

INDUSTRIAL PRACTICE REPORT
IN PT. X



BY :

EVA BELLA CHINTYA

NPM : 16 14 09038

INTERNATIONAL INDUSTRIAL ENGINEERING PROGRAM

FACULTY OF INDUSTRIAL TECHNOLOGY

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AUTHENTICATION PAGE

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The Industrial Practice Report carried out at PT Suri Tani Pemuka from 1st July 2019 to 2nd August 2019 was compiled by:

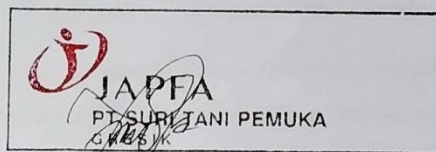
Name : Eva Bella Chintya
NPM : 16 14 09038
Study Program : International Industrial Engineering
Program Faculty : Industrial Technology

Have been examined and approved by the field supervisor and Industrial Practice lecture.

Gresik, 2nd August 2019

Field Supervisor

Industrial Practice Lecture



Fondra Dwi Damawan

A handwritten signature in black ink, consisting of several fluid, connected strokes.

Ririn Diar Astanti, S.T., M.MT., Dr. Eng

INTERNSHIP CERTIFICATE



PT. SURI TANI PEMUKA
Jl. Raya Manyar, Kelurahan Manyarejo, Kecamatan Manyar, Gresik 61151
Tel : 031 - 2931678, Fax. 031 - 2931679

SURAT KETERANGAN
No. : 331/PGA-159/ATW/VIII/2019

Yang bertanda tangan dibawah ini :

Nama : Agus Tri Wahyudi
Jabatan : P&GA Manager
Perusahaan : PT. Suri Tani Pemuka
Alamat : Jalan Manyar KM. 10,5 Gresik

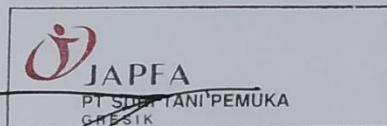
Menerangkan bahwa :

Nama : Eva Bella Chintya
NIM : 161409038
Institusi Pendidikan : Program Studi Teknik Industri, Universitas Atma Jaya Yogyakarta.

Bahwa yang bersangkutan telah melaksanakan praktek kerja lapangan dari tanggal 01 Juli 2019 sampai dengan 02 Agustus 2019 dan telah selesai melaksanakan semua tugas-tugas yang menjadi tanggung jawab yang bersangkutan.

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Gresik, 02 Agustus 2019.



Agus Tri Wahyudi
P&GA Manager



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Praise the God for His Guidance that the writer can complete and finish the industrial practice report in PT. X conducted from July 1st 2019 until August 2nd 2019.

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These few details lead the writer to realize that, like all human endeavours, this report is not perfect and may contain errors and shortcomings. Thus, the author remains to open to all criticisms and suggestions which could present the author with new sources of inspiration as the writer develops in her ability to research and learn.

Gresik, August 1st 2019

The Writer

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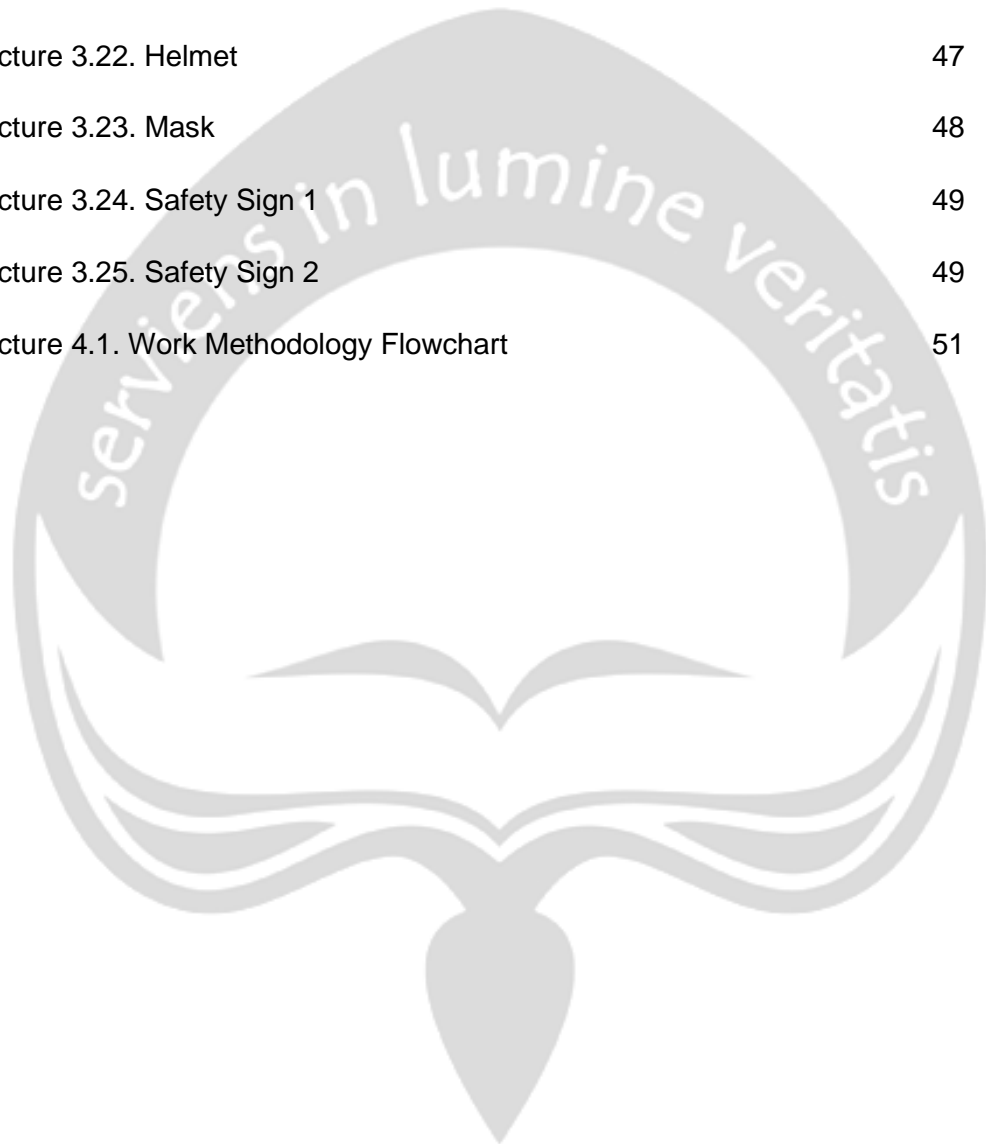
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CHAPTER 1

INTRODUCTION

1.1. Background of Internship

The Industrial Engineering Study Program, Faculty of Industrial Technology, Atma Jaya Yogyakarta University (PSTI UAJY) requires all students to carry out internship in accordance with the Curriculum at PSTI UAJY. PSTI UAJY views internship as a media or means for students to recognize the atmosphere in the industry as well as grow, improve, and develop a professional work ethic as a candidate for a Bachelor of Industrial Engineering.

Internship can be said as an arena for professional simulation of Industrial Engineering students. The paradigm that must be instilled is that during internship students work in the company they choose. Work, in this case includes the activities of planning, designing, repairing, implementing and resolving problems.

Therefore, in internship the activities carried out by students are:

1. Recognizing the scope of the company.
2. Follow the work process in the company continuously.
3. Doing and working on assignments given by superiors, supervisors, or field supervisors.
4. Observing system behavior.
5. Prepare reports in written form.
6. Carry out internship examination.

1.2. Objective of Internship

The things that should be achieved through implementing this internship are:

1. Train discipline.
2. Train the ability to interact with subordinates, colleagues, and superiors in the company.
3. Train the ability to adapt to the work environment.
4. Observe directly the activities of the company in producing and running a business.
5. Completing the theory obtained in lectures with existing practices in the company.
6. Add insight into production systems and business system.

1.3. Internship Location and Schedule

This internship was carried out starting on July 1, 2019 until August 2, 2019 at PT.X, Jawa Timur 61151. The internship will then be followed by the preparation of internship reports and assessment and internship exams. The internship takes place in the area of production sub-department.



CHAPTER 2

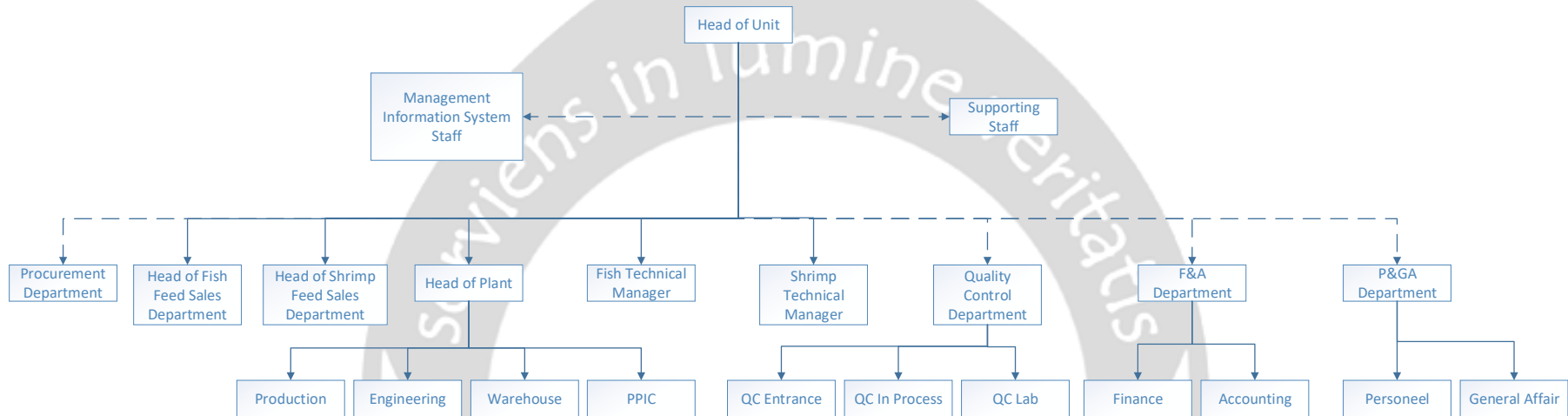
COMPANY BACKGROUND

2.1. Company Profile

PT.X Group was established on January 18th, 1971 with the previous name of PT. Java Pelletizing Factory, Ltd. On August 31st, 1989, PT.X Group obtained a declaration from Bapepam-LK to run the company. The company is headquartered at Jakarta. PT. X Group has branches located in Sidoarjo-East Java, Tangerang-Banten, Cirebon-West Java, Makassar-South Sulawesi, Lampung, Padang-West Sumatra and Bati-bati-South Kalimantan. PT.X started its business in 1987 in Sidoarjo, but then it's relocated in Gresik in 2012.

2.2. Organizational Structure

Organizational structure of PT.X determines role, responsibilities, and power of each position. In this section, organizational structure and list of departments are described in detail.



Picture 2.1. Organizational Structure

As shown in the picture 2.1, Head of Unit is the head of PT. X in Gresik. There are Management Information System Staff and Supporting Staff to support Head of Unit. Management Information System Staff is responsible to do customer mapping and analyzing national market share. Supporting staffs support the entire operational department. They provide direct information from operational department to Head of Unit. Below Head of Unit, there are Procurement Department, Fish Feed Sales Department, Shrimp Feed Sales Department, Plant, Fish Technical Manager, Shrimp Technical Manager, Quality Control Department, F&A Department and P&GA Department.

2.2.1. List of Departments

A. Procurement Department

Procurement Department purchases raw materials to produce shrimp feed and fish feed. Before purchasing raw materials, this department receives RF (Requesting Form) document from PPIC. Requesting Form is a formula of a product. That formula consists of raw material and its weight to produce a product. Procurement department collects data of suppliers in order to compare raw materials' cost and quality from each supplier. Procurement department also analyze seasonal corn harvest to have a stock with low price.

B. Fish Feed Sales Department

Fish Feed Sales Department serves customer and records demand data of fish feed. This department is responsible to give demand data to PPIC, so PPIC could create a production schedule. If PT.X is out of stock, fish feed sales department tells the customer when the product is available.

C. Shrimp Feed Sales Department

Shrimp Feed Sales Department serves customer and records demand data of fish feed. This department is responsible to give demand data to PPIC, so PPIC could create a production schedule. If PT.X is out of stock, fish feed sales department tells the customer when the product is available.

D. Fish Feed Technical Sales & Service

This department conducts research and design related with floating feed and fish feed. This department conducts fish experiment in order to know how long they grow up and what nutrition could grow them up faster. this department also figures out fish diseases and how to prevent it.

E. Shrimp Feed Technical Sales & Service

This department conducts research and design related with shrimp feed. This department conducts shrimp experiment in order to know how long they grow up and what nutrition could grow them up faster. this department also figures out shrimp diseases and how to prevent it.

F. Plant

Plant is an area of manufacturing process. This department consists of four sub-departments, there are Production, Engineering, Warehouse and PPIC.

a. Production



Picture 2.2. Production Sub-Department

Production sub-department turns raw materials into finished products through series of processes. This sub-department is controlled by head of production. He is responsible to make sure that the production process run well. He receives report from supervisors of each shifts. He also watches production process directly in the field. This sub-department is strongly connected with QC-in process sub-department because QC-in process checks work-in-process product. QC-in process also takes place inside production sub-department.

b. Engineering



Picture 2.3. Engineering Sub-Department

Engineering is a sub-department with responsibility area of machine maintenance and waste disposal. Engineering staffs check production machines every shift and repair broken machine. They also make sure that the water quality of waste disposal meets effluent standard and stream standard.

c. Warehouse



Picture 2.4. Warehouse Sub-Department

Warehouse sub-department keeps raw materials and finished products. The main problem in warehouse is fleas. Fleas absorb nutrition of materials and products. Preventive action to avoid fleas are fogging, gassing, and spraying.

d. PPIC (Production Planning and Inventory Control)

PPIC sub-department creates production schedule and materials planning using a software. Production schedule is created based on demand data from sales, while materials planning is from formulator. PPIC staffs send those documents to production sub-department to start production process. They also send raw materials planning to warehouse sub-department to prepare raw materials needed. If raw material is out of stock, PPIC staffs send RF (Requesting Form) to procurement department to purchase raw materials. To prevent out of stock, PPIC adds extra 20% products from total production.

