

DESIGN OF PROCEDURE TO FULFILL PRIME 3 CERTIFICATION USING CLEAR METHOD FOR LAND PREPARATION AND PLANT PROTECTION PROCESS IN ABO FARM SMALL MEDIUM ENTERPRISE

¹Juli Trisna Aisyah Sinaga, ²Yati Rohayati, ³Atya Nur Aisha
^{1, 2, 3} Industrial Engineering Study Program/ Industrial Engineering Faculty, Telkom University
julitrisna@gmail.com, yati.rohayati.ittelkom@gmail.com, Atyanuraisha@gmail.com

Abstract

ABOFARM is one of SME that applies pesticide application and cultivation with wise. This SME want to get Prime 3 Certification but have limited information, record, and procedure to fulfill the requirement. Therefore, the research is carrying out to formulate the design of procedure that are effective, efficient, and implement by ABO FARM SME in Ciwidey. This SME want to get Prime 3 Certification to enter modern market. Therefore, the research uses CLEAR Method to map the business process in ABO FARM SME. Method to collect data are in-depth interview and observation. In addition, the research is also uses data from books literature, scientific publications, magazine published by the government, and website that have reliable information. From this research, provide results and evaluate of existing conditions that exist in ABO FARM SME. There are two processes must be evaluated to fulfill the requirements in Prime 3 Certification. Then provide the design of procedure utilizing results of business processes mapping. There are two procedures designed in this research. The contents from this procedure include of benefit, definition, reference, process description, performance measurement, record, and related document.

Keywords: Design of Procedure, CLEAR Method, Prime 3 Certification.

1. INTRODUCTION

Indonesian awareness to consume fresh fruits and vegetables begin to rise. It can be seen from the survey Center Study Tropical Horticulture IPB related consumption levels of fruit and vegetables community in 2013 to 2014. For vegetable consumption level as much as 40,35 kg/capita/year into 49,45 kg/capita/year and for the level of consumption of the fruit as much as 34,55 kg/capita/year into 41,93 kg/capita/year. Levels of consumption of fruits and vegetables predicted will continue to increase every year. "Each year the consumption of fruit and vegetables in the country continue to grow 12-15% as rising income and public awareness of health" ^[1].

However, there is still a lot of current vegetable and fruit containing pesticides materials spread across the market. In addressing the matter, the Government finally gave protection to the consumers with implement certification as a form of collateral for the Prime quality and food safety. This refers to UU No. 18 in 2012 about the food, the regulation of the Minister of Agriculture of the Republic of Indonesia Number 20 of 2010 about food quality assurance system of agriculture, and also the regulation of the Minister of Agriculture of the Republic of Indonesia Number 51 in 2008 about the terms and procedures for registration of plant origin fresh food. In addition, in accordance with the regulation of the Minister of Agriculture Number 48 in 2009 about the Good Agriculture Practices (GAP) for fresh fruit and vegetables, certification is one of the labeling agricultural products fruit and fresh vegetables were officially to give assurance of food safety.

Through the Policy Centre for standardization and accreditation of the Ministry of agriculture, the Government also shares the prima certification into three parts, namely, Prima One (P-1), Prime Two (P-2), and Prime Three (P-3). The first part is the Prime One (P-1), i.e. the assessment ranking given to implementing farmer who produces the product safely consumed, fine quality, as well as how environmentally friendly production. The second part is a Prime Two (P-2), i.e. the assessment ranking given to implementing farmer who produces the product safely consumed and of fine quality. The last part is Prime Three (P-3), i.e. the assessment ranking given to implementing farmer who produces the product safely consumed. Of the three categories above, then the minimum agricultural products should occupy a prime position as Prime Three (P-3) who consumed safely through the examination, testing, and monitoring ^[2]

One of the suppliers of fresh products in Bandung Regency is ABO FARM SME. That SME was founded in 2008 and is focused on supplying beans products to distributors to export i.e. PT. Alamanda. Based on interviews from the SME owner ABO FARM named Mr. Dadang, ABO FARM SME capable of being producers of greenbeans at the export distributor PT. Alamanda to several countries such as Korea, Dubai, and Singapore.

