

**ANALYSIS OF FROZEN TUNA PRODUCT QUALITY CONTROL
AT PT MALUKU PRIMA MAKMUR
USING *SIX SIGMA* DMAIC METHOD**

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ABSTRACT

This research was conducted at PT Maluku Prima Makmur, a frozen fish processing company in Ambon City, which focuses on tuna loin products as the main export commodity. The main problem identified was the high number of defective products, especially freezer burn defects, which were the largest contributor to quality non-conformities. The average defect rate reached 1.08% throughout 2024, exceeding the company's tolerance limit of 0.38%. This study used the Six Sigma method with the DMAIC (Define, Measure, Analyze, Improve, Control) approach to analyze the causes of defects and formulate improvement solutions. The results of the analysis showed that the main factors causing freezer burn defects were fluctuations in storage temperature, improper product handling, and non-airtight packaging. The DPMO value obtained was 66,800 with a sigma level of 3.93, indicating that the potential for defects is still high. The proposed improvements included the implementation of daily temperature recording logs through operator retraining, as well as improving the temperature monitoring system. The results of the implementation are expected to be able to reduce the defect rate, improve product quality, and support the company's competitiveness in the international market.

Keywords: Quality Control, Freezer Burn, Tuna Loin, Six Sigma, DMAIC, PT Maluku Prima Makmur