G. Quality Control Department

Quality Control department controls the quality of raw material, work-in-process product and finished product. There are three sub-departments of Quality Control, they are QC-entrance, QC-in process, and QC-lab.

a. QC-Entrance



Picture 2.5. QC-Entrance Sub-Department

Quality Control-Entrance checks raw materials come from supplier. In PT.X, QC-entrance is located on entrance line. When supplier's truck

comes with raw material, QC-entrance directly checks its quality such as nutritional content and moist.

b. QC-In Process



Picture 2.6. QC-In Process Sub-Department

Quality Control-In Process checks work-in-process product. In PT.X, QC-In Process is located inside production sub-department to ease the staffs in checking work-in-process product. QC-in process is also located in bagging area to make sure that the finished product meets quality standard.

c. QC-Lab

Quality Control-Lab checks finished product by taking sample. QC-lab staffs check product's nutritional content, moist, and size. A failure in this sub-department affects the entire company since product quality is customer's main concern to buy a feed product.

H. F&A Department

F&A Department (Finance and Accounting Department) is a department which consists of F&A Department consist of Finance Department and Accounting Department.

a. Finance Department

Finance department has function of planning, controlling, organizing and auditing PT. X's finances. PT.X's workers use SAP as information system to keep financial data updated and managed in all department.

b. Accounting Department

Accounting department records cash flow and makes a report of transaction. PT.X's workers use SAP application to control PT.X's accounting business, such as account receivable, account payable, and payroll.

I. P&GA Department

P&GA Department (Personalia and General Affairs Department) is a department with responsibility area of employee problem, employee recruitment and conducting training activity. This department also helps to improve PT.X employees' personal and organizational skill and abilities.

2.3. Management of the Company

2.3.1. Vision

PT.X's vision is to become a superior and beneficial aquafeed industry continuously for commonweal and for company's growth.

2.3.2. Mission

Missions of PT. X are written declarations of purpose and focus to reach the goal and remain unchanged. PT. X's missions are as listed belows:

- Increase capability to compete by concerning more in quality, efficiency, developing technology, and human resource in continuous way.
- Reach market share of PI (Pakan Ikan) or Fish Sinking Feed and PA (Pakan Apung) or Fish Floating Feed dominantly in order to become market leader and reach top three of market share of PU (Pakan Udang) or Shrimp Sinking Feed.
- Create continuous advantages between company, colleague, and environment by managing company by regulation.

2.3.3. Employment

A. Number of Employee

Total number of employees in PT.X are 286 employees.

B. Working Hour

Working hour in PT.X is shown in the table 2.1. There are differences of working hour between administration and production. In administration, there is only one shift, but in production, there are three shifts because production process doesn't stop.

Table 2.1. Working Day

Part	Day	Shift	Working Hour
Administration	Monday – Friday	1	08.00 – 17.00
- Production - Security	Monday - Sunday	1	07.00 – 15.00
		2	15.00 – 23.00
		3	23.00 – 07.00

2.3.4. Quality Policy

PT. X Aquafeed Unit quality policies are:

- Provide high quality of feed and give continuous benefit for all important parties.
- Become a feed company with dominant market share of PI (Pakan Ikan) or Fish Feed, PA (Pakan Apung) or Floating Feed and top three market share of PU (Pakan Udang) or Shrimp Feed.

All the employees and management committing to implement “Quality Management System ISO 9001:2015” consistently and responsibly according to applicable constitution regulations, by prioritizing quality through improving working system and human resource quality continuously.



Picture 2.7. ISO Certificate Granted to PT. X

2.3.5. Marketing

PT.X supplies the product to all customer in East Java area, a half in Center Java area, and all customer in Kalimantan area. The rest half in Center Java is supplied by other company unit of PT.X Group.

2.3.6. Facility

Facility is a place or equipment provided by company to support its employees in fulfilling their needs and developing their personality. Those facilities are:

A. Office

This office facilitates employees who work using computer. Each department has its own offices, even in production sub-department. Offices in plant department and QC department are used by managers, but office in other departments (marketing, sales, F&A, P&GA) is used by all the employees.

B. Warehouse

This warehouse is provided to keep the raw materials and finished products.

C. Safety Equipment

PT.X provides helmet and mask for all employees in plant department area. Helmet protects employee's head, while mask prevents human respiration disease caused by smooth flour.

D. Kitchen

PT.X provides kitchen to cook and make drink. The staffs who work in the kitchen makes tea or coffee for all employees in offices.

E. Musholla

Musholla is provided by PT.X to facilitate moslem employees to pray together.

F. Cooperation

PT.X provides cooperation to facilitate employees and guests to have lunch. Cooperation also sells merchandise of PT.X.

G. Vehicles

Vehicles are owned by PT.X but provided for those selected employees with certain position.

H. Bus

Bus is also provided by PT.X to take employees from Sidoarjo to PT.X in Gresik. This bus is provided because former company of PT.X is located in Sidoarjo but then it's relocated in Gresik. This bus will take employees from Sidoarjo at 06.30 morning to PT.X in Gresik. This bus will take employees from Gresik to Sidoarjo at 17.00 o'clock.

I. Meeting Room

Meeting room is provided to conduct a meeting or discuss things together. This meeting room could be used by all employees.

J. Training Center

PT.X provides training center to conduct a training for new employees and to develop employees' personalities.

K. Fotocopy Center

This facility is used to print and copy file so the employees don't need to go outside PT. X.

L. Presence Machine

Presence machine is supposed to ease the employees by using fingerprint sensor. This machine records their presence every day, so they don't need to sign a paper to record their presence.

M. CCTV

CCTV in PT.X records every activities of people inside the company. In production sub-department, CCTV is directly connected to head of production's phone, so the head of production can still supervise them every time.

N. Trash Bin

Trash bin is used to collect garbage and to prevent garbage littered everywhere.

O. Smoking Area

Smoking area is used by those employees who want to smoke. This is purposed to prevent random places littered by smoke.

P. Parking Area

Parking area in PT.X is provided for employees who come to the company by car or motorcycle.

Q. Locker

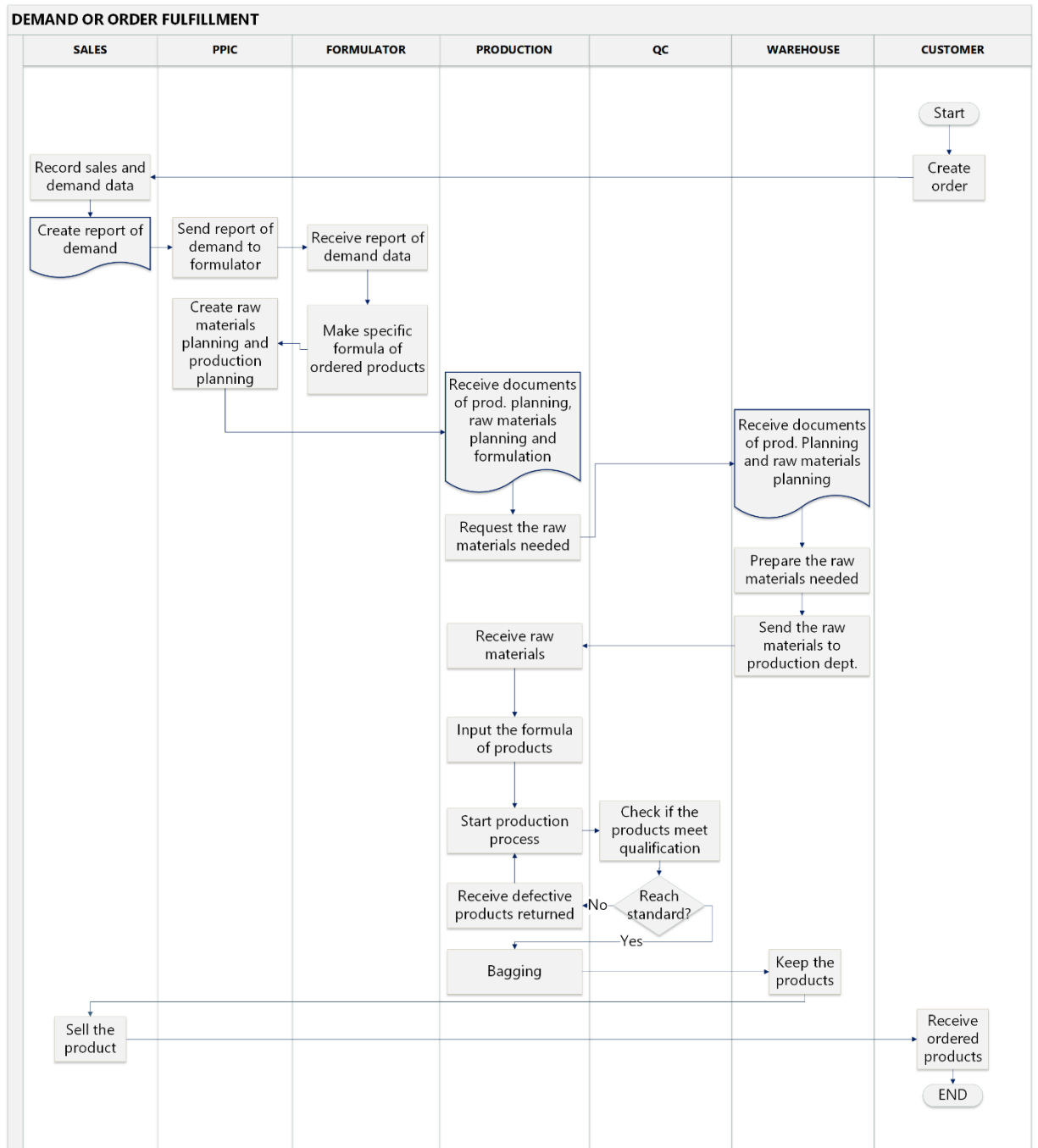
Locker in PT.X stores clothes and other personal items of employees who work in plant and QC department.

R. Drinking Water

This facility is to provide water for employees whenever they need to drink.

CHAPTER 3 COMPANY SYSTEM

3.1. Business Process of the Company



Picture 3.1. Business Process

Picture 3.1 is an order fulfillment business process. This involves Sales (Fish Feed Sales or Shrimp Feed Sales), PPIC (Production Process and Inventory Control),

Formulator, Production, QC (Quality Control), Warehouse, and Customer. The order fulfillment business process starts from the customer. The customer orders product from PT.X through sales sub-department (could be Fish Feed or Shrimp Feed).

After that, sales staffs record the order and list the demand. They make a report of products and order quantity, then send it to formulators who are responsible to make formula of product ordered. This formula consists of raw materials needed and their weight. Formulators then send it to PPIC to create production planning and raw materials planning.

Production schedule and raw materials planning are sent to production sub-department. To start production process, production staffs request raw materials to warehouse. They send documents of production planning and raw material planning to warehouse staff. The warehouse staff prepares raw materials and send them to production sub-department.

After production sub-department receives raw materials, this sub-department prepares machine and formula. The panel control operators in production sub-department input formula in machine to measure weight of raw materials.

After going through several processes, work-in-process products is checked by QC (Quality Control). The work-in-process products that meet quality standard is continued to the next process. When finished products are ready to be packed, QC staff takes sample of finished products to check if the products meet final standard or not. If they find defects, the products are returned to production sub-department to be re-processed.

If there is no defect in the sample, the products are sent to bagging process in production sub-department. After the products are packed in sacks, warehouse staffs put and keep them in warehouse. In the day of delivery, sales department staffs create DO (Delivery Order) to order third party to deliver finished products to the customer.

3.2. Products

Product of PT.X is divided by three products, there are Fish Feed, Floating Feed and Shrimp Feed. Each of products is classified based on its diameter. The diameter is set to adjust the size of the fish. The products are listed in table 3.1.

Table 3.1. List of Product

Diameter	Floating Feed	Fish Sinking Feed	Shrimp Sinking Feed
1 mm	SPLA12 - 1	PI SPR - 1	-
	INOVA - 1	-	-
1.2 mm	-	-	PV1P
	-	-	SGH2-1P
1.4 mm	-	-	PV2
	-	-	SGH2
1.6 mm	-	-	PV2P1
	-	-	SGH2P1
1.8 mm	-	-	PV2P2
	-	-	SGH2P2
2 mm	SPLA12-2	PI SPR 2	-
	LA12BR-2	PI COMFEED 2	-
	INOVA-2	PI MG2 – 2	-
	NGA10-2	PI SUPRA NP – 2	-
	BA6-2	-	-
	MITSP30-2	-	-
	LA7K-2	-	-
2.2 mm (Crumble)	-	-	PVO SPR
	-	-	PV1
	-	-	PVO
	-	-	DO SPR
	-	-	DO
	-	-	DI
3 mm	SPLA 12	PI SPR-3	-
	LA12BR	PI COMFEED-3	-
	NGA	PI MG2-3	-
	BA6	PI MG3-3	-
	MITSP30	PI SUPRA NP-3	-
	LA7K	PI SPM4-3	-
	-	PI RNMI-3	-
4 mm	-	PI SPR-4	-
	-	PI COMFEED-4	-
	-	PI SUPRA NP-4	-
	-	PI RNMI-4	-
5 mm	NGA-5	-	-
	SPLA12-5	-	-

A. Shrimp Feed

There are many kinds of shrimp feed produced by PT.X. Shrimp feed is distinguished based on composition, quality and nutritional content. The product characteristic of shrimp feed is sinking. The pictures of each product are shown in the table 3.2.

