

ABSTRAK

Produktivitas dan keandalan mesin merupakan faktor kritis dalam industri pangan, termasuk pada proses produksi egg roll yang membutuhkan kontinuitas operasi dan kualitas yang konsisten. Penelitian ini bertujuan untuk merancang sistem pemeliharaan mesin berbasis *Total Productive Maintenance* (TPM) guna meningkatkan nilai *Overall Equipment Effectiveness* (OEE) pada lini produksi egg roll. Metode yang digunakan meliputi pengukuran awal OEE untuk mengidentifikasi kerugian utama (*six big losses*), analisis kondisi mesin, serta perancangan pilar-pilar TPM yang relevan, khususnya *Autonomous Maintenance*, *Planned Maintenance*, dan *Education & Training*. Hasil penelitian menunjukkan bahwa sebelum penerapan TPM, nilai OEE berada di bawah standar internasional (85%), terutama dipengaruhi oleh *downtime* mesin dan penurunan performa operasi. Setelah perancangan dan implementasi awal TPM, terjadi peningkatan pada aspek ketersediaan, performa, dan kualitas sehingga nilai OEE menunjukkan tren perbaikan signifikan. Penelitian ini menyimpulkan bahwa penerapan sistem TPM mampu meningkatkan efisiensi peralatan dan mendukung keberlanjutan operasi produksi egg roll secara optimal.

Kata kunci: *Total Productive Maintenance*, *Overall Equipment Effectiveness*, pemeliharaan mesin, produksi egg roll, *six big losses*.

ABSTRACT

Machine productivity and reliability are critical factors in the food industry, including in the egg roll production process that requires continuous operation and consistent quality. This study aims to design a Total Productive Maintenance (TPM)-based machine maintenance system to increase the Overall Equipment Effectiveness (OEE) value in the egg roll production line. The methods used include initial OEE measurements to identify major losses (six big losses), machine condition analysis, and the design of relevant TPM pillars, specifically Autonomous Maintenance, Planned Maintenance, and Education & Training. The results of the study show that before the implementation of TPM, the OEE value was below the international standard (85%), mainly influenced by machine downtime and decreased operational performance. After the initial design and implementation of TPM, there was an increase in the aspects of availability, performance, and quality so that the OEE value showed a significant improvement trend. This study concludes that the implementation of the TPM system is able to increase equipment efficiency and support the sustainability of egg roll production operations optimally.

Key Words: Total Productive Maintenance, Overall Equipment Effectiveness, machine maintenance, egg roll production, six big losses.