PENGENDALIAN KUALITAS PRODUKSI SARDEN MENGUNAKAN METODE *FAILURE MODE AND EFFECT ANALYSIS (FMEA*) DAN *FAULT TREE ANALYSIS (FTA)* UNTUK MEMINIMALKAN CACAT KALENG

Studi Kasus : PT. Maya Food Industries

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ABSTRAK

PT. Maya Food Industries Pekalongan merupakan salah satu industri pangan yang bergerak di bidang pengolahan ikan kaleng. Pada proses pengemasan seringkali ditemukan produk dengan kemasan primer yang tidak sesuai *(defect)* spesifikasi perusahaan, terdapat beberapa jenis kerusakan-kerusakan kaleng (kemasan) tersebut. Mengindentifikasi faktor - faktor penyebab kecacatan mengunakan metode *Failure Mode And Effect Analysis (FMEA)* dan *Fault Tree Analysis (FTA).* Berdasarkan hasil pengolahan data diperoleh 7 atribut kecacatan setelah melewati hasil perhitungan *Risk Priority Number (RPN)* dilakukan perangkingan dengan perinsip pareto sehingga didapatkan 5 jenis kecacatan dengan persentase kumulatif tertinggi dan nilai RPN yang tertinggi yaitu: cacat kaleng penyok 448, cacat kaleng bocor 336, *double seam false* 150, *double seam vee* 150 dan cacat kaleng lecet/gores 100. Usulan perbaikan yang akan dilakukan untuk mengurangi *defect* kaleng bocor, kaleng penyok, *double seam false, double seam vee,* dan kaleng lecet/gores yaitu sebagai berikut: Usulan perbaikan kaleng bocor yaitu melakukan *maintenance* secara berkala pada mesin *seamer*,melakukan evaluasi pada setiap bentuk defact kepada operator seamer dan kepala produksi.Usulan perbaikan kaleng penyok yaitu mengurangi kecepatan *seamer* pada putarannya atau maksimal 42 kaleng/menit, mengontrol *seamer* 30 menit (kondisional) sekali dan melakukan *maintenance* secara berkala pada mesin *seamer.* Usulan perbaikan *double seam false* yaitu selalu mengecek *flange* pada body kaleng sebelum setting *seamer, m*endiskusikan dengen produsen kaleng agar mudah menyesuakan tutup *curl.* Usulan perbaikan *double seam vee* yaitu kencangkan / rapatkan 1 st *seaming roll* dan setting ulang, memperlambat mesin sampai batas terjadinya *jumped seam* (jarak ½ inchi) dan mesuaikan tinggi dan *tightness* (keketatan) dan setting ulangUsulan perbaikan kaleng lecet/gores yaitu menambah bantalan karet pada dinding *conveyor*, Melakukan *maintenance* secara berkala dan mengurangi kecepatan *conveyor* hingga pada 0,8 – 2 m/s.

Kata kunci : *Failure Mode And Effect Analysis (FMEA), Fault Tree Analysis (FTA), Risk Priority Number (RPN), pareto* dan *defect.*

QUALITY CONTROL OF SARDEN PRODUCTION USING FAILURE MODE AND EFFECT ANALYSIS (FMEA) AND FAULT TREE ANALYSIS (FTA) METHODS TO MINIMIZE CAN DEFECTS

Case Study: PT. Maya Food Industries

ABSTRACT

PT. Maya Food Industries Pekalongan is one of the food industries engaged in processing canned fish. In the packaging process, products with primary packaging often do not match the company's specifications. And there are several types of can (packaging) damage by identifying the factors that cause disability using the Failure Mode And Effect Analysis (FMEA) and Fault Tree Analysis (FTA) methods. Based on the results of data processing obtained seven attributes of disability after passing the calculation of the Risk Priority Number (RPN) ranking using the Pareto principle so that five types of defects are obtained with the highest cumulative percentage and the highest RPN value, e.g., dented can defect 448, leaky can defect 336, double seam false 150, double seam vee 150 and scuffed/scratched can defects 100. Proposed improvements to be made to reduce defects in leaking cans, dented cans, double seam false, double seam vees, and scuffed/scratched cans are as follows: leaks, namely performing regular maintenance on the seamer machine, evaluating each form of defect to the seamer operator and the head of the production. The suggestion for repairing the dented can is to reduce the speed of the seamer in its rotation or a maximum of 42 cans/minute, control the seamer for 30 minutes (conditionally) once and perform periodic maintenance on the seamer machine. The suggestion for repairing the double seam false is to always check the flange on the can before setting the seamer, discussing with the can manufacturer that it is easy to adjust the curl cap. The proposed repair of the double seam vee is to tighten the 1 st seaming roll and reset, slow down the machine to the limit of the jumping seam (distance inch) and adjust the height and tightness (tightness) and reset its conveyor walls, Perform periodic maintenance and reduce the conveyor speed to 0.8 – 2 m/s.

Keywords: *Failure Mode And Effect Analysis (FMEA), Fault Tree Analysis (FTA), Risk Priority Number (RPN), Pareto,* and *defect.*

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