Table 3.2. List of Shrimp Feed

Picture	Product Details
	<p>Shrimp Starter PV1</p> <p>Crumble</p> <p>11-20 days</p> <p>Supports organ development</p> <p>Efficient nutrient utilization</p> <p>Enhanced immune system</p>
	<p>Shrimp Starter Diet D0</p> <p>Fine Crumble</p> <p>1-10 days</p> <p>Excellent Quality</p> <p>Optimum organ development</p> <p>Optimum digestibility</p> <p>Enhanced immune system</p>
	<p>Shrimp Starter Diet D1</p> <p>Crumble</p> <p>11-20 days</p> <p>Excellent Quality</p> <p>Optimum organ development</p> <p>Optimum nutrient utilization</p> <p>Enhanced immune system</p>

Table 3.2. List of Shrimp Feed (Continued)





Picture	Product Details
	<p>Shrimp Grower Diet D2</p> <p>Pellet, sinking</p> <p>21-40 days</p> <p>Excellent Quality</p> <p>Accelerated growth</p> <p>Higher survivability</p> <p>Optimum FCR</p>
	<p>Shrimp Grower Diet D2P1</p> <p>Pellet, sinking</p> <p>41-80 days</p> <p>Excellent Quality</p> <p>Accelerated molting process</p> <p>Reduced mortality</p> <p>Optimum FCR</p>
	<p>Shrimp Grower Diet D3K</p> <p>Pellet, sinking</p> <p>101-120 days</p> <p>Excellent Quality</p> <p>Optimum uniformity</p> <p>Reduced waste output</p> <p>Optimum FCR</p>
	<p>Shrimp Grower Diet D2P2</p> <p>Pellet, sinking</p> <p>81-100 days</p> <p>Excellent Quality</p> <p>Accelerated weight gain</p> <p>Reduced waste output</p> <p>Optimum FCR</p>

Table 3.2. List of Shrimp Feed (Continued)





Picture	Product Details
	<p>Shrimp Starter PV0</p> <p>Fine crumble</p> <p>1-10 days</p> <p>High Quality</p> <p>Supports organ development</p> <p>Good digestibility</p> <p>Enhanced immune system</p>
	<p>Shrimp Grower PV2</p> <p>Pellet, sinking</p> <p>21-40 days</p> <p>High Quality</p> <p>Reliable growth rate</p> <p>Enhanced survivability</p> <p>Good FCR</p>
	<p>Shrimp Grower PV2P1</p> <p>Pellet, sinking</p> <p>41-80 days</p> <p>High Quality</p> <p>Facilitates molting process</p> <p>Reduced mortality</p> <p>Good FCR</p>
	<p>Shrimp Grower PV2P2</p> <p>Pellet, sinking</p> <p>81-100 days</p> <p>High Quality</p> <p>Promotes weight gain</p> <p>Reduced waste output</p> <p>Good FCR</p>

Table 3.2. List of Shrimp Feed (Continued)

Picture	Product Details
	<p>Shrimp Grower PV3K</p> <p>Pellet, sinking</p> <p>101-120 days</p> <p>High Quality</p> <p>Good uniformity</p> <p>Reduced waste output</p> <p>Good FCR</p>
	<p>Shrimp Grower SGH2</p> <p>Pellet, sinking</p> <p>1-30 days</p> <p>1.6 x 1.8 - 2.0 mm</p> <p>Supports digestive system</p> <p>Consistent FCR</p>
	<p>Shrimp Grower SGH2P1</p> <p>Pellet, sinking</p> <p>31-60 days</p> <p>1.8 x 2.2 - 2.7mm</p> <p>Supports consistent weight gain</p> <p>Consistent FCR</p>
	<p>Shrimp Grower SGH2P2</p> <p>Pellet, sinking</p> <p>61-90 days</p> <p>1.8 x 2.2 - 2.7mm</p> <p>Promotes uniformity</p> <p>Consistent FCR</p>

Table 3.2. List of Shrimp Feed (Continued)

Picture	Product Details
	<p>Shrimp Grower SGH3K</p> <p>Pellet, sinking</p> <p>91 - 120 days</p> <p>2.0 x 2.5- 3.0mm</p> <p>Promotes uniformity</p> <p>Consistent FCR</p>

B. Floating Feed

There are many kinds of floating feed produced by PT.X. floating feed is distinguished based on composition, quality and nutritional content. The product characteristic of floating feed is floating. The pictures of each product are shown in the table 3.3.

Table 3.3. List of Floating Feed




Picture	Product Details
	<p>Fish Starter Gold A</p> <p>Pellet, floating</p> <p>16-45 days</p> <p>Excellent quality</p> <p>Optimum organ development</p> <p>Optimum digestibility</p> <p>Enhanced immune system</p>
	<p>Fish Grower PA Super</p> <p>Pellet, floating</p> <p>46 days until harvest</p> <p>For all freshwater fish</p> <p>Optimum weight gain</p> <p>Optimum survivability</p> <p>Optimum uniformity</p> <p>Best for raceway farming</p>

Table 3.3. List of Floating Feed (Continued)

Picture	Product Details
	<p>Fish Grower NGA10</p> <p>Pellet, floating</p> <p>46 days until harvest</p> <p>Ideal for tilapia</p> <p>Optimum weight gain</p> <p>Excellent FCR</p> <p>Optimum survivability</p> <p>Optimum uniformity</p> <p>Reduced waste output</p> <p>Suitable for cage and pond farming</p>
	<p>Fish Grower SPLA12</p> <p>Pellet, floating</p> <p>46 days until harvest</p> <p>Ideal for catfish</p> <p>Optimum weight gain</p> <p>Excellent FCR</p> <p>Optimum survivability</p> <p>Optimum uniformity</p> <p>Suitable for earth pond farming</p>
	<p>Fish Grower LA7K</p> <p>Pellet, floating</p> <p>46 days until harvest</p> <p>For catfish</p> <p>Supports weight gain</p> <p>Good FCR</p> <p>Suitable for all farming systems</p>

Table 3.3. List of Floating Feed (Continued)

Picture	Product Details
	<p>Fish Grower BA6</p> <p>Pellet, floating</p> <p>46 days until harvest</p> <p>Specific for milkfish</p> <p>Optimum weight gain</p> <p>Excellent FCR</p> <p>Excellent meat quality</p>

C. Fish Feed

There are many kinds of fish feed produced by PT.X. Fish feed is distinguished based on composition, quality and nutritional content. The product characteristic of fish feed is sinking. The pictures of each product are shown in the table 3.4.

Table 3.4. List of Fish Feed


Picture	Product Details
	<p>Fish Grower PI Comfeed</p> <p>Pellet, sinking</p> <p>46 days until harvest</p> <p>Ideal for carp</p> <p>Accelerated weight gain</p> <p>Good FCR</p> <p>Good survivability</p> <p>Suitable for raceway and cage farming</p>

Table 3.4. List of Fish Feed (Continued)

Picture	Product Details
	<p>Fish Grower MG2</p> <p>Pellet, sinking</p> <p>46 days until harvest</p> <p>For tilapia and carp</p> <p>Accelerated weight gain</p> <p>Good FCR</p> <p>High survival rate</p> <p>Good uniformity</p> <p>Suitable for cage and pond farming</p>
	<p>Fish Grower PI Super</p> <p>Pellet, sinking</p> <p>46 days until harvest</p> <p>Specific for carp</p>
	<p>Fish Grower SMP4</p> <p>Pellet, sinking</p> <p>46 days until harvest</p> <p>Specific for pangasius</p> <p>Optimum weight gain</p> <p>Excellent FCR</p> <p>Optimum survivability</p>

3.3. Production Process

Production process is turning raw materials into finished products. There are many raw materials used by PT. X to produce feed, such as vegetable raw material, animal raw material, vitamin and oil. There are two kind of oil, such as coconut oil and soya oil to be mixed with fish feed and shrimp feed. The vegetable raw

materials are supplied from Brazil, Paraguay and Argentina, meanwhile animal raw materials are supplied from Australia and Italy. The list raw materials are listed in table 3.5.

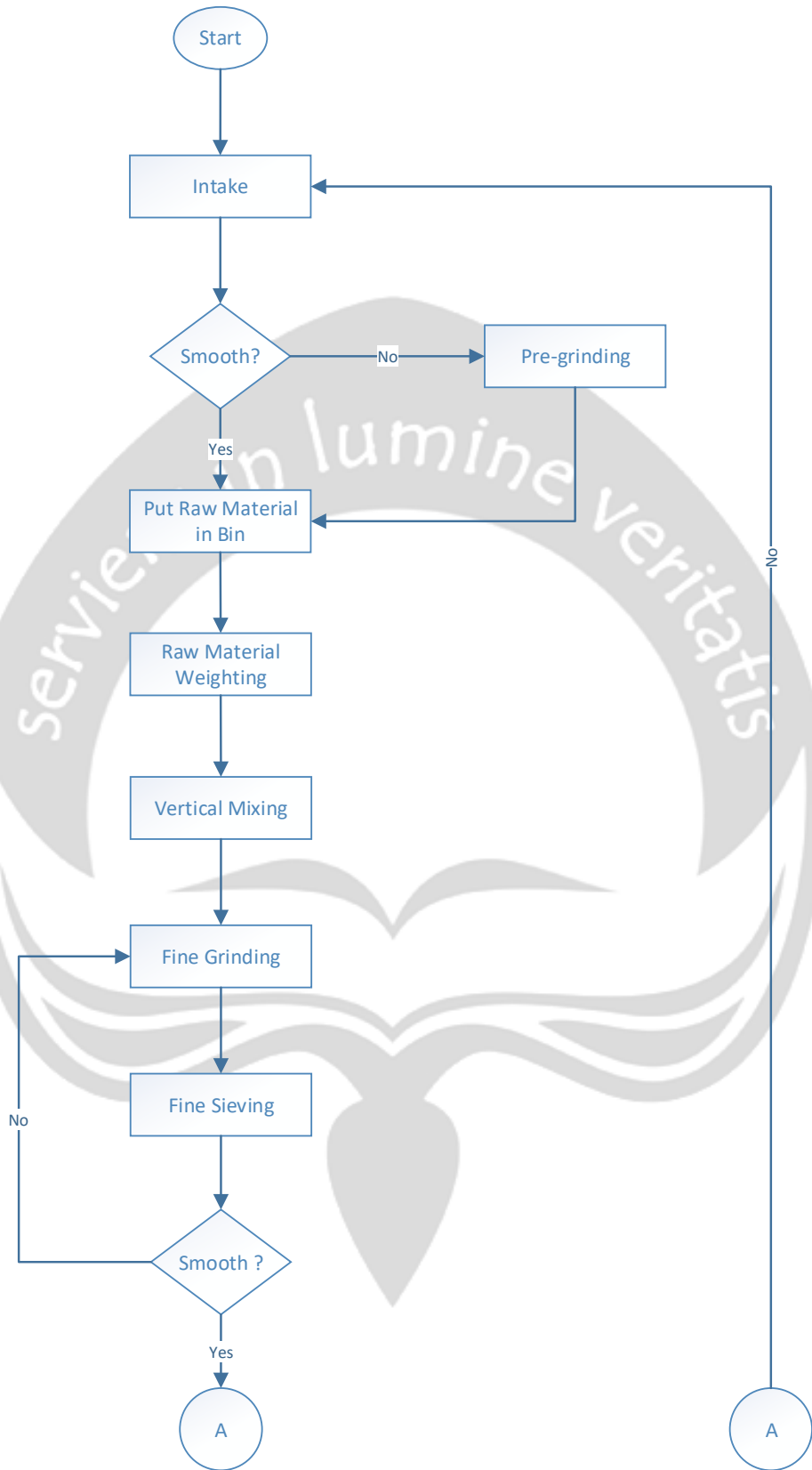
Table 3.5. List of Raw Materials

No.	Raw Material	No.	Raw Material
1	SBM	16	Gaplek
2	CGM	17	Tep. Daun Lamtoro
3	GNM	18	Tep. Batu
4	RSM	19	Biji Batu
5	Canola	20	Tep. Tulang
6	Copra Chips	21	Tep. Kerang
7	MBM	22	DCP
8	PBPM	23	Biofos
9	HCFM	24	Garam
10	FM	25	Fish Oil
11	Jagung	26	CPO
12	Sorghum	27	Palm Olein
13	Wheat Bran	28	Katul
14	Wheat Pollard	29	DDGS
15	Bran Pollard	30	CGF

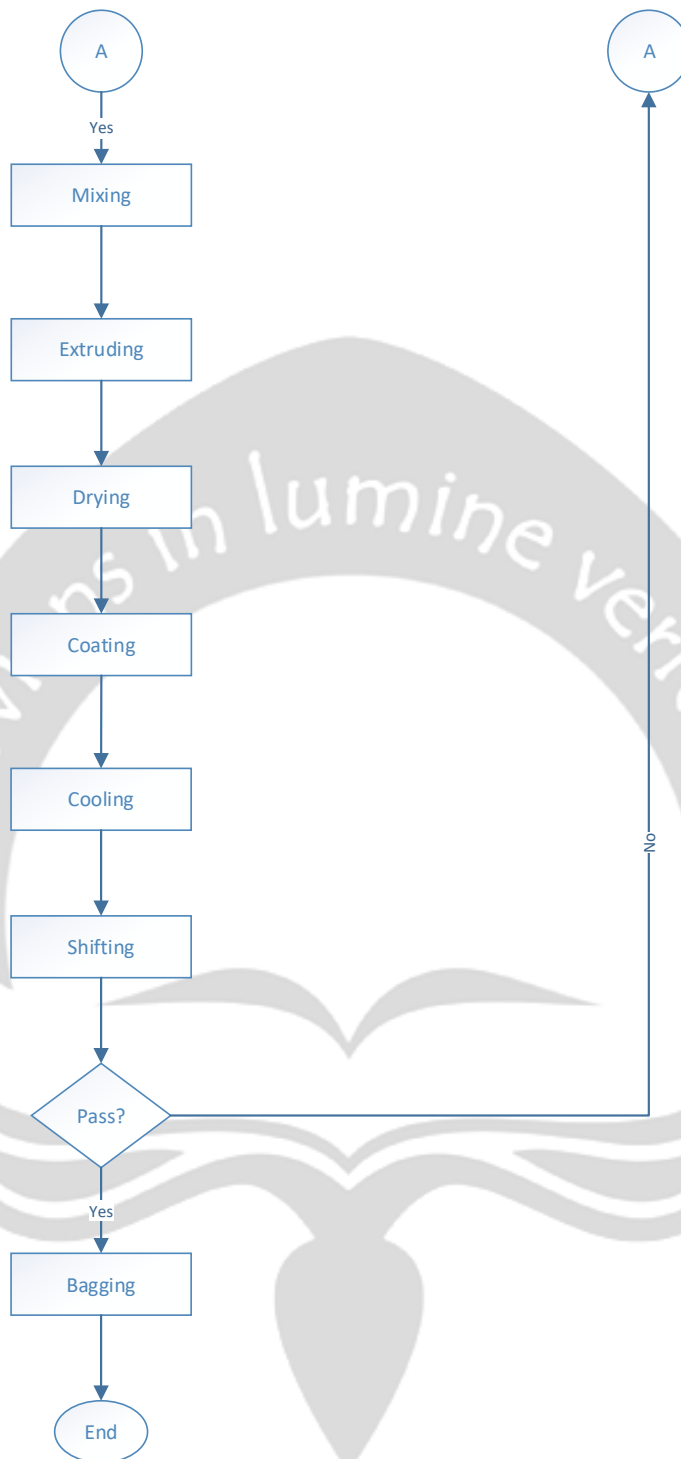
Those raw materials are processed to be many kinds of product. The different composition of them creates different products. There are three kinds of product, there are floating feed, fish feed and shrimp feed. Each of them has different production process.