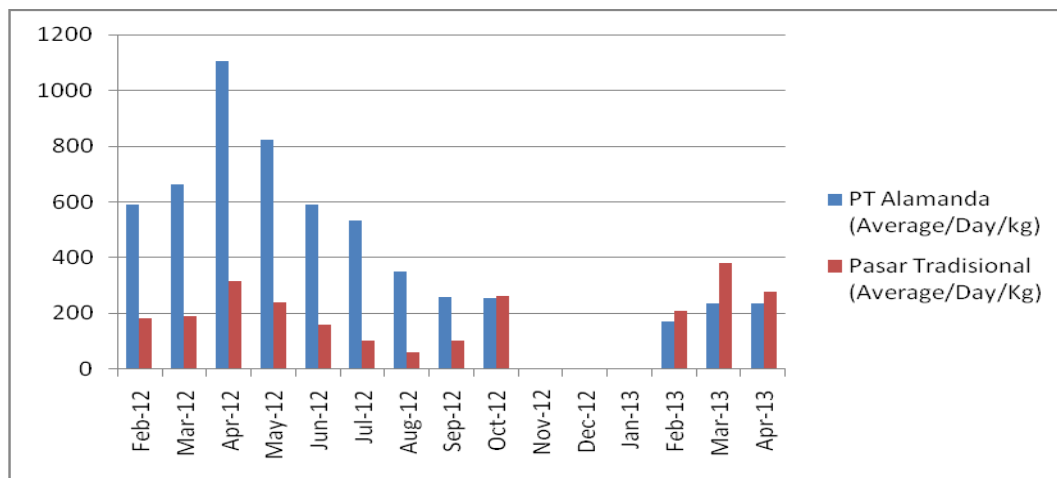


Figure 1. Average Number of Quality Beans I Sales to PT Alamanda February 2012-April 2013

From Figure I.1 can be seen that green bean produced by ABO FARM SME was sold to PT Alamanda and traditional markets. Green bean that sold to PT Alamanda is already good and minimum number of standards set by PT Alamanda i.e. supply green bean for minimum of 400 kg/day. However, on May until July 2012, number of produce green bean began decline. On August until October 2013, number of produce green bean generated decline and could not require minimum limits that established by PT. Alamanda. Finally, to keep the order, ABO FARM SME bought green bean from other farmers with good quality to support the minimum order to PT. Alamanda. The number of produce green bean generated decline until 2013. On May 2013, ABO FARM SME stopped become supplier to PT. Alamanda because of green bean limitations and must improve the existing system in internal SME.

Meanwhile, the number of KW-2 green bean that sold to traditional market was quite high on April 2012, ABO FARM produced green bean with number more than 300 kg/day. Sales declined on some months, but number was relatively stable and required market demand. Highest product sale of green bean occurred on March 2013 with number 380 kg/day. Furthermore, on May 2013 until now, SME had only sold green bean products to traditional markets and repaired the existing system to fulfill the requirement of Prima Certification.

2. LITERATURE REVIEW

2.1 GAP (Good Agriculture Practices)

In the implementation of GAP (Good Agriculture Practices) in the submission of Prima 3 certification by the perpetrators of the farmer, the farmer must follow the standard guidelines of the activities defined. The activities of the standards in the guidelines, there are three groups of activities that set that is advisable (A), it is strongly recommended (SA), and mandatory (W) [3].

According to the head of the consumption of quality and food safety, Eric Aruan, says that in the submission of Certification there are activities that have to be Primed controlled assessment and be in submission of certification. As for the 100 points that became a point of control for votes, i.e. 14 mandatory activities, 54 (W) a highly recommended activity (SA), and 32 (A) instigation activities ranging from the preparation of land management and the use of seeds, fertilizers and pesticides, to post harvest handling [4].

As for the determination of the amount of activity on GAP is [5].

- a) Compulsory (W) : 14 activities
- b) Highly Recommended (SA) : 54 activities
- c) Recommended by (A) : 32 activities

2.2 Business Process Mapping With CLEAR

The mapping process is series of visualization of entire activity in organization that demonstrates how the work is done within the organization to make the work clearly illustrated [6]. CLEAR is one method that can be used in business process mapping. CLEAR stands for core, leveling, evaluation, arrangement, and relevant. The existence of this method, then it can clarify business processes that will be mapped. [7]. CLEAR method consist of Core, Leveling, Evaluation, Arrangement, and Relevant. The existence of these methods can clarify business processes that will be mapped [7].

