance, condition & expired date • Make corrections for the audit checklist related to GMP for raw material process, mixing process, filling process and packaging process procedure
<p>Week 11 (31/5/21 – 5/6/21)</p>	<ul style="list-style-type: none"> • R&D food samples at the lab by testing the taste of samples • Arrange and sort out the food samples according to the best to the worst taste • WFH starts; • Learning the production flow process starting from raw material, mixing process, R&D, filling process, labelling process & packaging process • Create posters related to this processes • Learning more about R&D laboratory process to ensure the taste is maintained and the food product has a premium taste
<p>Week 12 (7/6/21 – 12/6/21)</p>	<ul style="list-style-type: none"> • Creating posters related to the factory such as motivational talk / quotes related to business • Searching & referring to business books to include the quotes / motivational talk from well-known entrepreneurs for posting materials • Edit powerpoint related to the factory to ensure the information displayed is accurate & relevant • Do summary profile products using excel • Final submission for the GMP Project Assignment
<p>Week 13 (14/6/21 – 19/6/21)</p>	<ul style="list-style-type: none"> • Creating posting materials related to COVID-19 awareness (double masking, social distancing) • Create infographics about the benefits of raw materials used to produce a healthy food product

	<ul style="list-style-type: none"> • Learning about the mixing process where all the raw materials that have been measured will be inserted into the mixer tank for mixing purpose • Creating posting material for founders on 5 ways to create health products on your own (R&D, Material Search, Production Process, Licensing & Certification) <div style="text-align: center;"> </div> <p style="text-align: center;">Figure 11. Poster for COVID-19 Awareness</p>
<p>Week 14 (21/6/21 – 26/6/21)</p>	<ul style="list-style-type: none"> • Experience in purchasing process where I need to jot down & find the suppliers that follow the requirements for the raw material & packaging boxes & plastics • Write the summary product files according to their brand, raw material, packaging & benefits • Sorting out the raw materials suppliers, categories, the form of ingredients (powder/extract), price and HALAL status by using excel • Compile all the raw materials that have been sorted out using excel
<p>Week 15 (28/6/21 – 3/7/21)</p>	<ul style="list-style-type: none"> • Creating posters related to raw materials for produce a healthy food product such as Arabic gum, strawberry and many more • Learning about the bottle sample for every food product produce must be in accordance with its specification • Create poster related to food safety • Gain knowledge about scoop used in food products and suitable scoop must be according to its food weight

<p>Week 16 (5/7/21 – 10/7/21)</p>	<ul style="list-style-type: none"> • Watch videos related to HALAL & GMP to gain more knowledge about these topics • Create posters related to HALAL & GMP topics • Study about labelling process such as the importance of the expired date, no batch and ingredients used in the food products • Learning about the whole process of the manufacturing process flow starting from raw materials, mixing process, R&D, filling process, labelling process and packaging process
<p>Week 17 (12/7/21 – 15/7/21)</p>	<ul style="list-style-type: none"> • Study about the raw materials used to create healthy food products such as using fruits, vegetables or spices • Create infographic about the benefits of the raw materials • Study about the importance of food handler training as to prevent unwanted disease such as foodborne illness • Create posting materials about the benefits of raw materials used to produce a healthy food product

2.4 Description of Task Assigned/ Mini Project

2.4.1 Quality Check for Food Products

For this part of the task, I experienced quality checked for every process involved in producing the food product. As for the raw material, I will ensure the raw material received is in a good condition, checked the expired date and the stocks available. For the mixing and filling process, I need to check is there any contamination that occur during the process such as if there any rust on the machine and the equipment used is regularly cleaned or maintenance. R&D is the process where I was able to experience how to QC the taste of the product samples and doing the pH & Brix test for the food product. The position of the label should be in the right position, HALAL logo and expired date are required to be checked during the labelling process so that customer knows about what is their food product content is. As for the sachet product, I need to check the quality of the sachet product such as cutting the excessive foil & eyemark of the sachet must be in the right position then send them to the packaging process. And lastly, the packaging process which I can relate with my product design, I experienced on make sure that the plastics and boxes used is a high quality as it is to ensure the customer received the product in a good condition.



Figure 12. Quality Checking for Sachet Product



Figure 13. Examples of samples

2.4.2 GMP Project Assignment

Good Manufacturing Practise (GMP) is a practise required in order to obey the guidelines suggested by agencies that control the licensing of manufacture. This system is vital for every factory as we need to ensure the product that is consistently produced is controlled according to the quality standards. My supervisor assigned this task to me, where I needed to create the standard operating procedure (SOP) for every process involved in the factory. The timeline for completing this project assignment is about 5 weeks. This is because our company wanted to open another branch to expand their business and bigger demand. I was able to brainstorm with my colleagues on how to do the SOP for the process. The audit checklist related to GMP was also needed to make sure that the supplier, visitor and company follow the regulations that have been made. Creating the SOP for all processes involved in the production site has helped me to increase my knowledge and can apply it in the future.