3.3.1. Floating Feed Production Process

Floating feed is supposed to feed catfish and parrot fish, carp, snapper, and pomfret. The production process of floating feed is shown in the picture 3.2.



Picture 3.2. Floating Feed Production Process



Picture 3.2. Floating Feed Production Process (Continued)

The production process of floating feed starts from intake process. In intake process, the workers take raw materials into machine or bin, it depends on how rough the raw material is. If the raw material is smooth, it will go directly to the bin of raw materials. If it's rough enough to be kept in bin of raw materials, it goes to

pre-grinding machine. Pre-grinding machine turns rough raw materials into smooth one. It takes around 20 minutes to finish. If it's smooth enough, it goes to the bin then.

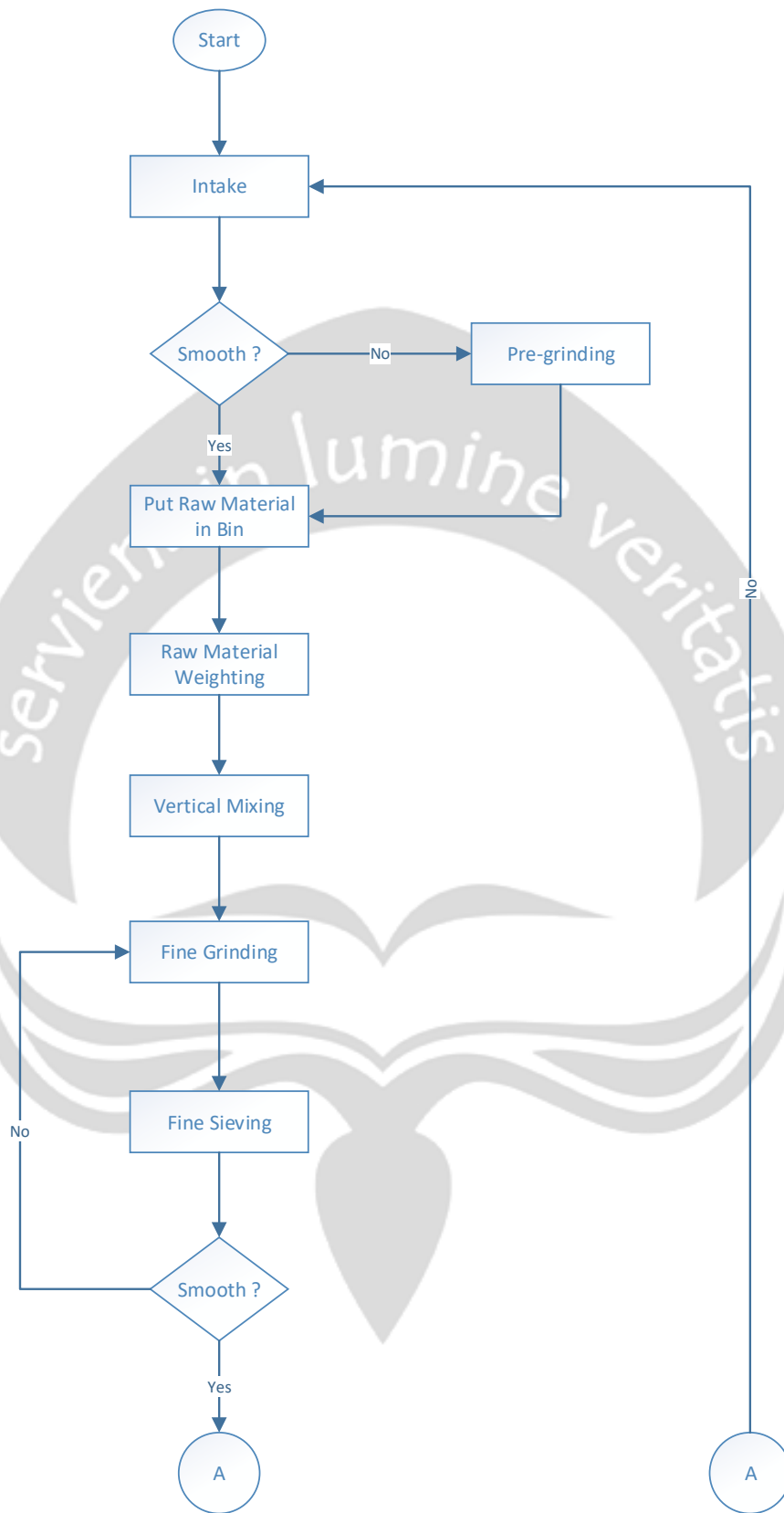
After all raw materials needed are in bin, the panel control operators input the formula of raw materials to the program that connects with balance machine. After panel control operator input formula, raw materials are roughly blended in a vertical mixer for about 30 seconds. They are blended into one homogenous rough mixture. After that, the mixture is processed to the fine grinding machine for 20 minutes to make the mixture become flour that is smoothly blended. After grinding process, it goes to the fine siever to separate rough flour with the smooth one. If the flour is still rough, it is automatically returned to fine grinder, but if it's smooth enough, it goes to the next process.

The smooth blended flour then goes to the mixer and blend it with some vitamins for 12 minutes. Then it goes to extruder machine to make the shape of pellets for 10 minutes. After extruding process, it goes to the dryer machine to make pellets dry and not mushroomed when they are sent to the bagging process. For floating feed, pellets go through coating process to coat pellets with oil. After coating process, it goes to the cooler machine to make it in a normal temperature (around 30°C) to keep it good in bagging process. Then it goes to shifter machine, if the pellets meet standard of size both upper limit and lower limit, the pellets go down for bagging process, but if they don't, they go back to intake process.

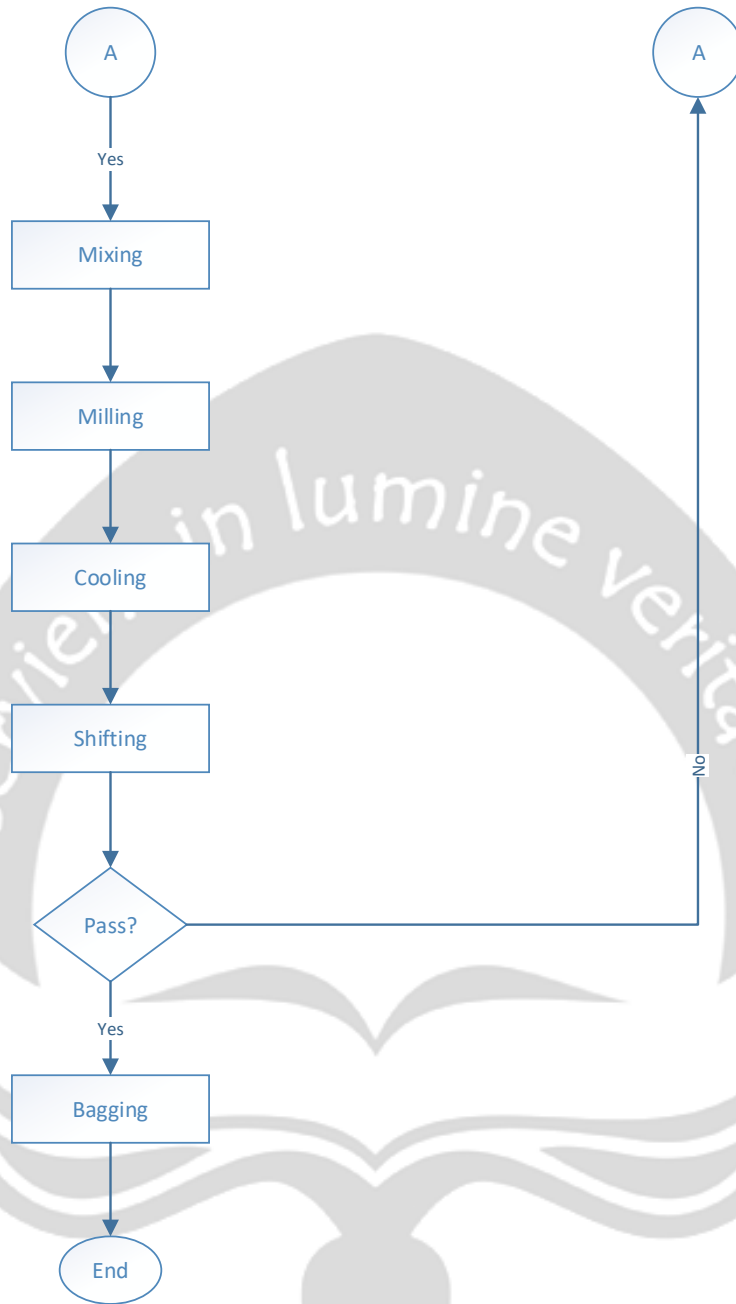
The last process is bagging process. In this process, all the pellets are bagged into prepared sacks. The production workers give a printed composition and nutritional content paper. They saw it with the sack. After that, the finished products are ready to sell.

3.3.2. Fish Feed Production Process

Fish feed is supposed to feed catfish, parrot fish, and carps. The production process of fish feed is shown in the picture 3.3.



Picture 3.3. Fish Feed Production Process



Picture 3.3. Fish Feed Production Process (Continued)

The production process of fish feed starts from intake process. In intake process, the workers take raw materials into machine or bin, it depends on how rough the raw material is. If the raw material is smooth, it will go directly to the bin of raw materials. If it's rough enough to be kept in bin of raw materials, it goes to pre-grinding machine. Pre-grinding machine turns rough raw materials into smooth one. It takes around 20 minutes to finish. If it's smooth enough, it goes to the bin then.

After all raw materials needed are in bin, the panel control operators input the formula of raw materials to the program that connects with balance machine. After panel control operator input formula, raw materials are roughly blended in a vertical mixer for about 30 seconds. They are blended into one homogenous rough mixture. After that, the mixture is processed to the fine grinding machine for 20 minutes to make the mixture become flour that is smoothly blended.

After grinding process, it goes to the fine siever to separate rough flour with the smooth one. If the flour is still rough, it is automatically returned to fine grinder, but if it's smooth enough, it goes to the next process.

