SUMMARY

MUHAMMAD HAQIKI NOVIAR. Quality Control System Of Crude Palm Oil on Palm Oil Processing Industry (Case Study Bah Jambi’s Palm Oil Mill, PTPN IV, Medan, North Sumatera). Supervised by SUKARDI and AMZUL RIFIN.

Quality control is a tactic and strategy of the company in the global competition with other companies’ products. Quality is a basic factor in the decision of choosing a product. When consumers feel a certain product is much better quality than competitor products, then the consumer decides to buy the product. The ever-changing consumer demands is what needs to be responded by companies. Therefore, companies must implement a quality control in the manufacture of products. Product quality will affect the level of customer satisfaction and corporate profits.

Bah Jambi’s POM (Palm Oil Mill) encounter several obstacles in order to meet the quality standard of its main products, namely CPO (Crude Palm Oil). Quality standard of CPO produced, such as levels of FFA (Free Fatty Acid), moisture content and impurity content, often exceed the quality standards set by the customer even though the company has implemented a quality control system. Research aims to analyse the effectiveness of the quality control system of CPO, knowing the factors that affect the quality of CPO and formulate the strategies for improving and controlling the quality of CPO at Bah Jambi’s POM.

Methods of data analysis used in this study is the Statistical Process Control (SPC) and the causal diagram (fishbone). SPC integrated with the concept of six sigma analysis is used to analyse the quality control of ALB levels, water content and impurity content of CPO at Bah Jambi POM. Causal diagram used to identify the factors that cause the problem by focusing on the causal factors that often occur such as machine, man, method, materials and management.

Based on the quality control analysis using SPC (Statistical Process Control), obtained analysis results of ALB levels, moisture content and impurity content. The process capability of ALB levels is 1.282, which means the state of the industry is in a stable state and can not afford, meaning that the process is in a state of not being able to afford enough to produce the products according to the needs and expectations of customers. As for the quality control of water content and impurity content has been effective and able to meet the quality standards specified by the buyer/customer is respectively 0.15% and 0.02%.

Based on causal diagram analysis, the result showed that the factors that cause the quality levels of ALB above the quality standards set by the buyer/customer is machine, man, management, materials and methods. Based on the results of the questionnaire obtained 62.5% of respondents stated that the main factors causing the ALB levels above the quality standards set by the company is the machine factor. Damage to the machine that often occurs due to rotor bar mill wear and spare parts are already past the working hour.

Research conducted in the Bah Jambi’s POM get the result showed that the quality control of FFA levels is not effective yet and have not been able to meet the quality standards specified by the company. The improvement system
and quality control strategy that can be used as inputs are the implementation of the Quality Control (QC) at every stage of processing and management companies need to conduct periodic engine maintenance and training for employees is continuous.

Keywords: CPO, FFA levels, quality control, statistical process control