3. RESEARCH METHODOLOGY

Research begins with digging information about existing business process is UKM Abo Farm Certification filing requirements and the Prima 3. The next step is to analyze the GAP between existing condition with the condition to be met in the fulfillment of the certification of Excellence 3. After all factors were analyzed, it will bring up a design recommendation business processes and also the recommendation of SOP to ABO FARM SME.

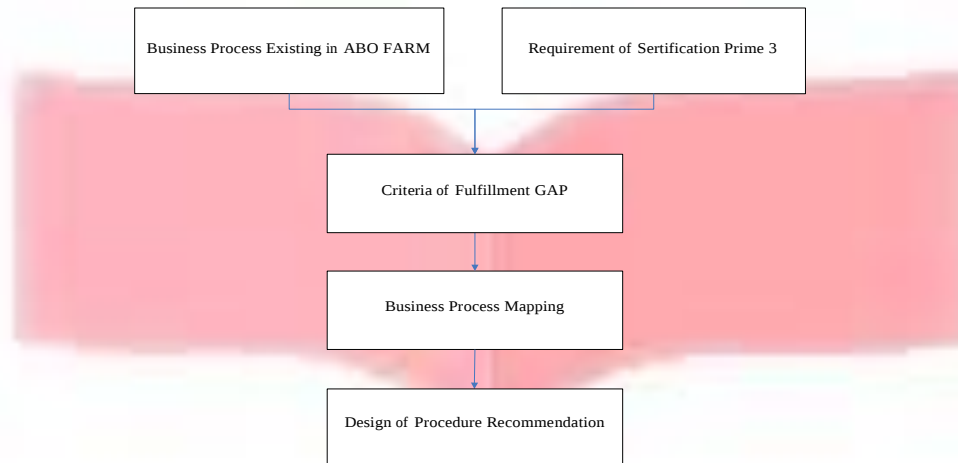


Figure 2. Conceptual Model

4. COLLECTING AND PROCESSING DATA

A. Existing Business Process of Land Preparation

Land preparation is a process that includes monitoring activity of land fertility, land preparation, monitoring the hole and planting media, and land conservation. In existing business process of land preparation, there are 21 activities. For clear description about existing business process land preparation in ABO FARM SME can be seen in Figure 3