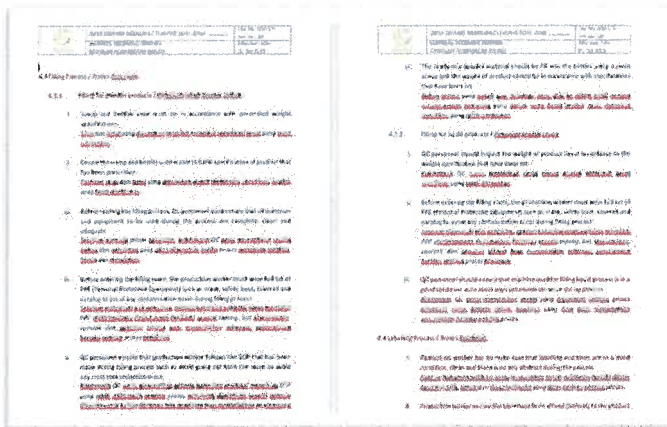


Figure 14. Example SOP for GMP

Figure 15. Example Audit Checklist for Supplier

OEM BRAND MANUFACTURING SDN. BHD. (Private Co)		Site No: 0001/15	
"ALERT! KESEKUTUPAN PERSUPPLIERNYA TERDIRI"		Site No: 001	
Membuat KEMERANGAN/KEBERSIHAN/KEBERSIHAN		Site No: 002	
RUANG 1 : PUSKASIA PASIR			
BAHAGIAN A : KEMERANGAN PASIR			
SEKSI 1 : KEMERANGAN PASIR			
SUB ELEMEN / SUB ELEMEN	BAHAGIAN / KEMERANGAN PASIR (SUB ELEMEN)	Keadaan / Kebersihan (Ya / Tidak)	Nilai Penilaian / Skor
1.1 Kebersihan / Kebersihan	1.1.1. Is the location of the premises suitable for processing activities and easy from the noise of pollution? If not, is there any explanation? Adakah lokasi premis sesuai bagi aktiviti pemrosesan dan jauh daripada pencemaran? Jika tidak, adakah penjelasan yang sesuai?		
1.2 Pemilik & Bekerja	1.2.1. Is there any person in charge? Adakah terdapat orang dalam charge? 1.2.2. Is there any person in charge? Adakah terdapat orang dalam charge? 1.2.3. Is there any person in charge? Adakah terdapat orang dalam charge? 1.2.4. Is there any person in charge? Adakah terdapat orang dalam charge? 1.2.5. Is there any person in charge? Adakah terdapat orang dalam charge?		
1.3 Kebersihan / Kebersihan	1.3.1. Is there any person in charge? Adakah terdapat orang dalam charge? 1.3.2. Is there any person in charge? Adakah terdapat orang dalam charge? 1.3.3. Is there any person in charge? Adakah terdapat orang dalam charge? 1.3.4. Is there any person in charge? Adakah terdapat orang dalam charge? 1.3.5. Is there any person in charge? Adakah terdapat orang dalam charge?		
1.4 Kebersihan / Kebersihan	1.4.1. Is there any person in charge? Adakah terdapat orang dalam charge? 1.4.2. Is there any person in charge? Adakah terdapat orang dalam charge? 1.4.3. Is there any person in charge? Adakah terdapat orang dalam charge? 1.4.4. Is there any person in charge? Adakah terdapat orang dalam charge? 1.4.5. Is there any person in charge? Adakah terdapat orang dalam charge?		
1.5 Kebersihan / Kebersihan	1.5.1. Is there any person in charge? Adakah terdapat orang dalam charge? 1.5.2. Is there any person in charge? Adakah terdapat orang dalam charge? 1.5.3. Is there any person in charge? Adakah terdapat orang dalam charge? 1.5.4. Is there any person in charge? Adakah terdapat orang dalam charge? 1.5.5. Is there any person in charge? Adakah terdapat orang dalam charge?		

3.0 CONCLUSION & RECOMMENDATIONS

In conclusion, the experiences that I get from my internship at OEM Brand Manufacturing Sdn. Bhd. will not be forgotten as it give me the best picture of what the working environment will be. I learned that we need to always have good time management and manage our supervisor expectations at work. I also learned on how the overall process flow of the manufacturing process runs starting with raw material, mixing process, R&D, filling process, labelling process and packaging process. This can improve my knowledge on how to produce food products. All of the processes are vital in the manufacturing process as to produce a high quality product, we have to give our all out so that we can gain trust from the customers. The help from my colleague from the day I started my internship there also will not be forgotten. They always guide and help me if theres any circumstance that I faced without a doubt. My supervisor was also very helpful and asked if I am okay with the tasks given. Everyone has their own role in the organization and working together will make work become easier and faster to be completed. This is because everyone gave the best cooperation and help each other every day. In a nutshell, I hope that I able to practise of what I have learned during my internship training and apply it when I work in the future.

As for the recommendations, the organization of the company need to assign the suitable task according to courses and knowledge of the student so that they can be train and experience more in their field in facing the challenging work in future. The factory should also upgrad the production site by having more automatic machine that can minimize the workload and ensure the process runs smoothly and efficiently. Because of fewer automatic machines, they also need to add more manpower so that the deadline for customers orders can be achieved.