

Analysis of the Application of Statistical Process Control (SPC) in Quality Control of Bandung White Bread at the Home Industry Suzan Bakery in Lumajang Regency

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ABSTRACT

Home Industry Suzan Bakery is an agro-industrial business that produces Bandung White Bread in Lumajang Regency. In the production process, product quality discrepancies are still found, such as non-uniform shape, unrisen bread, and burnt bread. This study aims to identify the quality control method for Bandung White Bread at Home Industry Suzan Bakery. The research method used is a quantitative descriptive method with a Statistical Process Control (SPC) approach. Data analysis techniques use control charts, Pareto diagrams, process capability analysis, and Fishbone diagrams to identify the causes of product quality discrepancies. The results showed that from a total of 2,208 production samples, there were 244 quality discrepancies consisting of 104 units of burnt bread (42.62%), 77 units of unrisen bread (31.56%), and 63 units of non-uniform shape (25.82%). Based on the control chart analysis (p-chart), the production process is generally still within the control limits. Process capability analysis shows a Cp value of 0.9715 for non-uniform shape nonconformity with a quality nonconformity proportion of 0.0285, a Cp value of 0.9651 for non-rising bread nonconformity with a quality nonconformity proportion of 0.0349, and a Cp value of 0.9529 for nonconformity of burnt bread with a quality nonconformity proportion of 0.0471. Based on the Pareto diagram, the most frequent type of quality nonconformity is burnt bread. The factors causing quality nonconformity are influenced by human factors, methods, and machines.

Keywords: *Quality Control, Statistical Process Control (SPC), Home Industry, Bandung White Bread.*