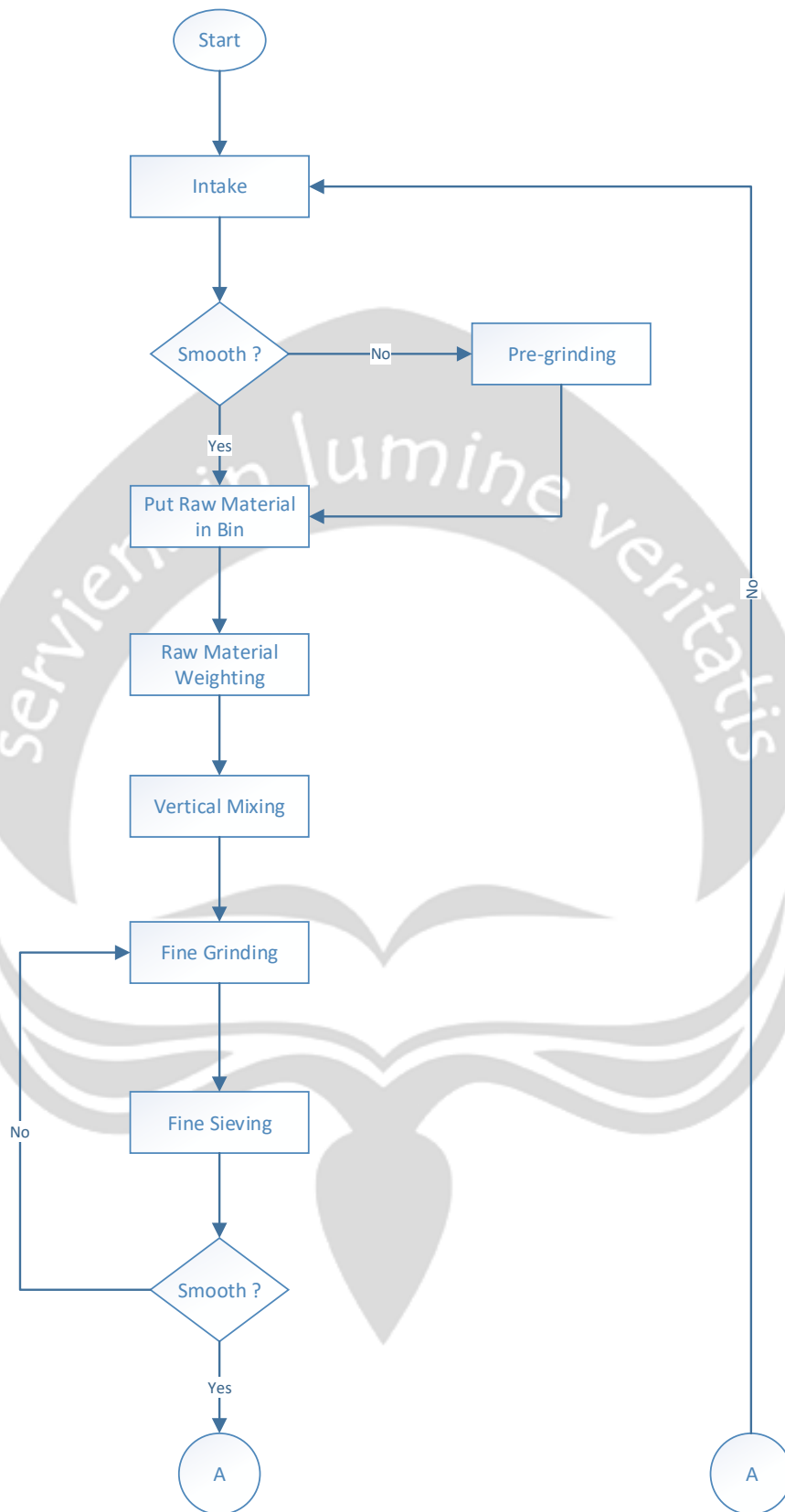
The flour then goes to the mixer machine and blend it with some vitamins, oil and soya for 12 minutes. Then, it goes to pellet mill machine to make the shape of pellets for 15-20 minutes.

After milling process, it goes to the cooler machine to make it in a normal temperature (around 30°C) to keep it safe in bagging process. Then it goes to shifter machine, if the pellets meet standard of size both upper limit and lower limit, they go down for bagging process, but if they don't, they go back to intake process.

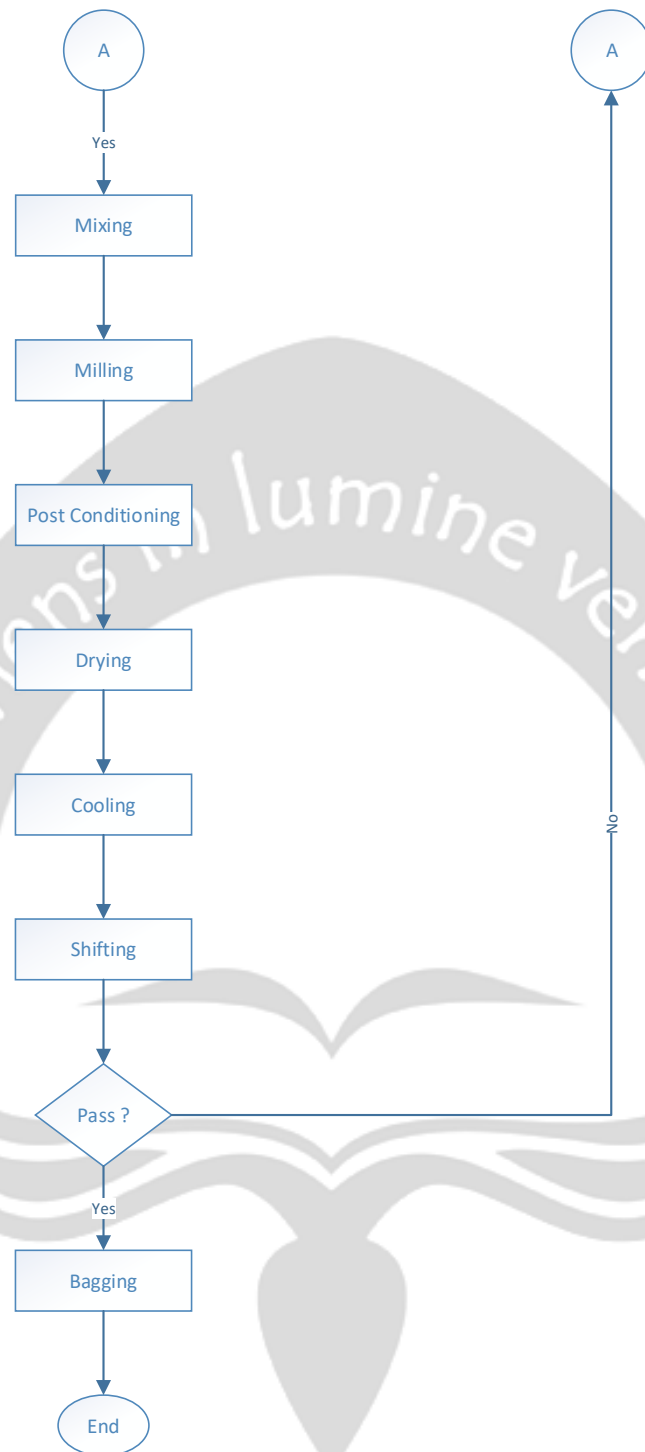
The last process is bagging process. In this process, all the pellets are bagged into prepared sacks. The production workers give a printed composition and nutritional content paper. They saw it with the sack. After that, the finished products are ready to sell.

3.3.3. Shrimp Feed Production Process

Shrimp feed is supposed to feed any kind of shrimp. The production process of shrimp feed is shown in the picture 3.4.



Picture 3.4. Shrimp Feed Production Process



Picture 3.4. Shrimp Feed Production Process (Continued)

The production process of shrimp feed starts from intake process. In intake process, the workers take raw materials into machine or bin, it depends on how rough the raw material is. If the raw material is smooth, it will go directly to the bin of raw materials. If it's rough enough to be kept in bin of raw materials, it goes to pre-grinding machine. Pre-grinding machine turns rough raw materials into smooth

one. It takes around 20 minutes to finish. If it's smooth enough, it goes to the bin then.

After all raw materials needed are in bin, the panel control operators input the formula of raw materials to the program that connects with balance machine. After panel control operator input formula, raw materials are roughly blended in a vertical mixer for about 30 seconds. They are blended into one homogenous rough mixture. After that, the mixture is processed to the fine grinding machine for 20 minutes to make the mixture become flour that is smoothly blended.

After grinding process, it goes to the fine siever to separate rough flour with the smooth one. If the flour is still rough, it is automatically returned to fine grinder, but if it's smooth enough, it goes to the next process.

The flour then goes to the mixer machine and blend it with some vitamins, oil and soya for 12 minutes. Then, it goes to pellet mill machine to make the shape of pellets for 15-20 minutes.

After extruding process, it goes to post conditioner to steam shrimp pellets for about 15-30 minutes. Post conditioning process makes pellets have water stability so it won't be easily broken in the water. After post conditioning process, it goes to dryer machine to turn moist pellets become dry pellets.

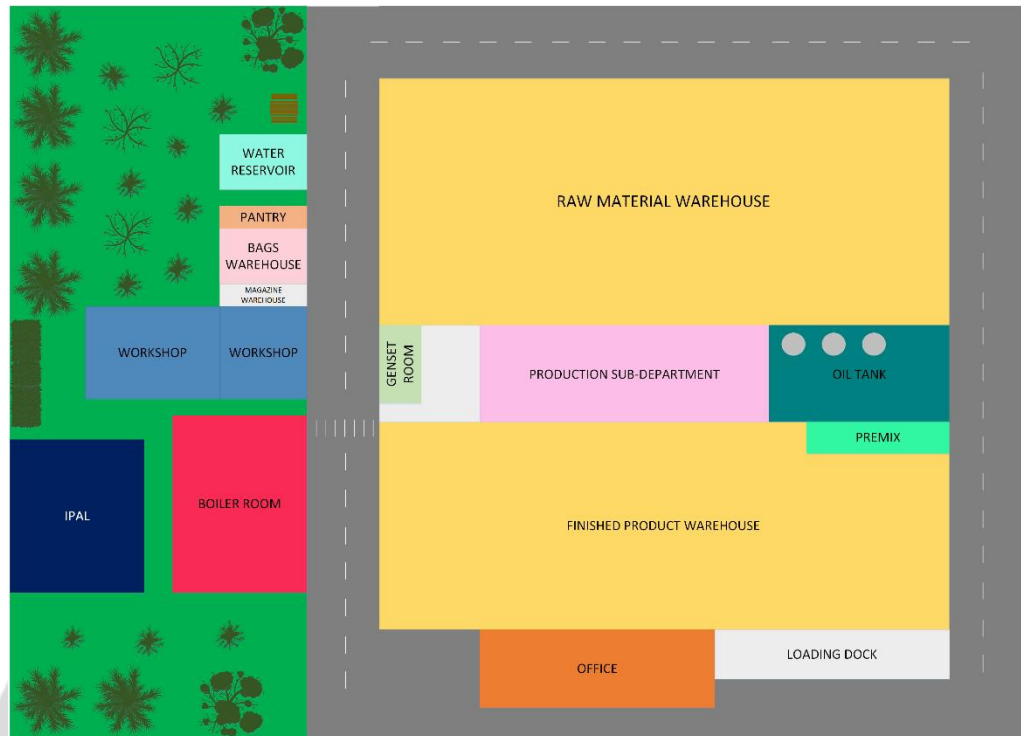
After drying process, it goes to the cooler machine to make it in a normal temperature (around 30°C) to keep it safe in bagging process. Then it goes to shifter machine, if the pellets meet standard of size both upper limit and lower limit, they go down for bagging process, but if they don't, they go back to intake process.

The last process is bagging process. In this process, all the pellets are bagged into prepared sacks. The production workers give a printed composition and nutritional content paper. They saw it with the sack. After that, the finished products are ready to sell.

3.4. Production Facilities

3.4.1. Plant Layout

Plant department layout consists of each sub-department in plant department, such as production area, warehouse area, engineering area, and PPIC area.



Picture 3.5. Plant Department Map

The raw material warehouse and finished product warehouse are the area of warehouse sub-department. Since warehouse is strongly related with production sub-department, their areas should be close. The oil tank beside production area has to be close with production area since oil tank consists of materials used in production process.

On the left side of production area, there is a generator that turns on electricity. This generator is important to continue production process when there is power failure. In front of the warehouse there is a loading dock to place the finished product on trucks and send it to the customer. On the left side across the generator, there is a workshop building or engineering sub-department. In front of finished product warehouse there is an office, where the PPIC sub-department is located.

3.4.2. Production Machine

There are so many machines used in production process. The machines are listed below:

A. Intake Machine

First process of production is intake. Intake machine takes raw materials to the bin or pre-grinding machine. This machine has a blower inside to send the raw materials to the next machine.



Picture 3.6. Intake Machine

B. Pre-Grinding

Pre-grinding machine turns rough raw materials into smooth one. The raw materials processed in pre-grinding machine should be rough enough that it can't be directly stored in the bin of raw materials. This machine works by breaking big particles of raw material and turn them to be small particles.



Picture 3.7. Pre-Grinding Machine

C. Balance

Balance machine is used to determine weight and composition of each raw materials. When panel control operator input weight of raw materials needed in the computer, the raw materials will be automatically put in and weighted with the limit tolerance of ± 0.5 kgs.



Picture 3.8. Balance Machine

D. Vertical Mixer

Vertical mixer machine blends raw materials into one homogenous mixture. This machine works by using screws that pull raw materials and spread stir them with pedals that rotate continuously. This machine only mixes raw materials roughly, so even if they are combined to be a mixture, it is still a rough mixture that need to be processed.



Picture 3.9. Vertical Mixer

E. Grinder

Grinder machine turns rough mixture into smooth one. This machine works by turning a rotating blade pedal to break raw materials into fine or smooth flour.



Picture 3.10. Grinder

F. Fine Siever

Fine siever separates smooth flour with the rough one. This machine works by filtering rough flour, if the flour is smooth enough, it directly goes to the

next machine, but if the flour is rough, it is automatically returned to the fine grinder.



Picture 3.11. Fine Siever

G. Mixer

Mixer blends the smooth flour of floating feed with some vitamins. It also blends smooth flour of fish feed and shrimp feed with either oil or soya. This machine works by rotating pedals to mix the raw materials evenly.



Picture 3.12. Mixer

H. Extruder

Extruder machine extrudes the blended flour and shape the pellet into determined diameter. Extruder is only used to produce floating feed. It couldn't be used to produce fish feed and shrimp feed. This machine works by adding water to the flour while steaming them. Then this machine presses the flour out of holes in a high pressure (8 kg/cm^3) from dies wheel and immediately cut by cutter inside.



Picture 3.13. Extruder

I. Pellet Mill Machine

Pellet mill machine extrudes the blended flour and shape the pellet into determined diameter. Pellet mill machine is only used to produce fish feed and shrimp feed. It couldn't be used to produce floating feed. This machine works by adding water to the flour while steaming them. Then this machine presses the flour out of holes in a high pressure (8 kg/cm^3) from dies wheel and immediately cut by cutter inside.



Picture 3.14. Pellet Mill Machine

J. Post Conditioner

Post conditioner boils the pellets in order to keep their water stability. Post conditioner works by steaming the pellet using steamer for 15-30 minutes or until the pellet is fully charged and touch the light sensor inside post conditioner machine. This machine is only used to produce shrimp sinking feed since this product should be cooked until soft.