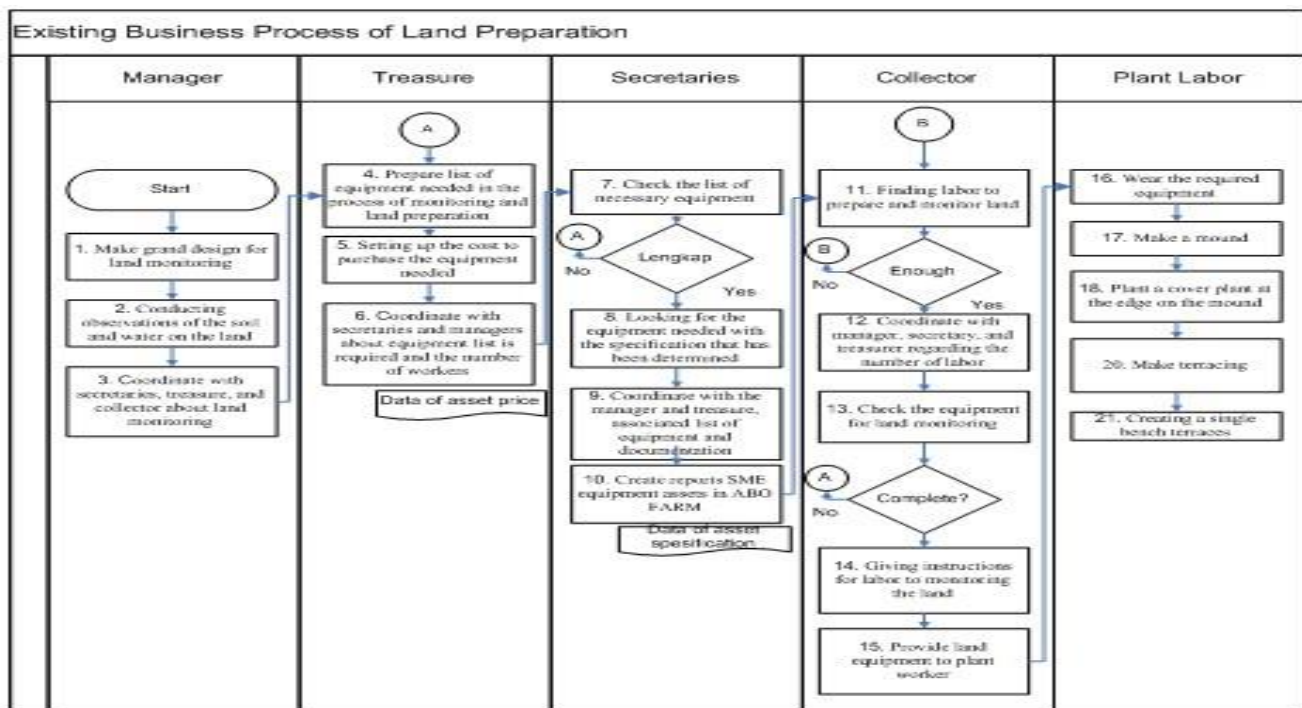


Figure 3. Exiting Business of Land Preparation

B. Existing Business Process of Plant Protection

Plant protection is a process that includes the preparation of plant protection activities, preparation of pesticide, pesticide use, storage and disposal of pesticides, pesticides. There are 10 activities in existing process business of plant protection. For clear description about existing business process of plant protection in ABO FARM SME can be seen in Figure 4

