

ABSTRACT

In 2024, the demand for premium rice with high quality continues to increase, making quality standards a crucial aspect that must be met by producers. The Rice Milling Center (Sentra Penggilingan Padi - SPP) of BULOG in Jember Regency, as one of the modern production units, still faces issues with a high level of product defects, such as broken rice grains and crushed rice (menir) content exceeding the threshold set by SNI 6128:2020. These issues impact customer satisfaction and production efficiency. This study aims to identify the factors causing defects, calculate the DPMO and sigma level, and propose improvements to the production process. The Six Sigma method with the DMAIC (Define, Measure, Analyze, Improve, Control) approach is used to analyze and resolve these problems. Based on the analysis, the DPMO value was found to be 103,084.2 with a sigma level of 2.77, indicating that the production process is not yet optimal and requires continuous improvement. This study recommends consistent implementation of Standard Operating Procedures (SOPs), operator training, scheduled machine maintenance, and enhancement of the quality control system. It is expected that these improvement proposals can reduce defect rates, increase process efficiency, and meet the quality standards expected by consumers.

Keywords: Defective Products, DMAIC, Quality, Rice, Six Sigma