Picture 3.15. Post Conditioner

K. Dryer

Dryer machine dries the pellets, so the pellets moisture is kept in standard. This machine works by utilizing a steam coil, giving heat as the pellets run on the conveyor. If the pellets are too moist, they will soon get mushroomed after bagged and kept in warehouse. If the pellets are too dry, the company will suffer loss since those pellets get wrinkled and lighter. This dryer machine is used in production process of floating feed after extruding process. This machine is also used in production process of shrimp feed after post conditioning process because the pellets from post conditioner still contain water and high moisture.



Picture 3.16. Dryer

L. Cooler

Cooler machine is used for cooling process because the pellets from dryer and pellet mill machine are still too hot to be bagged. This machine runs by taking heat from the pellet for 5-10 minutes or until the pellet is fully charged and touch the light sensor inside the cooler machine.



Picture 3.17. Cooler

M. Shifter

Shifter machine separates the pellets that don't meet the size standard and the pellets that meet standard. The pellets can be too big that they exceed its upper bound. the pellets can also be in flour shaped that they exceed its lower bound. This machine works by shifting or moving right and left in high speed, approximately 4 moves in a second.



Picture 3.18. Shifter

3.4.3. PRODUCTION EQUIPMENT

Production equipment supports production process in production sub-department. In PT.X, production equipment used are:

A. Forklift

Forklift brings sacks of both raw materials and finished products. It also moves finished products from bagging process in production sub-department to warehouse sub-department and arrange sacks in piles neatly. There are 5 forklifts used in PT.X.



Picture 3.19. Forklift

B. Wheel Loader

Wheel loaders transport bulk raw materials and move them from one place to other place.



Picture 3.20. Wheel Loader

C. Finished Product Balance

This balance measures weight of finished product in pile. This balance ensures that the weight meets the requirement before sending it to customer.



Picture 3.21. Finished Product Balance

D. Vitamin Balance

Vitamin Balance measures the weight of the vitamin composition before mixing it with fish or shrimp feed products.



Picture 3.22. Vitamin Balance

3.4.4. SAFETY EQUIPMENT

In daily production, safety is prioritized. The cautions also should be warned in every corner. Safety equipment is important because there are heavy sacks in warehouse which may endanger heads, smooth floor which can endanger human respiration, slippery floor which may cause employees get slipped while walking through, and hot machines which may get workers' skin burned while touch it. In PT.X, there are some of safety equipment and safety signs:

A. Helmet

Helmet is one of safety equipment to be used by aall employees who work in plant department. This helmet protects head from accident like falling heavy sacks or get slipped on the stairs.



Picture 3.23. Helmet

B. Mask

Mask is one of safety equipment that is used by all employees who work in plant department. This mask prevents human respiration disease from smooth flour.



Picture 3.24. Mask

C. Safety Sign

Safety Sign is used to warn people to avoid something dangerous. There are some safety sign in PT.X. The signs are shown in the picture 3.24 and 3.25.



Picture 3.25. Safety Sign 1



Picture 3.26. Safety Sign 2

CHAPTER 4

INTERNSHIP ASSIGNMENT

4.1. Assignment Scope

The placement of internship is in production sub-department with Mr. Fondra as Head of the Production Sub-Department.

In internship, the assignment given is recapitulating data of fish feed and shrimp feed produced every day. This assignment is purposed to determine percentage of productivity in a month by comparing it with machine capacity per hour. This data recapitulation activity also considers machine down-time that occurs every shift at PT.X production sub-department. This assignment is done by making an excel program to ease head of production sub-department in recapitulating production data and evaluating workers.

The other assignment is problem observation. The problems that occur in production process should be analyzed to find solutions. This activity is conducted by visiting all areas of production sub-department.

4.2. Rights and Responsibilities in the Assignment

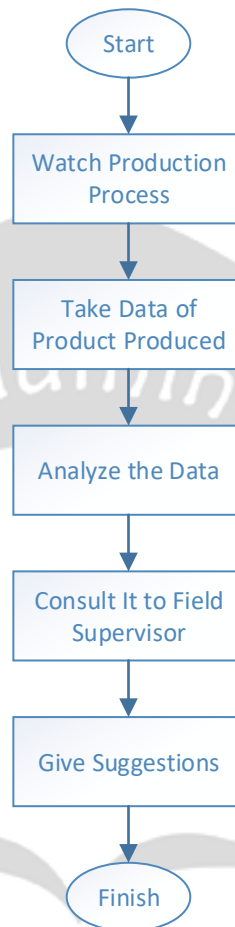
The rights given during internship are:

- A. Watch directly the production process
- B. Ask questions if the student doesn't understand

The responsibilities given during internship are:

- A. Collect data of production every morning
- B. Make a programmed excel to compute productive achievement
- C. Taking and checking samples of machine that has a problem.

4.3. Methodology to Complete the Assignment



Picture 4.1. Work Methodology Flowchart

4.4. Result of Internship Assignment

4.4.1. Data

The known data as input in excel are list of machines used in the production process, machine capacity per hour, the number of teams, and detailed information of working hours of each shift.

Table 4.1. Data

DATA :		
MACHINE	CAPACITY (KG/HR)	SHIFT
M. Pakan Udang 1,2 mm	900	A
M. Pakan Udang 1,4 mm	1000	B

Table 4.1. Data (Continued)

DATA :		
MACHINE	CAPACITY (KG/HR)	SHIFT
M. Pakan Udang 1,6 mm	2300	C
M. Pakan Udang 1,8 mm	2500	
M. Pakan Udang Crumble 2,2 mm	2700	
M. Pakan Ikan 1,0 mm	2500	
M. Pakan Ikan 2,0 mm	3500	
M. Pakan Ikan 3,0 mm	5000	
M. Pakan Ikan 4,0 mm	5000	
M. Alweng 1,6 mm	1800	
M. Alweng 2,0 mm	2700	
M. Alweng 3,0 mm	3700	
M. Alweng 5,0 mm	4000	
M. Single Screw 2,0 mm	2700	
M. Single Screw 3,0 mm	3700	
M. Single Screw 5,0 mm	4000	

Table 4.2. Working Hour

SHIFT	WORKING HOUR
A	07.0 - 15.00
B	15.00 - 23.00
C	23.0 - 07.00

4.4.2. Input

Daily observation data as changing input in excel is daily data taken every morning to be compared with production targets or machine capacity per hour. The data taken includes the products produced, the of products produced, the machines used and down-time machine that works in each shift every day.

Table 4.3. Daily Observation Data

DATE	PRODUCT	MACHINE	CONFIRMATION	SHIFT	PRODUCTIVE WORKING HOUR	PRODUCT ION (KG)
1/Jul/19	PI SPR-2	M. Pakan Udang Crumble 2,2 mm	√	A	4	7750
1/Jul/19	PI SPR-4	M. Pakan Ikan 4,0 mm	√	A	8	34500
1/Jul/19	SPLA12-2	M. Alweng 2,0 mm	√	A	6	9840

Table 4.3. Daily Observation Data (Continued)

DATE	PRODUCT	MACHINE	CONFIRMATION	SHIFT	PRODUCTIVE WORKING HOUR	PRODUCT ION (KG)
1/Jul/19	SPLA12	M. Single Screw 3,0 mm	√	A	8	18930
1/Jul/19	PI COMFEED-4	M. Pakan Ikan 4,0 mm	√	B	2	8000
1/Jul/19	SPLA12	M. Single Screw 3,0 mm	√	B	3	7350
1/Jul/19	PI COMFEED-4	M. Pakan Ikan 4,0 mm	√	C	5	7000
1/Jul/19	PI SPR-4	M. Pakan Ikan 4,0 mm	√	C	5	12700
1/Jul/19	LA12BR-2	M. Alweng 2,0 mm	√	C	3	9000
1/Jul/19	SPLA12	M. Single Screw 3,0 mm	√	C	8	28290
2/Jul/19	PV1P	M. Pakan Udang 1,2 mm	√	A	8	6000
2/Jul/19	PI SPR-4	M. Pakan Ikan 4,0 mm	√	A	8	20800
2/Jul/19	PI SUPRA NP-4	M. Pakan Ikan 4,0 mm	√	A	8	8800
2/Jul/19	SPLA12	M. Single Screw 3,0 mm	√	A	6	24000
2/Jul/19	INOVA	M. Alweng 3,0 mm	√	A	6	9900
2/Jul/19	PV1P	M. Pakan Udang 1,2 mm	√	B	8	2000
2/Jul/19	PI SUPRA NP-4	M. Pakan Ikan 4,0 mm	√	B	7	28000
2/Jul/19	SPLA12-2	M. Single Screw 2,0 mm	√	B	6	7500
2/Jul/19	INOVA	M. Alweng 3,0 mm	√	B	8	20100
2/Jul/19	LA12BR-2	M. Alweng 2,0 mm	√	B	8	8700
2/Jul/19	PV1P	M. Pakan Udang 1,2 mm	√	B	8	650
2/Jul/19	PV1P	M. Pakan Udang 1,2 mm	√	C	7	4500
2/Jul/19	PI COMFEED-3	M. Pakan Ikan 3,0 mm	√	C	6	10000
2/Jul/19	PI SUPRA NP-4	M. Pakan Ikan 4,0 mm	√	C	6	10000
2/Jul/19	SPLA12-2	M. Single Screw 2,0 mm	√	C	7	15000

In table 4.3, 'date' and 'product' columns are entered manually. In the 'machine' column, each cell uses data validation based on the machine list from table 4.1. in first column, so it doesn't need to write manually. This data validation is purposed to avoid errors in the formulation of productivity calculation.

In 'confirmation' column, there are cells that have been formulated to automatically appear check symbol when the product produced is relevant to the machine used. If the check symbol does not appear, it means there is an error in the input of product or machine. In PT. X, floating feed products cannot be produced from fish feed machines, and fish feed products cannot be produced from floating feed machines. This is purposed to avoid mistakes when inputting data.

In 'shift' column, each cell uses data validation based on the shift list from table 4.2. In 'productive hour' column, the machine operating time is inputted manually based on the machine down-time report of each machine in each shift. In 'production' column (kg), the weight of the product produced is also inputted manually.

4.4.3. Output

Output is the result of calculation based on input data.

Table 4.4. Output

DATE	MACHINE	SHIFT	PRODUCTIVE WORKING HOUR	PRODUCTION (KG)	PRODUCTIVE ACHIEVEMENT	OVERALL ACHIEVEMENT
1/Jul/19	M. Pakan Udang Crumble 2,2 mm	A	4	7750	67%	36%
1/Jul/19	M. Pakan Ikan 4,0 mm	A	8	34500	86%	86%
1/Jul/19	M. Alweng 2,0 mm	A	6	9840	63%	46%
1/Jul/19	M. Single Screw 3,0 mm	A	8	18930	64%	64%
1/Jul/19	M. Pakan Ikan 4,0 mm	B	2	8000	80%	20%
1/Jul/19	M. Single Screw 3,0 mm	B	3	7350	61%	25%
1/Jul/19	M. Pakan Ikan 4,0 mm	C	5	7000	28%	18%
1/Jul/19	M. Pakan Ikan 4,0 mm	C	5	12700	51%	32%
1/Jul/19	M. Alweng 2,0 mm	C	3	9000	105%	42%
1/Jul/19	M. Single Screw 3,0 mm	C	8	28290	96%	96%
2/Jul/19	M. Pakan Udang 1,2 mm	A	8	6000	83%	83%
2/Jul/19	M. Pakan Ikan 4,0 mm	A	8	20800	54%	52%
2/Jul/19	M. Pakan Ikan 4,0 mm	A	8	8800	23%	22%
2/Jul/19	M. Single Screw 3,0 mm	A	6	24000	104%	81%
2/Jul/19	M. Alweng 3,0 mm	A	6	9900	42%	33%
2/Jul/19	M. Pakan Udang 1,2 mm	B	8	2000	28%	28%
2/Jul/19	M. Pakan Ikan 4,0 mm	B	7	28000	86%	70%
2/Jul/19	M. Single Screw 2,0 mm	B	6	7500	46%	35%
2/Jul/19	M. Alweng 3,0 mm	B	8	20100	68%	68%
2/Jul/19	M. Alweng 2,0 mm	B	8	8700	40%	40%
2/Jul/19	M. Pakan Udang 1,2 mm	B	8	650	9%	9%

Table 4.4. Output (Continued)

DATE	MACHINE	SHIFT	PRODUCTIVE WORKING HOUR	PRODUCTION (KG)	PRODUCTIVE ACHIEVEMENT	OVERALL ACHIEVEMENT
2/Jul/19	M. Pakan Udang 1,2 mm	C	7	4500	71%	63%
2/Jul/19	M. Pakan Ikan 3,0 mm	C	6	10000	33%	25%
2/Jul/19	M. Pakan Ikan 4,0 mm	C	6	10000	33%	25%
2/Jul/19	M. Single Screw 2,0 mm	C	7	15000	85%	69%
2/Jul/19	M. Alweng 2,0 mm	C	8	28050	139%	130%

In table 4.4, there are inputs that have been explained in subsection 4.4.2, while for outputs are represented in column of 'Productive Achievement' and 'Overall Achievement'.

Productive Achievement is the percentage of productivity per shift. it is calculated by comparing the amount of production per hour in one shift with considering machine downtime and the capacity of machine or production target per one shift. The Productive Achievement Formula is as follows:

$$\text{Productive Achievement} = \frac{\text{Total Production (kg)}}{\text{Productive Hours (hour)} \times \text{Machine Capacity } \left(\frac{\text{kg}}{\text{hr}}\right)} \times 100\%$$

For example, shift A produces PI SPR-2 fish feed using 1.0 mm dies with 1 hour of machine downtime, means that there is only 7 productive hours (from 8 hours of work minus 1 hour of downtime). If the product produced is 7000 kgs, then it is 1000 kg per hour. From the capacity data, the fish feed machine should produce 2500 kg per hour, means that productive achievement is:

$$\begin{aligned} \text{Productive Achievement} &= \frac{7000 \text{ kg}}{7 \text{ hr} \times 2500 \frac{\text{kg}}{\text{hr}}} \times 100\% \\ &= 40\% \end{aligned}$$

By using the Productive Achievement formula, it can be concluded that the productivity of shift A in producing PI SPR-2 using a 1.0 mm fish feed machine with 1 hour down-time machine is 40%.