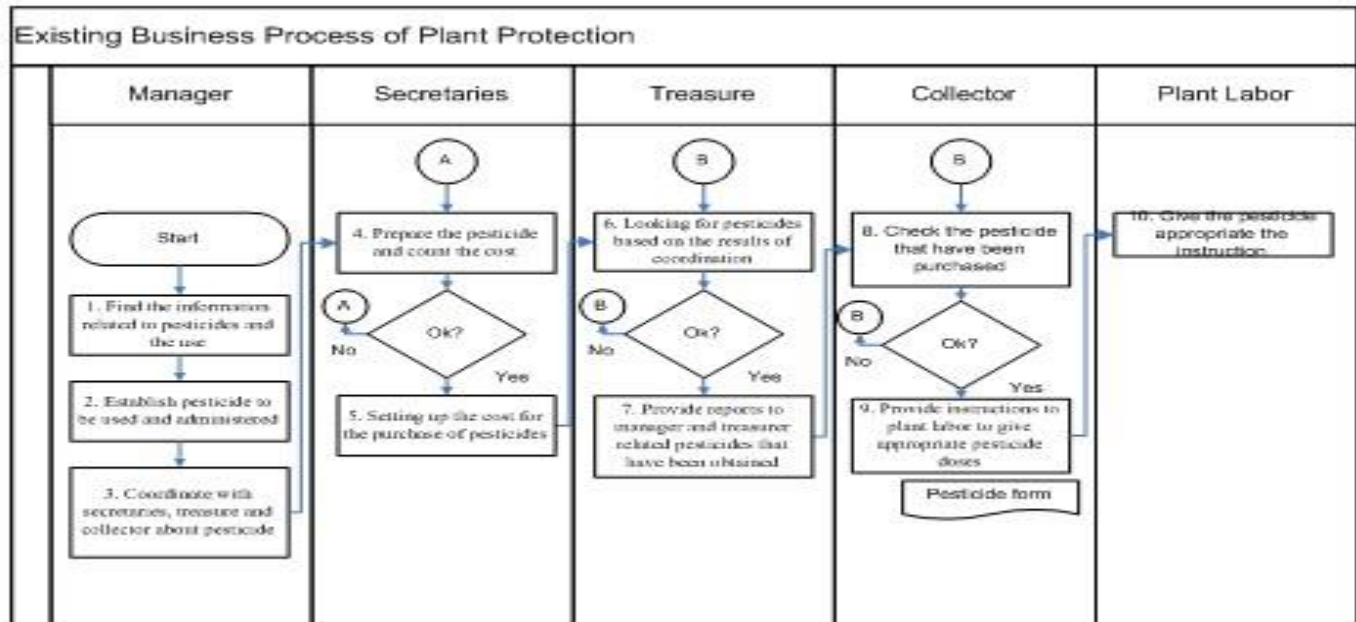


Figure 4. Exiting Business Process of Plant Protection

C. Criteria of Requirement GAP

ABO FARM SME has had several terms in the fulfillment of the Prima 3 Certification, but there are also things that have to be done in establishing the proof of fulfillment and attachment checklist. Then, analysis the recommendation to fulfill the require of Prime 3 Certification. The added information from the table provides the result that there are 8 activity is mandatory, 12 activity is highly recommended, and 3 is recommended (Related to criteria of activity in Prime). So, to get Prime 3 Certification, the owner must fulfill minimum 8 mandatory activity, 8 highly recommended activity, and 2 recommended activity. To make clear about the analysis, can be seen in Table V.1. The continue of analysis can be seen in Sample comparison results are shown in Table 1

Table 1 Criteria of GAP Requirement

No	Core Process	Leveling	Status	Fullfill	Not Fulfill	Evaluation Metric	Note
1	Land Monitoring	Monitoring Land Fertility	R	-	V	Results of soil analysis document Land maps, Land fertility, or land suitability Plant Fertility documen	There is no evidence about land fertility
		Land Preparation	M	-	V	Results of analysis of soil and water Evidence of land away from landfills poisonous Evidence of flat land with a slope of 0–15% Evidence of cover plant Evidence of terracing or mound Evidence on the edge or on the mound	There is no evidence about land preparation
		Monitoring Plant Hole and Plant Media	R	-	V	Land analysis document Evidence of planting medium is free from harmful substances	There is no evidence about monitoring plant hole and plant media
		Land Conservation	HR	-	V	Evidence slope <30% Evidence of conservation measures Evidence terraces	There is no evidence about land cocervation

Table 1 Criteria of GAP Requirement (Continued)

No	Core Process	Leveling	Status	Fullfill	Not Fulfill	Evaluation Metric	Note
2	Plant Protection	Protection Plant Preparation	HR	-	V	PHT Training certificate	There is no evidence about plant protection preparation
						Farmer able to explain PHT	
						Regular supervision from PPL	
						OPT observational data at every stage of growth	
						Plant	
		Pesticide Preparation	HR	-	V	Note of PHT application	There is no evidence about pesticide preparation
						OPT observational data at every stage of growth	
						Evidence registered brand	
						Evidence of pesticide labels used	
						Evidence of pesticide used	
						Evidence registered pesticides for pest similar	
		Pesticide Observation	M	-	V	Note the analysis of residues above the threshold	There is no evidence about pesticide observation
						Note the use of harmful pesticide residues and used time	
		Monitoring Pesticide	M	V	-	Note of pesticides quality as directed	Have evidence about monitoring pesticide
						Evidence that there is no residues	
		Use Pesticide	M	-	V	Evidence the use of pesticides and time application	There is no evidence about use pesticide
						Evidence cessation of spraying ahead of time harvest	
						Form of pesticides doses	
						Evidence appropriate time in the administration of pesticides	
		Storage Pesticida	M	-	V	Note the appropriate concentration in administration	There is no evidence about storage and disposal pesticide
						Pesticide	
		Disposal Pesticida	M	-	V	Note the accuracy of the target pest in pesticide application	
						SOP in pesticide application	
						Evidence of application pesticide accuracy	
						Evidence of pesticides stored in the original packaging	
		Disposal Pesticida	M	-	V	Evidence disposal of used pesticide containers	
						Evidence of pesticide packaging disposal	
						Evidence of the former pesticide containers in the garden	
						SOP of pesticide package disposal	
		Disposal Pesticida	M	-	V	Evidence of pesticide package were destroyed	
						Interview or demo	

