

ABSTRAK

Pada tahun 2015, pemerintah Indonesia secara wajib memberlakukan Standar Nasional Indonesia (SNI) 3140.3:2010 tentang Gula Kristal Putih, pabrik gula Indonesia harus memenuhi klausul gula berkualitas menurut SNI. Pabrik Gula Pagotta Kabupaten Madiun adalah perusahaan yang mengelola pengolahan gula berbahan baku tebu. PG. Pagotta berlokasi di Jl. Raya Ponorogo, Kecamatan Geger, Kabupaten Madiun, Provinsi Jawa Timur. Tujuan dari penelitian ini adalah untuk memberikan analisis perbaikan kualitas proses produksi gula dengan menggunakan Metode *Cause and Effect Diagram* dan *Failure Mode and Effect Analysis (FMEA)* pada PG. Pagotta Kabupaten Madiun.

Pengendalian kualitas adalah usaha mempertahankan mutu/ kualitas dan barang yang dihasilkan, agar sesuai dengan spesifikasi produk yang telah ditetapkan berdasarkan kebijaksanaan perusahaan. Alat kontrol kualitas yang digunakan dalam penelitian ini adalah *Cause and Effect Diagram* serta *Failure Mode and Effect Analysis (FMEA)*. Proses penelitian ini dimulai dengan survei pendahuluan, studi kepustakaan, observasi, wawancara, dokumentasi, dan triangulasi.

Berdasarkan hasil analisis *Cause and Effect Diagram* dan *Failure Mode and Effect Analysis (FMEA)*, diperoleh faktor-faktor yang berpotensi menyebabkan terjadinya cacat dan cara penanggulangannya, terdapat lima faktor yang mempengaruhi variasi besar jenis butir kristal gula yaitu manusia, metode, material, mesin dan lingkungan. Nilai RPN tertinggi sebesar 294 yaitu pada jenis cacat gula halus atau abu dengan komponen atau proses pada tekanan *vacuum* yang tidak sesuai standar yang dapat menyebabkan proses masakan terlalu lama dan menghasilkan gula halus atau abu terlalu banyak. Sehingga pada tekanan *vacuum* harus dilakukan pengecekan rutin agar selalu stabil.

Kata Kunci: Kualitas, Pengendalian Kualitas, Cause and Effect Diagram, FMEA

ABSTRACT

In 2015, the Indonesian Government compulsorily imposed Indonesian National Standard (SNI) 3140.3: 2010 concerning White Crystal Sugar, Indonesian sugar factory must meet the clause of quality sugar according to SNI. Pagottan Sugar Factory Madiun is a company that manages the processing of sugar made from sugarcane. sugarcane. PG. Pagottan is located on Jl. Raya Ponorogo, Geger District, Madiun Regency, East Java Province. The purpose of this research is to provide an analysis of the quality improvement of the sugar production process using Cause and Effect Diagram and Failure Mode and Effect Analysis (FMEA) in PG. Pagottan Madiun.

Quality control is an effort to maintain the quality and goods produced, so that it is in accordance with the product specifications that have been determined based on company policy. The quality control tool used in this study is Cause and Effect Diagram and Failure Mode and Effect Analysis (FMEA). The process of this research begins with a preliminary survey, literature study, observation, interviews, documentation, and triangulation.

Based on the results of Cause and Effect Diagram and FMEA analysis, obtained factors that have the potential to cause defects and how to overcome them, there are five factors that influence variations in the type of sugar crystal grain, namely human, method, material, machine and environment. The highest RPN value is 294, which is the type of defect of refined sugar or ash with components or processes at a vacuum pressure that is not in accordance with the standard which can cause the cooking process to take too long and produce too much sugar or ash. So that the vacuum pressure should be routine checking to always stable.

Keyword: Quality, Quality Control, Cause and Effect Diagram, FMEA