Overall Achievement is the percentage of products produced in one shift (8 hours without considering downtime) and then comparing it to machine capacity in 8 hours. Overall achievements can be used to find out how effective the machine is used in one shift. The Overall Achievement Formula is as follows:

$$\text{Overall Achievement} = \frac{\text{Total Production (kg)}}{\text{Machine Capacity} \left(\frac{\text{kg}}{\text{hr}}\right) \times 8 \text{ (hr)}} \times 100\%$$

For example, shift B produces LA12BR-2 using 2.0 mm dies with a total production of 15000 kg. From capacity data, Alweng machine is able to produce 2700 kg per hour, or 21600 kg in 8 hours. Then the overall achievement is = 15000 / (2700 x 8), which is 69.4%.

$$\begin{aligned} \text{Overall Achievement} &= \frac{15000 \text{ (kg)}}{2700 \left(\frac{\text{kg}}{\text{hr}}\right) \times 8 \text{ (hr)}} \times 100\% \\ &= 69,4\% \end{aligned}$$

By using the Overall Achievement formula, it can be concluded that the productivity of shift B in producing LA12BR-2 using 2.0 mm Alweng machine is 69.4% without considering machine down-time.

4.4.4. Analysis

From the data, input and output per day, an analytical recapitulation is carried out. The recapitulation is purposed to find out the average productivity in a month. It consists of machines used, shifts, and the average daily productive achievement. To create a recapitulation table, pivot table is used in Excel.

Table 4.5. Average Productivity

PRODUCTIVITY RECAPITULATION IN JULY			
		PRODUCTIVITY AVERAGE	
SHIFT	MACHINE	PRODUCTIVE ACHIEVEMENT	OVERALL ACHIEVEMENT
A	M. Alweng 1,6 mm	62%	47%
	M. Alweng 2,0 mm	86%	66%
	M. Alweng 3,0 mm	94%	81%
	M. Alweng 5,0 mm	120%	120%
	M. Pakan Ikan 2,0 mm	102%	94%
	M. Pakan Ikan 3,0 mm	77%	66%
	M. Pakan Ikan 4,0 mm	63%	57%
	M. Pakan Udang 1,2 mm	70%	61%
	M. Pakan Udang 1,4 mm	82%	70%
	M. Pakan Udang 1,6 mm	51%	45%
	M. Pakan Udang Crumble 2,2 mm	70%	50%

Table 4.5. Average Productivity (Continued)

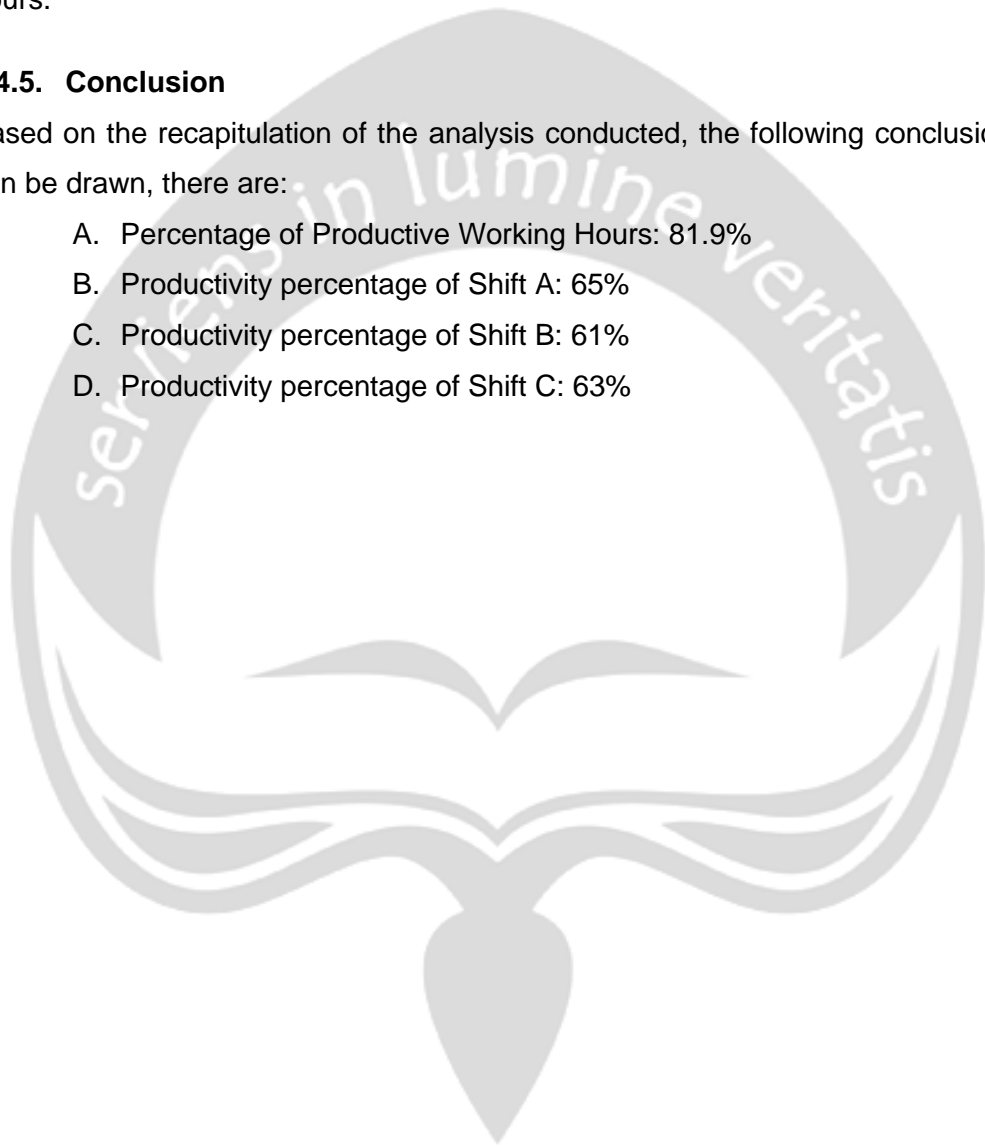
PRODUCTIVITY RECAPITULATION IN JULY			
		PRODUCTIVITY AVERAGE	
SHIFT	MACHINE	PRODUCTIVE ACHIEVEMENT	OVERALL ACHIEVEMENT
	M. Single Screw 2,0 mm	71%	65%
	M. Single Screw 3,0 mm	80%	65%
	M. Single Screw 5,0 mm	96%	83%
A Average		78%	65%
B	M. Alweng 1,6 mm	68%	45%
	M. Alweng 2,0 mm	78%	65%
	M. Alweng 3,0 mm	82%	73%
	M. Alweng 5,0 mm	99%	91%
	M. Pakan Ikan 1,0 mm	45%	36%
	M. Pakan Ikan 2,0 mm	113%	111%
	M. Pakan Ikan 3,0 mm	70%	62%
	M. Pakan Ikan 4,0 mm	76%	44%
	M. Pakan Udang 1,2 mm	44%	41%
	M. Pakan Udang 1,4 mm	84%	79%
	M. Pakan Udang 1,6 mm	72%	62%
	M. Pakan Udang Crumble 2,2 mm	66%	54%
	M. Single Screw 2,0 mm	64%	46%
	M. Single Screw 3,0 mm	79%	66%
	M. Single Screw 5,0 mm	44%	44%
B Average		73%	61%
C	M. Alweng 1,6 mm	65%	49%
	M. Alweng 2,0 mm	79%	62%
	M. Alweng 3,0 mm	91%	74%
	M. Alweng 5,0 mm	83%	49%
	M. Pakan Ikan 1,0 mm	125%	120%
	M. Pakan Ikan 2,0 mm	100%	89%
	M. Pakan Ikan 3,0 mm	80%	65%
	M. Pakan Ikan 4,0 mm	95%	57%
	M. Pakan Udang 1,2 mm	46%	39%
	M. Pakan Udang 1,4 mm	120%	103%
	M. Pakan Udang 1,6 mm	38%	31%
	M. Pakan Udang Crumble 2,2 mm	59%	42%
	M. Single Screw 2,0 mm	80%	68%
	M. Single Screw 3,0 mm	93%	82%
	M. Single Screw 5,0 mm	21%	9%
C Average		78%	63%
OVERALL AVG		77%	63%

In table 4.5, it can be concluded that each shift results different average achievement. But when Productive Achievement and Overall Achievement are compared, the Overall Achievement has lower percentage. Based on machine down-time reports, this can be caused by machine down-time, such as routine checks for 10 minutes every beginning of shift, turning dies for 5 hours and any other machine failures. It can also be caused by fogging schedule for about 4 hours.

4.4.5. Conclusion

Based on the recapitulation of the analysis conducted, the following conclusions can be drawn, there are:

- A. Percentage of Productive Working Hours: 81.9%
- B. Productivity percentage of Shift A: 65%
- C. Productivity percentage of Shift B: 61%
- D. Productivity percentage of Shift C: 63%

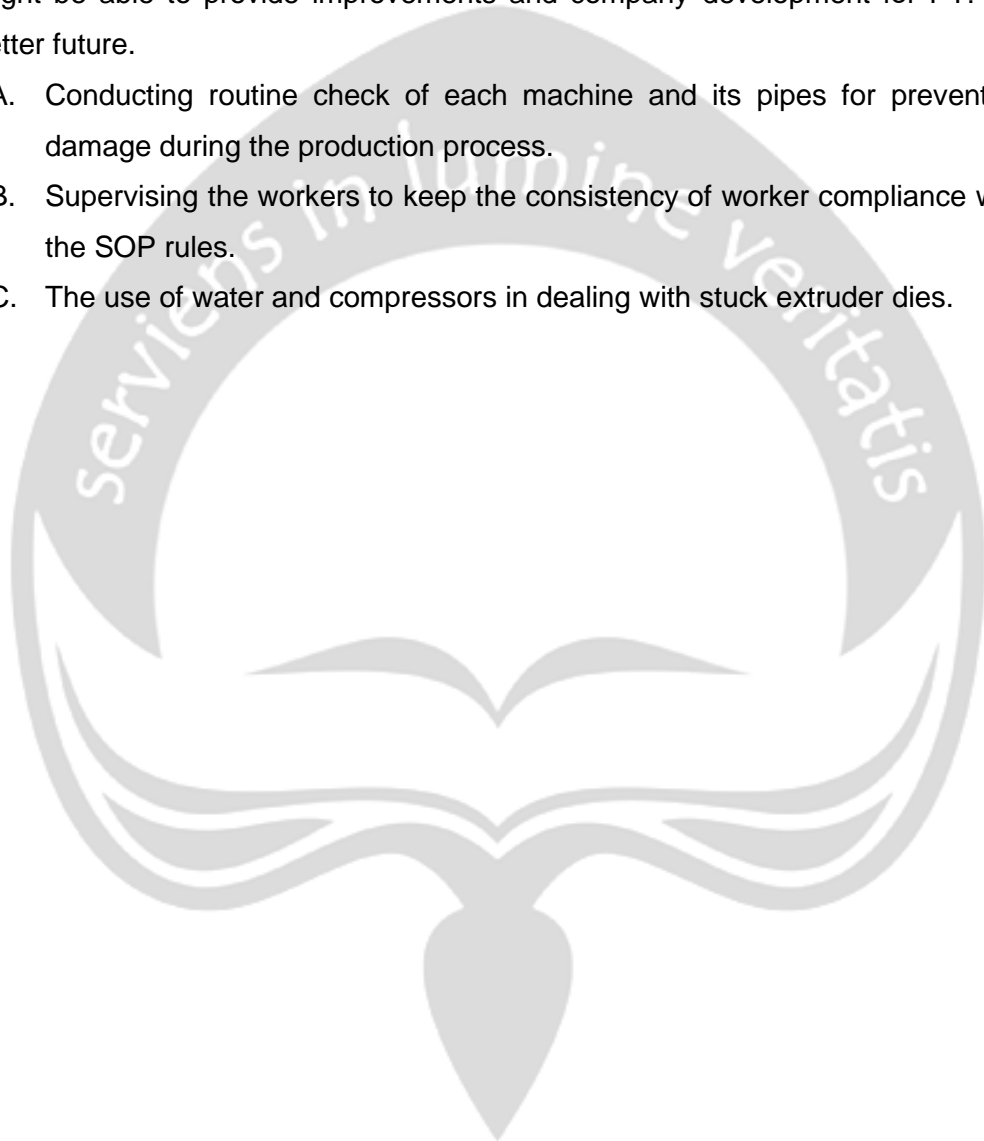


CHAPTER 5

CONCLUSIONS AND SUGGESTIONS

During the implementation of internship at PT.X, it can be concluded that the company's system mechanism is running well and structured. The production process has also been going well. However, there are some suggestions which might be able to provide improvements and company development for PT. X's better future.

- A. Conducting routine check of each machine and its pipes for preventing damage during the production process.
- B. Supervising the workers to keep the consistency of worker compliance with the SOP rules.
- C. The use of water and compressors in dealing with stuck extruder dies.