D. Business Process Mapping with CLEAR Method

With CLEAR method, known core, leveling, evaluation metric, arrangement, and also relevant process in ABO FARM SME. For clearly describe about business process mapping in ABO FARM using CLEAR Method, can be seen in Table 2 below

Table 2 Result of CLEAR Method

No.	Core Process	Leveling	Evaluation Metric	Arrangement	Relevant
1	Land Monitoring	Monitoring Land Fertility	Results of soil analysis document	Manager	Plastic drum, hand sprayer, stainless steel knife
			Land maps, Land fertility, or land suitability		
			Plant Fertility documen		

Table 2 Result of CLEAR Method (Continued)

No.	Core Process	Leveling	Evaluation Metric	Arrangement	Relevant
		Land Preparation	Results of analysis of soil and water	Collector and Plant Labor	
			Evidence of land away from landfills poisonous		
			Evidence of flat land with a slope of 0–15%		
			Evidence of cover plant		
			Evidence of terracing or mound		
			Evidence on the edge or on the mound		
		Monitoring Plant Hole and Plant Media	Land analysis document	Manager	-
			Evidence of planting medium is free from harmful substances		
		Land Conservation	Evidence slope <30%	Plant Labor	
			Evidence of conservation measures		
			Evidence terraces		
		2	Plant Protection	Protection Plant Preparation	
Farmer able to explain PHT					
Regular supervision from PPL					
OPT observational data at every stage of growth					
Plant					
Note of PHT application					
OPT observational data at every stage of growth					
Pesticide Preparation	Evidence registered brand			Manager, secretaries, and treasure	-
	Evidence of pesticide labels used				
	Evidence of pesticide used				
	Evidence registered pesticides for pest similar				
Pesticide Observation	Note the analysis of residues above the threshold			Manager and Secretaries	-
	Note the use of harmful pesticide residues and used time				
	Note of pesticides quality as directed				
Monitoring Pesticide	Evidence that there is no residues			Collector and Plant Labor	-
	Evidence the use of pesticides and time application				
	Evidence cessation of spraying ahead of time harvest				
Use Pesticide	Form of pesticides doses			Plant Labor	Plastick drum, hand sprayer, stainless steel scissor, stainless steel knife
	Evidence appropriate time in the administration of pesticides				
	Note the appropriate concentration in administration				
	Pesticide use				
	Note the accuracy of the target pest in pesticide application				
	SOP in pesticide application				
Evidence of application pesticide accuracy					
Storage Pestisida	Evidence of pesticides stored in the original packaging			Secretaris	-
Disposal Pestisida	Evidence disposal of used pesticide containers			Plant Labor and collector	-
	Evidence of pesticide packaging disposal				
	Evidence of the former pesticide containers in the garden				
	SOP of pesticide package disposal				
	Evidence of pesticide package were destroyed				
	Interview or demo				

5. COLLECTING AND PROCESSING DATA

A. Analysis of Recommendation for ABO FARM SME

ABO FARM SMEs is one of the SME that produces vegetables. ABO FARM SME built in 2008. This research focused on green bean products because green beans are one of the products of ABO FARM SME which has the highest production number. Analysis of ABO FARM SME profiles and compare with checklist form Agriculture Ministry. From table V.1 describe about existing condition in ABO FARM and indicator of Prime 3 certification. Then, analysis the recommendation to fulfill the requirement of Prime 3 Certification. The added information from the table provide the result that there are 8 activity is mandatory, 12 activity is highly recommended, and 3 is recommended (Related to criteria of activity in Prime). So, to get Prime 3 Certification, the owner must fulfill minimum 8 mandatory activity, 8 highly recommended activity, and 2 recommended activity. The clear information about the analysis of recommendation in ABO FARM SME, can be seen in Table 3

Table 3 Analysis of Recommendation for ABO FARM SME

No.	Core Process	Leveling	Evaluation Metric	Existing Condition in ABO FARM SME	Recommendation
1	Land Monitoring	Monitoring Land Fertility	Results of soil analysis document	There is no evidence about land fertility	Submit the land certification and evidence
			Land maps, Land fertility, or land suitability		

Table 3 Analysis of Recommendation for ABO FARM SME (Continue)

