

EVALUATING OIL PALM SUPPLY SYSTEM EFFICIENCY

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ABSTRACT

In this study, simulation as a tool for decision making was used to evaluate the supply system in oil palm plantations. The simulation was done to determine the factors to be taken in the future to increase the efficiency of the oil palm plantation's supply system. The factors include the downtime due to the machines (mini tractors and trucks) breakdown or any mechanical problems were also evaluated. Models developed were found to adequately represent real system on every level, from individual work element, times through machine interaction dynamics to overall supply system operations. Results from the model experimentation showed the highest efficiency values of oil palm plantation's supply system came from scenario III, which is by using mini tractors. It was found that the used of the mini tractor will decrease the waiting time due to machine breakdown. As a result, it will increase the efficiency level of the supply system in the oil palm plantations operations.

Keywords: simulation, oil palm plantation, supply chain management, downtime

INTRODUCTION