REFERENCES

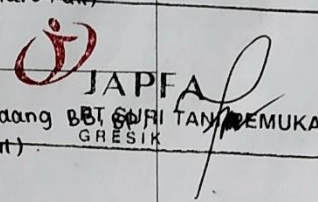
<https://www.japfacomfeed.co.id/en/product-and-services>



APPENDIX

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	1 Juli 2019	08.00 - 09.30	Briefing & pengenalan pada karyawan lain	
		09.30 - 10.30	Cari data dasar tentang proses produksi (flow chart, dll)	
		10.30 - 11.30	Ke lapangan (gudang bahan jadi siap jual)	
		11.30 - 12.00	Ke lapangan (proses produksi) mengumpulkan data detail prosesnya	
		13.00 - 17.00	Membuat flow chart	

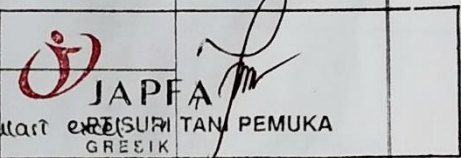
Catatan penting harian:

Daily project tentang sasaran mutu 2019 mulai dikerjakan besok.
Process business pada laporan dicrop.

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	2 Juli 2019	08.00 - 09.30	Mengambil data & penjelasan bertaitan project sasaran mutu 2019.	
		09.30 - 12.00	Merekap data & membuat formulasi excel.	
		13.00 - 15.00	Membuat formulasi excel.	
		15.00 - 16.00	Mengambil data struktur organisasi perusahaan.	
		16.00 - 17.00	Formulasi excel.	

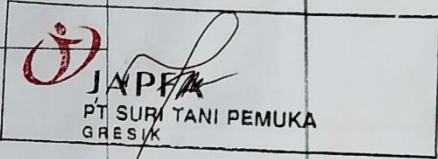
Catatan penting harian:

Excel harus user friendly...

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	3 Juli 2019	08.00 - 09.30	Ambil data produksi harian.	
		09.30 - 12.00	Benarin excel.	
		13.00 - 14.00	Melanjutkan excel.	
		14.00 - 16.00	Berkeliling kelantai 2 mempelajari sistem produksi & mengamati data pengolahan limbah	
		16.00 - 17.00	Mencatat data hasil observasi	

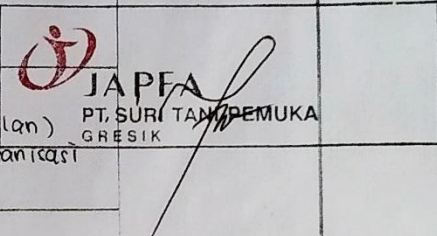
Catatan penting harian:

Gambar mesin jangan ketutup2 lagi :(

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	4 Juli 2019	08.00 - 09.30	Ambil data hasil produksi dan input di excel.	
		09.30 - 12.00	Menambahkan downtime pada excel.	
		13.00 - 15.00	Buat laporan (adlan) dari the struktur organisasi	
		15.00 - 17.00	Buat flowchart proses produksi + benarin excel	
		-	-	

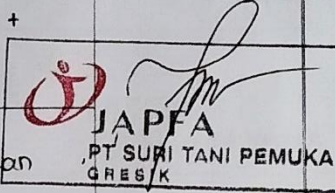
Catatan penting harian:

Jangan lupa ambil data produksi & jam downtime dari pak Kadir hap pagi.

Catatan dari pembimbing lapangan:

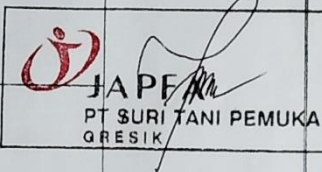
Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 5 Juli 2019	08.00 - 09.00	Ambil data dari pak Kadir	
		09.00 - 12.00	Input data produksi + downtime di excel	
		13.00 - 17.00	Buat visio & laporan bisnis process	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

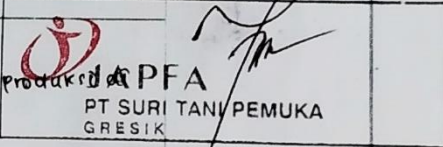
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Senin, 8 Juli 2019	08.00 - 12.00	Ambil data produksi & input excel	
		13.00 - 15.00	Buat laporan	
		15.00 - 17.00	Buat laporan	
		-		
		-		

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

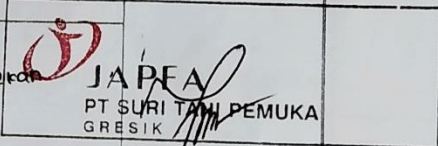
NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa, 9 Juli 2019	08.00 - 12.00	ambil data produksi. input excel. laporan.	
		12.00 - 13.00	Ismpahat	
		13.00 - 15.00	mengamati proses produksi	
		15.00 - 17.00	mengolah data produksi excel.	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

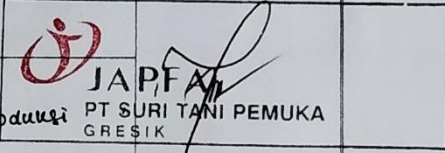
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 10 Juli 2019	08.00 - 12.00	ambil data produksi . excel . laporan. laporan proses.	
		12.00 - 13.00	Istirahat	
		13.00 - 15.00	Mengamati pengecekan produk di QC	
		15.00 - 17.00	berhubungan dg produksi gg berhubungan dg produksi (warehouse & teknik)	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

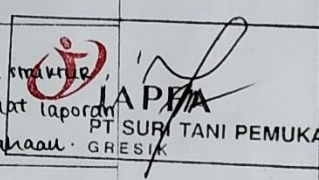
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 11 Juli 2019	08.00 - 12.00	- ambil data produksi input excel - ke QC in process u, observasi	
		12.00 - 13.00	istirahat	
		13.00 - 16.00	Mengamati proses produksi	
		16.00 - 17.00	mengerjakan laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

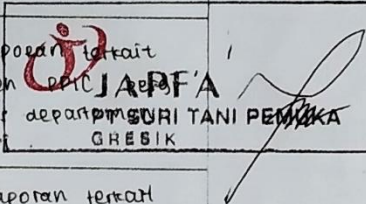
Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 12 Juli 2019	08.00 - 12.00	- ambil data produksi. input excel, melengkapi data ke mesin2 produksi dgn alat magang lain.	
		12.00 - 13.00	istirahat	
		13.00 - 15.00	ke PGA untuk ambil struktur organisasi & dan buat laporan ttg pengenalan perusahaan.	
		15.00 - 17.00	Mengerjakan laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

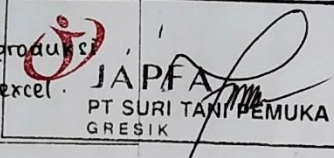
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Senin, 15 Juli 2019	08.00 - 12.00	Ambil data produk Input excel	
		13.00 - 14.00	Laporan ambil foto warehouse	
		14.00 - 16.00	Melengkapi laporan terkait sub-departemen PPIC & sales departemen untuk observasi	
		16.00 - 17.00	Melengkapi laporan terkait departemen sales.	

Catatan penting harian:

Catatan dari pembimbing lapangan:

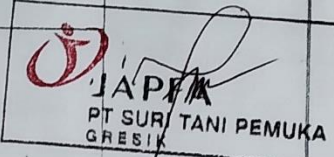
Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa. 16 Juli 2019	08.00 - 12.00	ambil data produksi & mengamati proses produksi	
		12.00 - 13.00	istirahat	
		13.00 - 15.00	mengamati proses produksi dan input data ke excel.	
		15.00 - 17.00	mengerjakan laporan	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

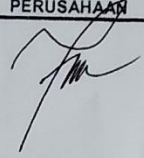

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu. 17 Juli 2019	08.00 - 12.00	ambil data & pengamatan proses produksi	
		12.00 - 13.00	istirahat	
		13.00 - 16.00	mengolah data excel hasil produksi di	
		16.00 - 17.00	mengerjakan laporan & observe ke PGA & PPIC u/ detail fungsi & tugas departemen	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

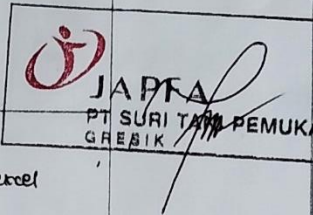
NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 18 Juli 2019	08.00 - 12.00	ambil data produksi & pengamatan proses produksi	 
		12.00 - 13.00	Istirahat	
		13.00 - 15.00	input data produksi ke excel	
		15.00 - 17.00	laporan -final	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

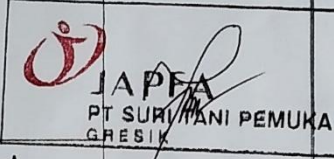
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 19 Juli 2019	08.00 - 12.00	ambil data produksi pengamatan proses produksi	
		12.00 - 13.00	Istirahat	
		13.00 - 15.00	pengamatan QC olah data produksi di excel kerjakan laporan -final	
		15.00 - 17.00	kerjakan Laporan - final	

Catatan penting harian:

Catatan dari pembimbing lapangan:


Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Senin. 22 Juli 2019	08.00 - 12.00	ambil data produksi input data	
		12.00 - 13.00	Istirahat	
		13.00 - 14.00	input data & olah di excel	
		14.00 - 17.00	pengecekan produk kompetitor di warehouse QC.	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang


NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa. 23 Juli 2019	08.00 - 12.00	Pengamatan mesin produksi	 JAPEA PT SULTANI PEMUKA GREKIK
		12.00 - 13.00	Istirahat	
		13.00 - 15.00	Mengamati masalah pada mesin & merumuskan perbaikannya.	
		15.00 - 17.00	Merumuskan Improvement pada pencegahan down-machine # cek	
		16.00 - 17.00	Pengecekan & perbandingan produk pelet kompetitor	

Catatan penting harian:

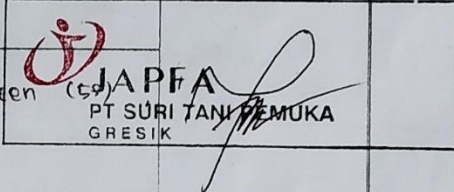
Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

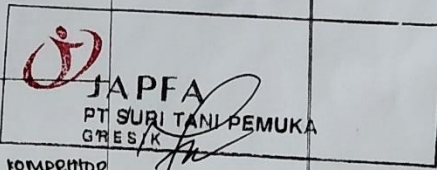
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 24 Juli 2019	08.00 - 12.00	ambil data produksi mengamati masalah pd mesin	 JAPFA PT SURI TANI PEMUKA GRESIK
		12.00 - 13.00	istirahat	
		13.00 - 16.00	merumuskan perbaikan pencegahan terjadinya masalah pd mesin.	
		16.00 - 17.00	pengecekan produk karantina	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 25 Juli 2019	08.00 - 12.00	ambil data hasil produksi mengamati masalah mesin	
		12.00 - 13.00	istirahat	
		13.00 - 16.30	Merumuskan kaitan	
		16.30 - 17.00	konsultasi	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

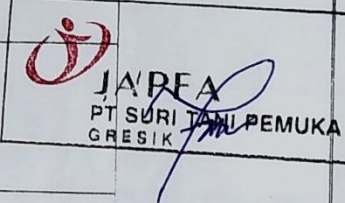
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jum'at, 26 Juli 2019	08.00 - 12.00	ambil data produksi & input & olah data	 JAPFA PT SURI TANI PEMUKA GRESIK
		12.00 - 13.00	istirahat	
		13.00 - 15.00	- Pengamatan mesin dan - analisis produk kompetitor	
		15.00 - 17.00	Menganalisis improvement & mencegah terjadinya masalah mesin.	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Catatan Harian Pelaksanaan Kerja Praktek/ Magang

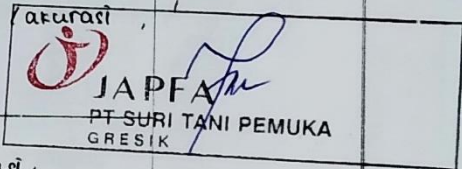
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Senin, 29 Juli 2019	08.00 - 12.00	Ambil data produksi shooting safety induction	
		12.00 - 13.00	istirahat	
		13.00 - 15.00	olah data produksi	
		15.00 - 17.00	konsultasi laporan, revisi laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

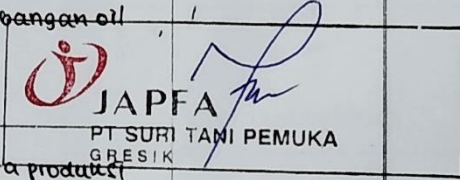
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa, 30 Juli 2019	08.00 - 12.00	Ambil data produksi Pengamatan mesin produksi	
		12.00 - 13.00	Istirahat	
		13.00 - 16.00	cek keakuratan imbangan oil	
		15.00 - 17.00	olah data produksi, konsultasi & revisi laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang


No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 31 Juli 2019	08.00 - 12.00	Ambil data produksi olah data produksi	
		12.00 - 13.00	Istirahat	
		13.00 - 15.00	Cek akurasiimbangan oli	
		15.00 - 17.00	lanjut olah data produksi konsultasi & revisi laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

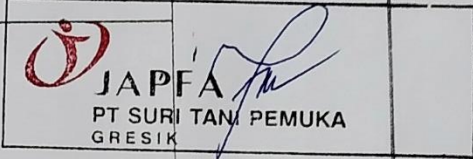
No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	<p>Kamis, 1 Agustus 2019</p>	08.00 - 12.00	Bubuk dataproduktif	 <p>JAPFA PT SURI TANI PEMUKA GRESIK</p>
12.00 - 13.00		Istirahat		
13.00 - 15.00		Memperlihatkan bahan presentasi		
15.00 - 17.00		Konsultasi & revisi laporan		

Catatan penting harian:

Catatan dari pembimbing lapangan:

Lampiran 1. Catatan Harian Pelaksanaan Kerja Praktek (QSR No. 085-QSR/Ind-FTI-UAJY/18-VIII/2017)

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 2 Agustus 2019	08.00 - 12.00	Memperiapkan data 2 bahan presentasi	
		12.00 - 13.00	istirahat	
		13.00 - 15.00	Presentasi	
		16.00 - 17.00	cek akurasi timbangan oil	
		-		
Catatan penting harian:				
Catatan dari pembimbing lapangan:				