No.	Core Process	Leveling	Evaluation Metric	Existing Condition in ABO FARM SME	Recommendation
		Land Preparation	Plant Fertility document	There is no evidence about land preparation	Submit the land certification about land far away from landfills
			Results of analysis of soil and water		
			Evidence of land away from landfills poisonous		
			Evidence of flat land with a slope of 0–15%		
			Evidence of cover plant		
			Evidence of terracing or mound		
			Evidence on the edge or on the mound		Controlling with the scale
		Monitoring Plant Hole and Plant Media	Land analysis document	There is no evidence about monitoring plant hole and plant media	Check and control with scale
			Evidence of planting medium is free from harmful substances		Submit the certification of plant media
		Land Conservation	Evidence slope <30%	There is no evidence about land cocervation	Submission the evidence of land slope measure
			Evidence of conservation measures		Make evidence about land concervation
			Evidence terraces		Make evidence about land terracing
2	Plant Protection	Protection Plant Preparation	PHT Training certificate	There is no evidence about plant protection preparation	Make record about plant protection preparation
			Farmer able to explain PHT		
			Regular supervision from PPL		
			OPT observational data at every stage of growth		
			Plant		
			Note of PHT application		
			OPT observational data at every stage of growth		
		Pesticide Preparation	Evidence registered brand	There is no evidence	Make evidence and Use pesticide appropriate to the standard
			Evidence of pesticide labels used		
			Evidence of pesticide used		
		Pesticide Observation	Evidence registered pesticides for pest similar	There is no evidence about pesticide observation	Make evidence about pesticide observation
			Note the analysis of residues above the threshold		
			Note the use of harmful pesticide residues and used time		
		Monitoring Pesticide	Note of pesticides quality as directed	Have evidence about monitoring pesticide	Update the note and document
			Evidence that there is no residues		
			Evidence the use of pesticides and time application		
		Use Pesticide	Evidence cessation of spraying ahead of time harvest	There is no evidence about use pesticide	Make documentation and record about use pesticide
			Form of pesticides doses		
			Evidence appropriate time in the administration of pesticides		
			Note the appropriate concentration in administration		
			Pesticide		
		Storage Pesticida	Note the accuracy of the target pest in pesticide application	There is no evidence about storage and disposal pesticide	Make evidence about storage and disposal
			SOP in pesticide application		
			Evidence of application pesticide accuracy		
			Evidence of pesticides stored in the original packaging		
			Evidence disposal of used pesticide containers		
			Evidence of pesticide packaging disposal		
			Evidence of the former pesticide containers in the garden		
		Disposal Pesticida	SOP of pesticide package disposal		
			Evidence of pesticide package were destroyed		
			Interview or demo		

B. Recommendate Document to Fulfill Prime 3 Certification

On the business process that is in the ABO FARM, there is also a document that must be provided to achieve the desired results. As for the types of business processes and documents need to be provided in the Table V.2:

Table 4 Recommendate Document to Fulfill Prime 3 Certification

No	Core Process	Document Recommendation
1	Land Monitoring	Design of procedure about land monitoring
		Form that give information about Monitoring Land Fertility, land Preparation, Monitoring Plant Hole and Plant Media, and Land Conservation
2	Plant Protection	Design of procedure about plant protection
		Form that give information about Protection plant preparation, pesticide Preparation, Pesticide Observation Monitoring pesticide, use pesticide, storage pestisida, disposal pestisida

6. CONCLUSION

Conclusion

The conclusion from this research are:

1. From this research, provide the results and evaluation of existing conditions that exist in ABO FARM SME. There are two processes that must be evaluated to fulfill the requirements of Prima 3. This is because that process have many mandatory activities.
2. Business process mapping in this research use CLEAR method. The mapping is done for two existing processes to produce an evaluation GAP
3. Design of procedure utilizing the results of the business processes mapping. There are two procedure designed in this research. Content from this procedures include of benefits, definition, reference, process description, performance measurement, records, and related documents.

Suggestion

The suggestions that can be given of the research that has been conducted for further research are:

1. Further research can make business process in detail because in this research just only to make procedure plan.
2. Further research can design good process production or good manufacturing process of green been in detail because in this research only concept in general.

6. REFERENCES

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