

## **INTISARI**

### **PERANCANGAN SISTEM *PLC* PADA *STERILIZER* PABRIK MINYAK KELAPA SAWIT DENGAN METODE TRIPLE PEAK**

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Sterilisasi adalah salah satu proses yang penting pada rantai produksi CPO. Proses sterilisasi yang terjaga dengan baik akan memperlancar proses kerja sistem produksi CPO. Namun masih banyak proses sterilisasi yang dioperasikan secara manual. Selisih antara waktu standar dan kenyataan dapat mencapai 3%.

Di dalam penelitian ini dibuat sistem pengaturan waktu sterilisasi dengan menggunakan mikrokontroler berbasis PLC. PLC mengatur waktu perebusan pada station sterilizer agar sesuai dengan standar. Ada empat control valve yang dikontrol oleh PLC sesuai urutan terjadinya, yaitu control valve inlet, control valve condensate, control valve exhaust, dan control valve auxiliary.

Hasil penelitian menunjukkan bahwa waktu perebusan buah sawit pada station sterilizer lebih sesuai dengan SOP. Namun demikian masih ada error sebesar 0,32% setiap langkahnya.

**Kata kunci:** plc, sterilizer, buah kelapa sawit

## ABSTRACT

### ***THE DESIGN OF PLC SYSTEM ON PALM OIL MILL STERILIZER USING TRIPLE PEAK METHOD***

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*Sterilization is one of the important processes in the CPO production chain. The well-maintained sterilization process will facilitate the work process of the CPO production system. However, there are still many sterilization processes that are operated manually. The difference between standard time and reality can be as high as 3%.*

*In this research, a sterilization time management system using a PLC-based microcontroller was developed. The PLC sets the boiling time at the sterilizer station to match the standard. There are four control valves that are controlled by the PLC in the order in which they occur, namely the inlet control valve, the condensate control valve, the exhaust control valve, and the auxiliary control valve.*

*The results showed that the time for boiling oil palm fruit at the sterilizer station was more in accordance with the SOP. However, there is still an error of 0.32% for each step.*

**Keyword:** *PLC, Sterilizer, oil palm fruit*